

THIRD EDITION

Learning in Adulthood

A COMPREHENSIVE GUIDE

Sharan B. Merriam

Rosemary S. Caffarella · Lisa M. Baumgartner

LEARNING IN ADULTHOOD

J JOSSEY-BASS

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PREFACE

Learning in adulthood is an intensely personal activity. Yet at the same time, a multibillion-dollar enterprise has arisen in response to adult learning interests—an enterprise that spends more dollars than elementary schools, high schools, and postsecondary schools combined. Indeed, the field of adult and continuing education is characterized by a bewildering array of programs, agencies, and personnel working to assist adults in their learning. It is precisely the focus on adults as learners, however, that unites an otherwise extraordinarily diverse field. It is also the life context of adults and some of the distinguishing characteristics of the adult learning process that differentiate adult education from other kinds of education. To facilitate the process of learning, it is especially important to know who the adult learner is, how the social context shapes the learning that adults are engaged in, why adults are involved in learning activities, how adults learn, and how aging affects learning ability. *Learning in Adulthood* addresses these topics, among others.

There is a voluminous literature on adult learning, ranging from technical articles on various aspects of adult learning to handbooks, guides, and pamphlets summarizing material for the new instructor of adult students. If one goes to a database such as the Educational Resources Information Center (ERIC), which catalogues journal articles, monographs, conference proceedings, papers, and so on, or does some random exploring on the World Wide Web, one encounters thousands of citations under the topic “adult learning.” Further, there are dozens of books with either a central or secondary focus on adult learning.

For this third edition of *Learning in Adulthood* we have paid particular attention to work published since the last edition of the book. This third edition of *Learning in Adulthood* builds on material in the 1999 edition, bringing together the important contributions

of the past decade to our understanding of adult learning. While we have preserved important foundational material (such as a discussion of andragogy), we have also brought to bear the most recent thinking and research. We have strived to put together a comprehensive overview and synthesis of what we know about adult learning: the context in which it takes place, who the participants are, what they learn and why, the nature of the learning process itself, new approaches to adult learning, the development of theory in adult learning, and other issues relevant to understanding adult learning.

The book also takes into account recent work in sociology, philosophy, critical social theory, and psychology. In most writing on adult learning, the sociocultural perspective has been widely neglected in favor of the predominant orientation to the individual learner and how to facilitate her or his learning. In addition to the focus on the learner, we attend to the context in which learning takes place and to learners' interactive relationship with that context and with the learning activity itself. We look at how the social structure influences what is offered and who participates, how the sociocultural context creates particular developmental needs and interests, and how social factors such as race, class, and gender shape learning.

This book is intended primarily for educators of adults. We have organized the material so that it will make sense to readers who are new to adult education and at the same time will challenge those who are already familiar with the knowledge base of the field. The organization and presentation of this material reflect our efforts over the years to find the best way to organize courses, workshops, and seminars in adult learning and development for audiences with varying levels of expertise. We have endeavored to put together a book that is at once readable, thorough, and up-to-date in its coverage. In particular, the book is designed for use in courses in adult learning. In addition to those associated with the field of adult education itself, however, those in counseling, health, social work, human resource development, administration, and instructional technology and in such institutions as libraries, churches, business and industry, and higher education often deal on a daily basis with adult learners. We also intend this book to be a resource for practitioners in these fields who would like to know more about adult learners and the learning process.

OVERVIEW OF THE CONTENTS

This third edition of *Learning in Adulthood* is substantially reorganized from the previous edition. We realized that in most courses using this text, the chapters specific to adult learning theory and models were read before chapters on traditional learning theory, cognition, and psychosocial developmental frameworks. We have organized accordingly. This edition is divided into four parts. Part One describes the context of adult learning. Part Two focuses on theories and models of adult learning. The chapters in Part Three address newer approaches to adult learning, and those in Part Four present material on topics that intersect with adult learning, such as memory and cognition, adult development, and so on.

The chapters in Part One, “Adult Learning in Contemporary Society,” focus on the context of adult learning. Chapter One sets the sociocultural context for adult learning in North America. In it, we discuss three forces—demographics, globalization, and technology—that have shaped adult learning today. It is important to understand how the interaction of those three factors has led to changes in both what adults want to learn and the learning opportunities provided for them. Directly related to the sociocultural context of adult learning are the environments where learning takes place, the subject of Chapter Two. These range from educational and noneducational institutions, such as hospitals and government agencies, to nonformal and community-based agencies, to incidental and informal learning that is more self-directed than structured by others. New in this edition is the online environment, which interfaces with formal, nonformal, and informal modes of learning. Also in this chapter we explore the concepts of organizational learning and the learning organization, and lifelong learning and the learning society. Chapter Three summarizes the literature on who participates in primarily formal adult learning activities, why people participate, and what they choose to learn. We also take a critical look at key questions of access and opportunity, and examine the gaps between the rhetoric and the reality in the provision of formal and nonformal learning activities in our society.

Part Two, “Adult Learning Theory and Models,” builds on foundational material in adult learning, material that is at the heart of our field of adult education. The topics covered in these

chapters represent the field's efforts in distinguishing itself from the education of children. We begin Chapter Four with a description and critique of the best known of these theories: Knowles's (1980) concept of andragogy. Based on five characteristics of adult learners, andragogy focuses on the adult learner as distinguished from preadult learners. In this chapter we also cover three other models of learning, two of which are fairly recent additions to our literature. McClusky's (1970) theory of margin, which has great intuitive appeal to adult learners introduced to it, is explained first. This is followed by Illeris's (2004a) three dimensions of learning model, and the most recent iteration of Jarvis's (2006) learning model. In Chapter Five we explore the rich array of work that has been completed on self-directed learning. Addressed are the goals and processes of self-directed learning, the concept of self-directedness as a personal attribute of the learner, recent approaches to self-directed learning, and some suggestions for building research and theory in this area. Currently, transformational learning has taken center stage in research and writing. Chapter Six summarizes the development of transformational learning, reviews the recent research in this area, and examines unresolved issues inherent in this approach to adult learning. In Chapter Seven, the last chapter of Part Two, we look closely at the role of experience in learning: both how adult learning builds on prior experience and how experience shapes learning. The concepts of experiential learning, reflective practice, and situated cognition are also examined in this chapter.

Part Three, "Newer Approaches to Adult Learning," contains two totally new chapters. We felt that the burgeoning interest in embodied or somatic learning, spirituality and learning, and narrative approaches to learning warranted a chapter (Chapter Eight) in this edition of *Learning in Adulthood*. We uncovered so much recent material in these areas that, had space allowed, we could have devoted more than one chapter to these topics. Chapter Nine on non-Western approaches to adult learning is also new. Although the great majority of the knowledge base represented in *Learning in Adulthood* is from a Western perspective, representing cultural values of privileging the individual learner and cognitive processes over more holistic approaches, we wanted to introduce readers to

other epistemologies, other ways of thinking about learning and knowing. We hope we have done that through brief introductions to five non-Western perspectives. The final chapter in Part Three is an update of critical theory, postmodernism, and feminist pedagogy. These three perspectives draw from literature outside the field of adult education. Scholars have applied these perspectives to our field, enlarging our understanding by inviting us to question how the structural inequities based on race, gender, class, sexual orientation, able-bodiedness, and so on affect learning.

Part Four, which we have titled “Learning and Development,” brings together material from philosophy, psychology, sociology, biology, and so on, that has a bearing on adult learning. In Chapter Eleven, on traditional learning theory, we review five traditional theories about learning—behaviorism, humanism, cognitivism, social learning theory, and constructivism—along with their implications for adult learning. Where one aligns oneself with these theories manifests itself in the view of the adult learner, the role of instructor-facilitator, and the goals of the learning transaction itself. Chapter Twelve focuses on adults’ developmental characteristics. Beginning with biological and psychological perspectives on adult development, we move to sociocultural and integrated perspectives. The work on adult development in recent years places less emphasis on age and stage models and more on the effect of such factors as race, gender, class, and ethnicity. Much has been written lately about cognitive development in adulthood, and so this is treated separately in Chapter Thirteen. Here we review several theoretical models of cognitive development as well as present the concept of dialectical thinking. Chapter Fourteen reviews the work on intelligence, especially as it has been studied from a developmental or aging perspective. Drawing on several disciplines and summarizing recent work on memory and aging, expertise, cognitive and learning styles, and brain-based research, Chapter Fifteen is one of the few compilations of its kind in an adult learning textbook.

Finally, in the last chapter we step back from the accumulated knowledge base to summarize and integrate the material on adult learning presented in earlier chapters. Chapter Sixteen also reflects how we ourselves have come to think about learning in adulthood.

ACKNOWLEDGMENTS

This third edition of *Learning in Adulthood* is a direct response to the field's burgeoning literature base on research and theory in adult learning and the need for a single, comprehensive, up-to-date textbook to use in our adult learning classes. In a very real sense, it has been the students in our programs and the participants in our workshops and seminars who have challenged us to revise and update the previous edition of the book. We were pleased that Lisa Baumgartner agreed to join our team for this edition. Her fresh perspective has undoubtedly made this edition of *Learning in Adulthood* the best yet! Others, of course, have been of invaluable assistance at various stages of the project. David Brightman, our editor at Jossey-Bass, was enormously supportive in assisting us through the process. Colleagues Ralph Brockett, Carolyn Clark, Bradley Courtenay, Ed Taylor, and Libby Tisdell unselfishly provided us with updated materials and took time out from their own work to read and critique draft chapters. Their comments, insights, and suggestions considerably strengthened this book. A special thanks goes to Young Sek Kim, Ph.D. student and graduate research assistant at the University of Georgia, for tracking down references, assisting in editing, and seeing to the technical matter of getting the book ready for the publisher. To all of you we offer our heartfelt thanks. Finally, we thank our family members and friends for their support and patience over the last year.

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Sharan B. Merriam is professor of adult education at the University of Georgia. Merriam's research and writing activities have focused on the foundations of adult education, adult development, adult learning, and qualitative research methods. She has published more than twenty books and dozens of chapters and articles and held major editorship roles over the past twenty-five years. For five years she was coeditor of *Adult Education Quarterly*, the major research and theory journal in adult education. Currently she is coeditor for the book series *Professional Practices in Adult Education and Lifelong Learning*. She has won the Cyril O. Houle World Award for Literature in Adult Education for three different books. Various of her books have been translated into Chinese, Korean, Japanese, and French. Based on her widespread contributions to the field of adult education, Merriam has been inducted into the International Adult and Continuing Education Hall of Fame and was the first to receive the American Association of Adult and Continuing Education's Career Achievement award. She has served on steering committees for the annual North American Adult Education Research Conference, the Qualitative Research in Education Conference held annually at the University of Georgia, and the Commission of Professors of Adult Education. She has conducted workshops and seminars on adult learning and qualitative research throughout North America and overseas, including countries in southern Africa, Southeast Asia, the Middle East, and Europe. In 1998 she was a senior Fulbright scholar to Malaysia, and in 2006 a visiting scholar to South Korea.

Rosemary S. Caffarella is professor and chair of the Department of Education in the College of Agriculture and Life Sciences at Cornell University. Her research and writing activities have focused on adult learning, program planning, and designing culturally appropriate programs for adults. Caffarella has authored or coauthored seven books—two of which have been translated into Chinese and one into Japanese—and numerous book chapters and articles. She received the prestigious Cyril O. Houle World Award for Literature in Adult Education for *Learning in Adulthood: A Comprehensive Guide* (2nd ed., 1999), coauthored with Sharan Merriam. Her most recent book, *Planning Programs for Adult Learners* (2nd ed., 2002), is a detailed guide for adult educators and trainers working in a variety of settings. In addition, in 2003 she was awarded an honorary degree of Doctor of Humane Letters from the College of Lifelong Learning in the University of New Hampshire system. She has conducted workshops and presented papers and lectures throughout the United States, Canada, Malaysia, Taiwan, and Australia. Her current project, in partnership with the Universiti Putra Malaysia and a number of other Malaysian organizations and individuals, is educating Malaysian women, their families, and health care professionals about breast cancer treatment and prevention. The project highlights working in a culturally and linguistically sensitive manner in a multicultural nation.

Lisa M. Baumgartner is an associate professor of adult education at Northern Illinois University, DeKalb. Her research and writing focus on adult learning and development and women's contributions to the field of adult education. A recipient of the W. K. Kellogg Foundation Cyril O. Houle Scholars Research Grant for Emerging Scholars in Adult Education, she completed a study on civil rights activist Septima P. Clark's lifelong contributions to social justice adult education. In addition, she coedited *Adult Learning and Development: Multicultural Stories* with Sharan Merriam (1999). She has served on the steering committee for the annual North American Adult Education Research Conference. She is a consulting editor for the *International Journal of Qualitative Studies in Education* and the *Qualitative Report*. In 2004, she received the Commission of Professors of Adult Education Early Career Award, which honors individuals in the early stages of their academic career who have made significant contributions in scholarship and service to the field.

LEARNING IN ADULTHOOD

PART ONE

ADULT LEARNING IN CONTEMPORARY SOCIETY

It is very much the perspective of this book that learning is a personal process—but a process that is shaped by the context of adult life and the society in which one lives. Compare how industrialization of the early years of the twentieth century affected what an adult needed and wanted to learn with the knowledge economy of the early twenty-first century. This learning in turn affects the social context. For example, as we become more technologically savvy, businesses respond by developing more sophisticated systems and gadgets that then require us to keep learning. It is indeed an interactive process between the learner and the social context. The three chapters in Part One explore the sociocultural context of the United States, the range of learning opportunities available to adults in this context, and who takes advantage of these opportunities and why.

Chapter One describes three factors characteristic of American society today that affect what adults want to learn. First, dramatic changes are occurring in the demographic base of our society. Adults outnumber those under eighteen years old for the first time ever. Moreover, the percentage of the population over age sixty-five continues to grow, commanding the attention of policymakers, businesspeople, and educators alike. Our population as a whole is also better educated than ever before, and there is more cultural and ethnic diversity. Therefore, there are simply

more adults seeking learning opportunities, as well as more groups of adults with particular learning needs.

The second and third factors shaping the learning enterprise are globalization and technology. These are very much interrelated, of course; technology has had an enormous impact on the economy. Robotics and automation displace production workers but create other jobs; technology has fostered whole new work structures, such as job-sharing and telecommuting. The effect of the global economy and technological advances on the nature of adult learning is staggering. Adults find that they must continue their learning past formal schooling in order to function at work, at home, and in their communities. The need for new knowledge, for updating old information, for retraining, has resulted in a multibillion-dollar educational enterprise.

Some of this learning takes place in formal settings sponsored by myriad institutions and agencies. As might be expected, business and industry and educational institutions offer a large number of adult learning opportunities, but so do the military, cooperative extensions, churches, hospitals, and other institutions. Chapter Two explores how the context of formal institutional settings influences the learner and the learning process. Also reviewed are learning opportunities that are nonformal, such as those offered by community-based agencies, and informal, incidental, and self-directed opportunities, as might happen in the course of the workday or by watching a television program. In addition, we discuss online learning, a fourth environment for learning that overlays formal, nonformal, and informal modes of learning. In the second half of this chapter, we explore the interrelated concepts, first, of organizational learning and the learning organization, and second, of lifelong learning and the learning society.

Chapter Three profiles who participates in adult learning, why adults participate, and what an adult chooses to learn. Most of this information on participation and motivation is in reference to formal learning, such as that provided by educational institutions and employers. Estimates of the percentage of the adult population that participates in learning have steadily risen over the past forty years, with the most current study suggesting that approximately 46 percent of all adult Americans participate. Studies of self-directed learning and other nonformal types of education put the

percentage even higher. Clearly, adult learning is an important activity for today's adults. What motivates adults to participate and what deters participation is important information, especially for program developers. This chapter also reviews motivational studies.

The final section of Chapter Three "problematizes" the concept of participation. By examining the assumptions that underlie participation we squarely confront the issues of access and opportunity in adult education. The gap between the better educated who seek out continuing education and those who do not continues to widen. Adult learning seems to have become a vehicle for solidifying a socioeconomic structure that limits access and opportunity, contrary to the stated goal of equal access to education in our society. We examine the rhetoric, which espouses one set of values, and the reality, which demonstrates another, in the provision of adult learning opportunities.

CHAPTER ONE

THE SOCIAL CONTEXT OF ADULT LEARNING

Learning, even self-directed learning, rarely occurs “in splendid isolation from the world in which the learner lives; . . . it is intimately related to that world and affected by it” (Jarvis, 1987, p. 11). What one wants to learn, what is offered, and the ways in which one learns are determined to a large extent by the nature of the society at any particular time. Contrast the young male apprentice of colonial times learning to be a blacksmith with today’s middle-aged woman learning a new software program, or the preparation needed to become a medical doctor at the turn of the twentieth century—less than a high school diploma—with today’s long and specialized training.

It can also be argued that the nature of society at any particular point in time determines the relative emphasis placed on adult learning. In preindustrial societies, the rate of change was such that what a person needed to know to function as an adult could be learned in childhood. In societies hurrying to catch up, however, and in our own society with its accelerated rate of change, the urgency of dealing with social realities is felt by adults. Society no longer has the luxury of waiting for its youth. As Belanger (1996) notes, “The question is no longer whether adult learning is needed, and how important it is. The issue today is how to respond to this increasing and diversified demand, how to manage this explosion” (p. 21). Youth, in fact, “who are sent out into life with a dwindling sackful of values, . . . face a situation in which they have to keep filling up their sack. This leads adult education to take ‘life-long learning’ as its motto.” Further, “the hole in the ozone layer

provides the stimulus for courses to which people turn for advice, mad cow disease pushes up the numbers attending vegetarian cooking courses, and backache creates a need for posture classes” (Geissler, 1996, pp. 35–36).

While adult education is responsive to the context in which it takes place, it also in turn affects that same context. Take, for example, enormous changes in our society brought on by computer technology. Auto mechanics must now be trained to diagnose engine problems using computers; you can save time at the local grocery by doing your own scanning, bagging, and checkout all by computer; airline boarding passes can be accessed at home; and so on. Adult education has responded to this computerization of our world by offering courses—courses where we can learn this technology so that we can better function in our digital environment. But the fact that millions of adults have become computer literate interacts with our environment in that we now *expect* to use our skills in an ever-widening range of applications—forcing institutions and agencies to adopt and expand these technologies.

Although the preceding are particularly contemporary examples, historically there has always been an interlocking of adult learning needs with the social context in which they occur. The skills needed in colonial America reflected the agrarian context; further, since early settlers were fleeing religious persecution in Europe, there was a moral and religious imperative in learning to read so that one could study the Bible. After the revolutionary war, the newly independent nation needed leaders and informed citizens to build the democratic society. Eclipsing religious education, civic education, which included learning about philosophy, science, and politics, became paramount in the education of adults.

With the Industrial Revolution of the late nineteenth and early twentieth centuries, industry-based skills training became a necessity. Also, because of the massive influx of immigrants to the United States at this time, “Americanization” and citizenship programs became a prominent form of adult education. It was felt that these immigrants needed to learn the ways of their adopted country so that they would “melt” into society. Interestingly, immigrants themselves organized their own schools to maintain their culture, but these were largely invisible to society at large.

Although a major thrust of adult education at any particular time reflects the sociohistorical context, varied purposes and learning

interests coexist. We might argue that technology is a major thrust of learning today, but there is still job-training, literacy, civic education, liberal (such as Great Books clubs) and leisure learning, along with community-based social-action initiatives. As Stubblefield and Keane (1994, p. 312) observed from their survey of adult education from colonial times until the present, regardless of the historical era, “Americans learned because there was knowledge to master, technology to adapt, and life’s uncertainties to be resolved.”

Thus, to a large extent, the learning that goes on in adulthood can be understood through an examination of the social context in which it occurs. How is learning in adulthood shaped by the society in which it takes place? How does the sociocultural context determine what is learned and by whom?

This chapter explores three conditions characteristic of the current sociocultural context that are shaping the learning needs of adults in today’s world: changing demographics, the global economy, and information and technology. Although we present each of these separately at first, these three factors are very much interrelated, and thus their convergence and subsequent impact on learning in adulthood are discussed in the final section of this chapter.

CHANGING DEMOGRAPHICS

Changing demographics is a social reality shaping the provision of learning in contemporary American society. Demographics is about people, groups of people, and their respective characteristics. For the first time in our society, adults outnumber youth, there are more older adults, the population is better educated than ever before, and there is more cultural and ethnic diversity. For various reasons, individuals and groups of people seek out learning experiences; for other reasons, society targets learning activities for certain segments of the population. Thus, certain learning activities are learner-initiated and others are society-initiated in response to the changing demographics. The field is concerned with the growth and development of adult learners, while at the same time, there are emerging groups of learners with special needs.

To begin, there are simply more adults in our society than ever before, and the population will continue to age. In comparison to colonial times when half the population was under age 16, in 1990,

fewer than one in four Americans were under age 16 and half were age 33 or older. The median age of the American population of 36.0 years in 2004 is expected to increase to 39.1 in 2035 (U.S. Bureau of the Census, 2004b). The so-called baby boomers—the seventy million people born between 1946 and 1964—are a contributing factor to this change in the population. Bills (2004, p. 122) notes that “the baby boom has influenced all American social institutions—health care, housing, consumerism, retirement, even death and the projected ‘tomb boom’—but none more than education and work.” Although we might hear more about youth, they have less of an impact on the economy than the boomers. “In America, they [over-50s] control four-fifths of the money invested in savings-and-loan associations and own two-thirds of all the shares on the stock market” (“Over 60 and Overlooked,” 2002).

The shift from a youth-oriented to an adult-oriented society is solidified by the increasing numbers of older adults in the population. In 1987, for the first time ever, Americans over the age of sixty-five outnumbered those under twenty-five. Furthermore, the oldest old, those over eighty-five-years old, are the fastest-growing segment of the older population. As of July 1, 2004, there were more than four million eight hundred thousand adults over eighty-five-years old, an increase of 13.4 percent from the 2000 census (U.S. Bureau of the Census, 2005). The number of adults over age eighty-five is expected to increase to about seven million in 2020 and to twenty million in 2050 (U.S. Bureau of the Census, 2004b).

Today's older adults are also increasingly better educated, in better health, and economically better off than previous cohorts. Society is already heeding their learning needs with policies like tuition waivers for higher and continuing education programs and specially designed programs, such as the popular Elderhostel program and learning-in-retirement institutes. There has also been a subtle change in the philosophical rationale—at least among those working in the fields of gerontology and educational gerontology—underlying the provision of education for this group. Along with an economic rationale (the better educated need fewer social services) and a social stability rationale (millions of healthy retired people need something to do) is an awareness that older adults as well as younger ones have an unending potential for development. Williamson (1997, p. 175) suggests that our culturally endorsed notion about what represents “appropriate” learning over the

course of the life span tends to “reinforce prevailing myths about retirement and aging as processes of withdrawal and decline.” This mindset ignores the exciting possibilities for personal growth and societal contributions among older members of the population. As Thomas (2004, p. 31) observes, “There is great power hidden with old age, but we will remain ignorant of the depth and breadth of that power as long as we insist on simply comparing youth to age.”

Thus, more adults and an increase in the number of older adults are two demographic factors influencing the provision of learning activities in our society. So, too, is the rising level of education characteristic of our population. This is dramatically illustrated by the fact that 83 percent of today’s twenty-five- to thirty-four-year-olds have completed high school compared with 65 percent of adults age sixty-five and over (U.S. Bureau of the Census, 2000). Since previous education is the single best predictor of participation in adult education, the rising educational level of the adult population is a contextual factor of considerable import. Participation data from the Center for Education Statistics show, for example, that 22 percent of adults with fewer than four years of high school participate in organized adult education, while 34 percent of high school graduates and 66 percent of college graduates do (Kim, Collins Hagedorn, Williamson, & Chapman, 2004).

Nevertheless, even as the educational attainment level of the population as a whole continues to rise, an alarming number of high school students drop out before graduating. And “as a high school education becomes the minimum educational standard, those who drop out are more likely to become members of an educational underclass, from which adult education (especially in the form of adult basic and secondary education) may be the only hope of escape” (Rachal, 1989, pp. 10–11). Unfortunately, as mentioned earlier, adults with less than a high school diploma are least likely to participate in adult education activities overall, with only 6 percent in work-related courses, 7 percent in basic skills education, and 1 percent in vocational or technical diploma programs (Kim et al., 2004).

Another demographic characteristic of the social context is the growing cultural and ethnic diversity of America’s population. In contrast to the influx of European immigrants at the end of the nineteenth century (which continued into the middle decades of the twentieth), today’s immigrants are more likely to come from

Asia and Latin America. In 2002, for example, 52 percent of U.S. immigrants were from Latin America, 25 percent from Asia, and only 14 percent from Europe (Alfred, 2004).

If current trends in immigration and birthrates persist, it is projected that between the years 2000 and 2010, the Hispanic population will account for 34.1 percent of the total population growth, Asians about 33.3 percent, and African Americans 12.9 percent (U.S. Bureau of the Census, 2004b). In 2001, Hispanics became the largest minority group in America, with African Americans the second largest (U.S. Bureau of the Census, 2005).

Furthermore, the average age of minority populations is decreasing, while the majority population is growing older. For example, in 2004 the median age of Hispanics was 26.9 years whereas that of the White population was 40.0 years (U.S. Bureau of the Census, 2005).

Not only is the composition of the minority population changing, so too are the overall numbers. In 2000, minorities made up 31 percent of the population; by 2050, minorities will account for nearly 50 percent of the overall population (U.S. Bureau of the Census, 2004b).

The socioeconomic and cultural diversity of today's immigrant population presents special challenges to adult educators. As Alfred (2004, p. 14) observes:

Today's immigrant population reflects a pattern of demographics that reveals deep polarization between the most educated and wealthiest and the least educated and poorest. This emergent pattern of immigrant adaptation seems to follow a new hourglass segmentation found in the U.S. economy and society (Sparks, 2003; Suarez-Orozco & Suarez-Orozco, 2000). Noticeably, there are those immigrants who are quickly achieving upward mobility, primarily through education and high-tech jobs, while on the opposite end of the hourglass, large numbers of low-skilled workers find themselves locked in low-wage service jobs. Those in between approximate norms of the majority culture and disappear into U.S. cultural institutions without much notice (Sparks, 2003). This polarization in the composition of the immigrant population suggests that planners of adult and higher education programs face a challenging task as they attempt to meet the variety of needs and expectations that immigrants bring to the new country.

The growing ethnic and cultural diversity of our population was identified over fifteen years ago by Naisbitt and Aburdene (1990) as one of the megatrends of the twenty-first century. They observed that “even as our lifestyles grow more similar, there are unmistakable signs of a powerful countertrend: a backlash against uniformity, a desire to assert the uniqueness of one’s culture and language. . . . Outbreaks of cultural nationalism are happening in every corner of the globe” (p. 119). Adult educators are slowly becoming aware of the instructional implications of the fact that “as our outer worlds grow more similar, we will increasingly treasure the traditions that spring from within” (Naisbitt & Aburdene, 1990, p. 120).

In summary, the composition of society is an important factor in the provision of learning opportunities for citizens of all ages. In the United States, there are more adults than youth, the number of older adults is growing, the population as a whole is better educated than ever before, and the population is more diverse—racially, ethnically, and culturally—than ever before.

GLOBALIZATION

Globalization is an overarching concept encompassing changes taking place worldwide. But globalization is not a new concept because it can be argued that the world has always sought to connect through travel, trade, and cultural exchange. “Although it builds on a history of international relations between nation-states, it is new in the sense of the growing extensiveness of social networks involved, the intensity and speed of flows and interconnections within these networks, and the reach of its impact” (Glastra, Hake, & Schedler, 2004, p. 292). Since the 1980s, the term has been used to reflect the increasing integration of economies around the world, particularly through trade and the flow of finances. In addition to finances, this “flow” also includes the movement of people and information. One definition of globalization is “a movement of economic integration, of cultural homogenization, and of technological uniformization” (Finger, 2005b, p. 269). An incredibly complex and controversial phenomenon, we can only try to convey some of its essential characteristics and some of

the issues and speculate as to how it is shaping adult learning in our context.

Images most associated with globalization are economic, having to do with the loss of low-wage manufacturing jobs to less developed corners of the world, with transnational companies operating in a space outside national boundaries and control, with consumerism and commercialism supplanting all other interests. As one writer observed, globalization is resulting in the world becoming “one big shopping mall” (Cowen, 2003, p. 17). Although the market economy is clearly a driving force in globalization, so too is information technology. Changes in information technology “almost make state boundaries redundant in respect to the flow of information across the globe” (Jarvis, 2004, p. 3).

But globalization is not only about economics. Brysk (2003, p. 22) contends that it is combination of four elements:

- *Connection* means greater traffic in bodies, goods, services, and information across borders.
- *Cosmopolitanism* describes the growth of multiple centers of power and influence above, below, and across national governments: international organizations, grassroots groups, and transnational bodies from Microsoft to Greenpeace.
- *Communication* is an increase in technological capacity that strengthens transnational networks of all kinds (from multinational corporations to nongovernmental organizations [NGOs] to terrorists) and diffuses ideas and values more quickly and broadly.
- *Commodification* is the expansion of world markets, and the extension of market-like behavior across more states and social realms. Increases in global capital flows, privatization of formerly state-owned enterprises, and increasing employment of children are all examples of commodification.

Brysk goes on to show how these elements of globalization are both a plus and a minus for human rights issues: “Connection brings human rights monitors to Chiapas, but it also brings sex tourists to Thailand. Cosmopolitanism creates a U.N. Human Rights Commission and countless NGOs to condemn China’s abuse of political dissidents and religious minorities; yet commodification makes China the United States’s second-leading trade partner” (p. 22).

Part of the controversy surrounding globalization has to do with economics. Those countries that can be competitive are already better off and become even richer through globalization, while others “like Zambia are virtually excluded from the market. Similarly, those people who are employable can—if they wish—play an active part (to greater or lesser extent) in being citizens, but those who have no job are socially excluded” (Jarvis, 2004, p. 5). That globalization is exacerbating the differences between rich and poor is creating ethnic hatred and global instability, argues Chua (2003). The United States, for example, is home to only 4 percent of the world’s population but is “seen everywhere as the principal engine and principal beneficiary of global capitalism. We are also seen as ‘almighty,’ ‘exploitative,’ and ‘able to control the world,’ whether through our military power or through the IMF-implemented austerity measures we have heartlessly forced on developing populations” (p. 16). Is it no wonder, she asks, that we are the object of mass resentment?

Finger (2005b) echoes this same sentiment in his observations of cultural globalization underlying global consumption. With the movement of goods, people, ideas, and cultural artifacts across borders, the global culture is characterized not by diversity but “by the spread of individualism, Western values, and homogenization in general. Yet, simultaneously, cultural globalization is triggering numerous cultural reactions against this very process, leading, among others, to fundamentalism” (p. 270). September 11, 2001, and other terrorist attacks are the deadly consequences of ignoring this resentment.

What does all this mean for adult learning? For one thing, “it does a worker very little good to train specifically for a job with a company that outsources the position, downsizes, or sells to a foreign owner who reorganizes or ‘reengineers’ the company, selling off pieces, leaving the worker trained and unemployed” (Tomlin, 1997, p. 20). Global economics has led to changing work practices, which require different kinds of preparation and training. This has resulted in the control of education shifting to business. The emphasis now is on improved product and service quality, greater worker responsibility, and teamwork approaches. Adult education and human resource development, in particular, have responded with broad-based workplace literacy programs and training and development packages designed to address a wide

range of economy-driven needs. Globalization's effect on adult education has even reached "the professional and executive training area, by either helping individuals and firms take advantage of commercialization and industrial development, or by supporting individuals in coping with the negative consequences of the same commercial developments" (Finger, 2005b, p. 272). Indeed, human resource development (HRD) and corollary concepts such as organizational learning have become a parallel adult education system, one lodged in the workplace where responsiveness to globalization is paramount.

The global economy is having an impact on learning in broader ways too. We have become, in the words of Usher, Bryant, and Johnston (1997, p. 4), "a culture of consumption. . . . The factory, the assembly line, large-scale manufacturing—are being increasingly displaced by centres of consumption—financial services, small-scale specialised enterprises, shopping malls and superstores, entertainment complexes, heritage and theme parks." This shift is evidenced in a changing relationship between educator and learner to one of a "market relationship between producer and consumer. Knowledge is exchanged on the basis of the performative value it has for the consumer" (p. 14). Educational institutions themselves "become part of the market, selling knowledge as a commodity and increasingly reconstructing themselves as enterprises dedicated to marketing their commodities and to competing in the knowledge 'business'" (p. 14). As Hadfield (2003, p. 19) observes, "*Customer* is exactly how adult learners think of themselves, and they hold our institutions of higher education accountable for providing paid-for results and educational experiences that make a difference in their lives. They pay for these experiences with precious resources, not the least of which is their time. They are savvy, demanding customers who know how to shop. When they do not find what they want at one school, they transfer to another."

This shift to the marketplace as the primary site of adult learning has divided adult educators into deciding "whether to locate their practice in civil society or the economic sector" (Cunningham, 2000, p. 577). Others are concerned that adult education has lost its social action perspective; rather, "adult education practice in the age of globalization increasingly becomes a toolkit for quick

fixes by means of tailor-made and individualized short-term, yet lucrative, trainings” (Finger, 2005b, p. 272). Schied, Mulenga, and Baptiste (2005) suggest educators should confront “the totalizing gaze of the ideology of globalization as an inevitable force of nature because it negates the centrality of human agency” (p. 397). Adult educators need to become involved in “building capacities for local groups to engage and confront globalization and its effects” at all levels—local, national, and international (p. 397).

Intertwined in globalization is a shift from a society employed in producing goods to one employed in providing services. The decline in industrial labor stems from automation and competition from other countries with low labor costs. Dislocated workers from both the industrial and agricultural sectors, with few if any transferable skills, find themselves in low-skill, low-paying service jobs. Ironically, the availability of displaced workers with limited employable skills leads to equally low wages in the service sector, thus promoting the general growth of the service sector. Referring to a report by Hecker (2001), Bills (2004) observes that the fast growth of the service sector is paralleled by fast growth in professional and related occupations. “The important thing about these projections is that these two occupations are at the opposite ends of the education and earnings distribution. That is, professional occupations require extensive educational preparation and are generally well-rewarded. Service jobs require lower educational credentials, with corresponding lower job rewards” (p. 97).

Concurrent with the shift to a service economy is the shift to what has been called the information society—a shift that has had a major impact on workers as economic units. “In an industrial age, workers are expendable cogs in the machine; in an information age (and to a lesser extent, in a service age), human capital is the most valuable capital an organization has” (Bills, 2004, p. 20). The implications for learning—and in particular for work-related training—are enormous. Already the amount spent annually by business, industry, and government agencies on job-related training is in the billions of dollars and exceeds that spent on public higher education. Furthermore, because skills learned in preparation for a job or career cannot keep pace with the demands of the world of work, the ability to learn becomes a valuable skill in and of itself. This factor is underscored by the fact that 50 percent of all

employee skills become outdated in three to five years (Shank & Sitze, 2004); in high-tech areas workers may need to learn to operate a new machine, or a new software program, or a new hardware configuration every eighteen months or less (Desimone, Werner, & Harris, 2002).

Developing simultaneously with the emphasis on learning to learn is the notion of the learning organization (see Chapter Two). To survive in the global economy, an “organization needs to evolve into ‘a learning organization’ whereby new and expansive patterns are permitted, allowing employees to learn individually and collectively (continually learning how to learn)” (Gardner, 1996, p. 43). The growing body of literature on the learning organization positions learning, information processing, and problem-solving skills as central to the survival of both the individual worker and the organization. Ulrich (1998) underscores how globalization necessitates the creation of learning organizations. Globalization requires companies “to move people, ideas, products, and information around the world to meet local needs. They [companies] must add new and important ingredients to the mix when making strategy: volatile political situations, contentious global trade issues, fluctuating exchange rates, and unfamiliar cultures. They must be more literate in the ways of international customers, commerce, and competition than ever before. In short, globalization requires that organizations increase their ability to learn and collaborate and to manage diversity, complexity, and ambiguity” (p. 126).

Closely related to shifts to a service and information economy are changes in America’s labor force. The largest job-growth categories are jobs in health and service (such as foodservice) followed by jobs in education, training, and sales and related occupations (Hecker, 2004).

Not surprisingly, women, minorities, and the elderly are over-represented in the lower-paying service jobs. Since the middle of this century, however, the labor force has changed from one dominated by blue-collar occupations to one where the majority of jobs are considered white collar. Significant changes in the composition of the workforce are also occurring along racial and ethnic lines. Although White non-Hispanic workers account for the great majority of workers (81 percent in 2005; U.S. Bureau of Labor Statistics, 2005), their rate of growth is much lower than the rate of

growth for the Black, Asian, and Hispanic groups. According to the U.S. Bureau of Labor Statistics (2005), in 2005 Hispanics were the second-largest ethnic worker group (13 percent) and African Americans the third group at 11 percent.

Perhaps the greatest change of all has been the steady increase of women in the workforce. In 1960, 37.7 percent of women in the population were members of the workforce, compared with 59.2 percent in 2004. Currently, women represent 46 percent of the total United States labor force (U.S. Department of Labor, n.d.). Economic necessity and the freeing of occupations traditionally assigned to men have contributed to this change.

In summary, economic factors are shaping the nature of our society, and by extension, the nature of learning that adults are most likely to undertake. A global economy, the shift to a service and information society, and consequent changes in the configuration of the labor force are determining to a large extent where learning takes place, what is offered, and who participates.

TECHNOLOGY

There is no more apt metaphor for reflecting the rate of technological change than the computer. Itself a major component of our highly technological age, computer language has invaded the ways in which we talk of adult learning. We process students and information; we plan learning activities with an eye to inputs, flow, and outputs; we provide feedback to individual learners and to programs. Indeed, we program learning experiences and ourselves. Technology has had an enormous impact on society and adult learning. It has been instrumental in bringing about the information society, which has created new jobs and eliminated others. And as we have seen, globalization is technology driven.

The move to an information society has been a function of technological developments associated with an information explosion. Within a short span of time, electronic, communication, and information technologies have changed society as a whole and affected how people go about their daily lives. From ordering pizza by computer, to instant communication via the cell phone, to faxing a request to the local radio station, everyday life has been irrevocably influenced by technology.

Concurrent with these technological advances has been an information explosion. Lyman and Varian (n.d.) estimated that in 2002 about five exabytes (one exabyte equals over one billion gigabytes) of new information were produced: “Five exabytes of information [are] equivalent in size to the information contained in 37,000 new libraries the size of the Library of Congress book collections” (§ 2). They also estimated that “the amount of new information stored on paper, film, magnetic, and optical media has about doubled in the last three years” (§ 3). Others have speculated that half of what most professionals know when they finish their formal training will be outdated in less than five years, perhaps even in months for those in technology-related careers. Thus, the need for continuing education has dramatically escalated with the increase in knowledge production. There is not only considerably more information than ever before, but its storage, transmission, and access have been made more feasible than ever before through links with technology.

Laser technology, in particular, is revolutionizing the dissemination of information, as well as its storage and retrieval. A compact disk using laser technology makes it possible to store huge amounts of information in a very small space, and the Internet and World Wide Web have become repositories for more information than any one person could access in a lifetime. Also promoting the explosion of information is the decreasing price of magnetic media. According to Lyman and Varian (n.d.), in 2002, magnetic media, primarily hard disks, stored 92 percent of new information. Film stored 7 percent of the total new information, paper 0.01 percent, and optical media 0.002 percent. Huge amounts of information and the development of technology that finds and easily retrieves this information have had a significant impact on teaching and learning from public school through graduate and adult education.

A major societal shift, such as moving from an industrial to an information society, results in profound changes in the society's structure. In an industrial society, machine technology extended physical ability; in an information society, computer technology extends mental ability. Material wealth has great value in an industrial society; knowledge and information are key assets in an information society. The social structure changes from hierarchies and

bureaucracies to multicentered and horizontal networks. These changes in society's underlying structure can be seen most dramatically in changes in the workforce. As noted earlier, the shift is eliminating certain classifications of work while creating others not previously dreamed of.

In addition to the creation and elimination of jobs, technological changes are affecting workers in other ways, such as where work is done. As Gardner (1996, p. 48) observes, "Computer technology frees labor from a particular location. . . . Knowledge workers can work anywhere; they simply have to have access to a computer connection. Even within the team framework, workers can stay engaged in their mutual tasks even if not in close proximity to each other. Delocalizing work has been touted as one of the more appealing aspects of technological advances in the workplace." Telecommuting, or *home work*, some assert, has increased because of the new technologies, and it is considered desirable because it fits in with alternative family patterns (such as more single-parent families), worker concerns for control of time and work site, and organizational efforts to cut costs and remain flexible by contracting out for services rather than hiring more workers. Estimates of the number of people who currently telecommute vary because of different interpretations of this new work structure. However, estimates from a 2001 national survey found that nearly twenty-nine million, or one in five U.S. workers, participated in some form of telecommuting, and this number was expected to increase to more than forty million by 2010 (Potter, 2003).

Yet others have cautioned against the unquestioning adoption of technology in the workplace, for information technologies have created something of a paradox. Designed to get more work done more efficiently by fewer employees, information technologies have instead offered more ways to communicate, increased the demand for information, and raised the level of expectations with regard to the print and graphic presentation of material. Think of the volume of mail one now handles through e-mail; this technology seems to have increased our workload and expectations of timely responses.

Clearly, technology and the information age that it spawned are changing the nature of adult learning. Professionals whose knowledge becomes outdated in a few years, auto mechanics who

must now master sophisticated electronic diagnostic systems, adults who must learn new ways to bank or shop from home computers: all must be able to function in a fast-changing society, and this necessitates continued learning. Technology is not only making learning mandatory, it is providing many of the mechanisms for it to occur. Computer-assisted instruction, teleconferencing, interactive videodisk, the Internet, and the World Wide Web are expanding the possibilities of meeting the growing learning needs of adults.

Simultaneous with the development of technologically sophisticated delivery systems is the development of new roles for educators and trainers. Having access to unlimited information is not the same as being able to search efficiently for the most significant information, or even to know what is most significant. Hecló (1994, p. B2) states that “in the long run, excesses of technology mean that the comparative advantage shifts from those with information glut to those with ordered knowledge, from those who can process vast amounts of blab to those who can explain what is worth knowing and why.” Ratinoﬀ (1995, p. 163) points out that the information explosion has had both positive and negative effects: “On the positive side, the myths and riddles of power are more exposed to public scrutiny. To fool all people is very diﬃcult under the present circumstances.” On the downside, “information has been growing faster than the individual and institutional capacities required to make sense of the new diversity of signals and messages” (p. 164).

Whitson and Amstutz (1997) suggest a number of strategies for dealing with the information and technology overload. First, adult educators should “build more and better connections with those who directly teach information access skills,” especially librarians, but also computer specialists (p. 133). Educators can also focus on developing students’ “higher-level thinking skills” so that judgments can be made about the credibility and usefulness of information (p. 137). Since much information is available electronically through the Internet and the World Wide Web, the authors underscore the need for educators themselves to become comfortable in this environment, to the point that they can help learners take advantage of technology. Finally, “we have an obligation to consider the ethical implications of our information access processes. . . . The rights of poor people to have access to information and the ways in which

information should be made accessible to them are important concerns. We need to resist the growing tendency for business, industry, and government to control access to information" (p. 141).

The more affluent and better-educated adults with home computers have access to information and instructional packages that make them even more informed. On a global level, the "have" nations can communicate and exchange information in ways that will never be a reality for the majority of the world's people. Even job training necessitated by technological change tends to favor the haves.

Nevertheless, technology's potential for increasing access to learning for people of all ages and possibly all economic levels is unlimited. In more and more communities, computers can be found in libraries, restaurants, Laundromats, and other public places. Naisbitt and Aburdene (1990) argue that technology is "empowering." In their opinion, "there are fewer dictators on the planet today because they can no longer control information. . . . Computers, cellular phones, and fax machines empower individuals, rather than oppress them, as previously feared" (pp. 303–304). Finally, "the proliferation of information technologies and exponential increases in the production of information have created greater opportunities for informal learning . . . for people in all walks of life" (Livingstone, 2001, p. 20).

THE CONVERGENCE OF DEMOGRAPHICS, GLOBALIZATION, AND TECHNOLOGY

Demographics, globalization, and technology are closely entwined with each other. Advances in technology, for example, are interrelated with changes in the economic structure. Automation and robotics displace production workers but create other jobs. Technology creates alternative work structures. The need to be competitive in the world market leads to further technological sophistication. Demographics and economics are clearly related. The baby boom cohort that is now in the labor force, for example, is saturating middle- and upper-management career levels, forcing younger people to consider career alternatives. In another example, the growing number of older adults in our society is having several effects on the economy. Some older adults are being asked

to retire early to make room for younger workers; with increased longevity and good health, others are pursuing second or third careers; and some employers, especially those in the service sector, are recognizing the human resource potential of this group and are actively recruiting older workers.

Embedded in this convergence of demographics, economics, and technology is a value system based on the political and economic structure of capitalism. Nearly two decades ago, Beder (1987, p. 107) explained how these three forces are linked in the value system: “The beliefs undergirding the capitalist system emphasize material values. The health of the system is gauged in terms of national wealth as embodied in the gross national product, and social equality is assessed in terms of economic opportunity—the potential of members of the underclasses to amass more income. Hence, the political and social systems become directed toward . . . economic productivity, and economic productivity under the rationale of human capital theory becomes the predominant rationale for all publicly funded social interventions including adult education.” This value system directly shapes adult education in the United States in several ways. First, economic productivity becomes “the dominant rationale for all public subsidy of adult education” (p. 109). Second, social justice becomes equated with economic opportunity in that “the just society is a society that provides opportunity for members of the underclasses to amass more income and material goods” and adult education “helps learners acquire the skills and knowledge” to do so (p. 109). The emphasis is on productivity and efficiency, both of which benefit from advances in technology. Thus technology, in the service of economic productivity, converges with changing demographics in shaping the adult learning enterprise.

Nowhere is this more visible than in higher education. Before globalization and the market economy, higher education was a local enterprise serving a predominately local or national constituency. Academic foci shaped the nature of the student body and concerns of the institution. With the shift to a consumer approach to higher education, the institution worries about its “brand” appeal, its profitability, its “share” of the market. Globalization in conjunction with communication technology is reshaping higher education in terms of:

- International communications-based telecommunications, information, and media technologies, which facilitate transnational circulation of text, images, and artifacts,
- International movement of students to study in other countries as well as a demand for online courses without a residency requirement in another country,
- Increasing multicultural learning environment whether online or on campus,
- Increasing global circulation of ideas and particularly Western pedagogical systems and values,
- Rise of international and virtual organizations offering Web-based education and training. [Mason, 2003, p. 744]

There are problems with the globalization of higher education, however, not the least of which is its lag behind economic deregulation; that is, credit transfer is a serious barrier even inside a country, let alone across borders. Further, those countries without the technological infrastructure will be “disenfranchised.” And assuming there are those who have access, how ready “are the potential students of global education . . . to be self-directed, self-motivated, and resourceful e-learners?” (Mason, 2003, pp. 744–745).

As already pointed out, a number of writers would like to see the values and purposes of adult education reexamined in the wake of the wide-scale social and economic changes taking place. In a postmodern world characterized by large-scale changes in global activity resulting in economic, social, and political uncertainty, adult education tends to be an entrepreneurial instrument of the so-called new world order. Adult education is particularly sensitive to a restructured workplace, reliance on technology to produce knowledge, and a market demand for multiskilled workers. Petrella (1997) emphasizes the decreased importance placed on individuals in the new market economy in observing that humans as “resources” take precedence over humans as human beings. As well, knowledge has become an important business commodity that is readily marketed, due, in part, to the explosion of the Internet and other information technologies. Finger (2005b) and others (Cunningham, 2000; Schied, Mulenga, & Baptiste, 2005) believe that adult education is in danger of losing its social action orientation as it focuses on helping individuals cope with

the overwhelming economic and other challenges that threaten their identities and survival. Learning in a global community can be empowering but it “can also serve as a mechanism for exclusion and control. The move to a knowledge-based economy means that those who have the lowest level of skills and the weakest capacity for constant updating are less likely to find sustainable employment” (Schied, Mulenga, & Baptiste, 2005, p. 396).

While globalization has extended economic and cultural boundaries, it has also served to fragment society in many ways. For example, although minorities and other ethnic groups may be perceived as valuable contributors in a society, conflict results when scarce educational and other resources are allocated. Minority groups may become more isolated from mainstream society. In other ways, too, individuals in a society may experience fragmentation as they struggle to make sense of their disordered and sometimes disrupted lives. In a time when nations, companies, and families are splintering, there is little sense of security. Job security in particular no longer exists: “A new bargain replaces the old social contract between employers and workers that ensures security of employment in return for good and loyal work effort. Some employers now agree to maintain the future employability of workers through education and training in return for good performance” (Maehl, 2000, p. 20).

If the postmodern world is characterized by fragmentation and diversity, it is also characterized by new alliances and interactions. Demographics, the global economy, and technology have come together in adult education in the blurring of the field’s content and delivery mechanisms. For example, adult education has been variously divided into formal, nonformal, and informal learning activities (see Chapter Two). Formal learning takes place in educational institutions and often leads to degrees or some sort of credit. Nonformal learning refers to organized activities outside educational institutions, such as those found in community organizations, cultural institutions such as museums and libraries, and voluntary associations. Informal learning refers to the experiences of everyday living from which we learn something. Today, many formal providers offer learning experiences that are noncredit, leisure oriented, and short-term. Similarly, nonformal learning and informal life experiences can be turned into formal, credit-earning activities.

Another blurring can be noted in higher education. Once composed of learners eighteen to twenty-two-years old, the student body has grayed along with the population. In fact, students twenty-five years of age and older now make up close to 50 percent of all college enrollments in the United States (Kasworm, Sandmann, & Sissel, 2000). Similar subjects may be taught at the local community college for credit and at the public adult school for noncredit. The part-time adult student taking a course during the day at a college is an adult learner as much as the sixteen-year-old studying for a high school diploma in a local evening class. There is also a blurring between higher education and business and industry. Many postsecondary institutions have business institutes that provide training and development services to business. Conversely, a growing number of private companies, such as McDonald's Hamburger University and the Rand Graduate Institute, are offering accredited degrees (Eurich, 1990).

Finally, a blurring of content and delivery is found in such popular slogans as "workplace literacy," "learning to learn," "critical thinking," and "media literacy." Educators, employers, and society at large are focusing attention on developing the skills needed to be productive and informed members of a fast-changing and highly technical society. With the erosion of boundaries in the content and provision of adult learning, we may be witnessing the emergence of what has been called the *learning society*. Taking human beings rather than educational institutions as its beginning point, the learning society is a response to the social context.

SUMMARY

Adult learning does not occur in a vacuum. What one needs or wants to learn, what opportunities are available, the manner in which one learns—all are to a large extent determined by the society in which one lives. This chapter has discussed several characteristics of American society today that are shaping the nature of learning in adulthood.

Demographics, globalization, and technology are three forces affecting all of society's endeavors, including adult learning. With regard to the American population, adults outnumber youth, there are more older adults, adults are better educated, and there is more cultural and ethnic diversity among the population than ever before.

Globalization is linking the world through economics and consumerism, but there is also a cultural dimension to globalization. Unfortunately, even the cultural aspects of globalization are Western dominated (Finger, 2005b), a factor leading to resentment and terrorist activity.

Technology is integral to the global economy and has contributed to, if not caused, the shift to an information society, which is creating dramatic changes in the workforce. Although we have treated them separately, these three forces are interactive and firmly embedded in the American capitalist value system. Adult education both reflects and responds to the forces prevalent in the sociocultural context. Among the implications discussed in the chapter are the field's responsiveness to special groups of people, the economic productivity rationale behind much of adult education, the potential of technology for enhancing or impeding learning, and the blurring of content and delivery in current adult education.

CHAPTER TWO

LEARNING ENVIRONMENTS AND LEARNING CONCEPTS

Whenever we ask adults about their learning, they most often mention education and training programs sponsored by the workplace, colleges and universities, public schools, and other formal organizations. They first picture classrooms with “students” learning and “teachers” teaching in a highly structured format. Yet when we ask these same adults about what they have learned informally over the last year, they typically respond with descriptions of learning activities outside these formal settings. They discuss, for example, remodeling a house, which has involved everything from reading and talking with friends to conversations with carpenters, plumbers, and electricians. Or they may focus on an important change in their life, such as an illness, parenthood, or divorce, which has precipitated numerous learning events, sometimes over an extended period of time. In considering the spectrum of learning opportunities available to adults, it is important to acknowledge all of these arenas of learning, from the highly structured to the more informal ways adults go about learning.

Why is it important that educators of adults recognize that learning happens in so many and varied places in the lives of adults? First, appreciating and taking into consideration the prior knowledge and experience of learners has become a basic assumption of our practice as educators of adults, wherever this knowledge was learned. In working with welfare recipients, for example, instructors might recognize that parents on welfare have had to learn how to take care of their children on very constrained budgets, keep their families safe and healthy under difficult living conditions,

and in general make do with very little. Rather than asking questions about how they have learned to do this successfully, what is focused on most often is their lack of formal education and skills training. Formal schooling and skills training are important, but so are the ways they have informally learned about life skills that have kept them and their families fed and clothed. Likewise, workshop leaders putting on staff development programs in schools might learn as much as possible about the background and experience of the teachers in that school and what their knowledge base is with respect to the content of the workshop. There is nothing that turns off teachers more in these programs than being treated as if they know very little about the subject matter, especially if they have been dealing with it on a daily basis.

Second, if educators helped learners recognize the many places and ways they have gone about learning in adulthood, more adults might see themselves as active learners. As a result, they might be less cautious about learning new things and even be more willing to enter formal programs of learning. One of our favorite stories is about a duck carver who was interviewed as part of a study on self-directed learning (Berger, 1990). This man, who considered himself both a nonreader and “definitely not a very good student,” taught himself how to carve ducks. He started this process by carving some ducks by himself and then taking them to duck carving shows, where he could talk with other artists about his initial attempts. In addition, he read every book he could get his hands on related to duck carving (and remember, he thought of himself as a nonreader). He now raises ducks so he can have live models, in itself another learning project. As a result of the interview process, this man saw himself as much more of a learner than he had before. Our hope is that as more individuals view themselves as active and competent learners, at least in some areas, they might be better able to address the many life challenges that come in adulthood, through both formal and informal learning modes.

In exploring the spectrum of learning opportunities in adulthood, we first discuss each of the primary arenas in which adult learning occurs: those sponsored by formal institutions, nonformal community-based learning activities, and learning that is more informal or self-directed in nature. We then explore online learning as a fourth site for learning, one that overlays

formal, nonformal, and informal modes of learning. While there are other terms in use, we have chosen to use the term *online learning* because it is the most common term used to refer to learning through the use of computers anchored to communication networks. A second section of the chapter presents two related concepts—organizational learning and the learning organization. Finally, we end the chapter with a discussion of lifelong learning and the learning society.

WHERE LEARNING OCCURS

In this section we first present a framework for three types of settings in which learning occurs for adults: formal institutional settings, nonformal settings, and informal contexts. This framework is an adaptation of one proposed by Coombs (1985, 1989; Coombs, Prosser, & Ahmed, 1973), in which he classified lifelong learning according to these three broad categories. The biggest difference between their conceptualization and our framework is that we have added the concepts of self-directed learning (which is synonymous with Coombs's definition of informal learning) and indigenous forms of learning. Although we are aware of the problems of trying to divide the landscape of learning opportunities into three separate categories, we are assuming that all three categories are of equal importance in the adult learning enterprise. There will always be overlaps among the three, something that educators of adults can capitalize on when designing educational activities. Online learning is a fourth site of learning, one that spans formal, nonformal, and informal learning.

FORMAL AND NONFORMAL SETTINGS

For most people, learning in adulthood brings to mind classroom settings and this is indeed what Coombs (1985) and Coombs, Prosser, and Ahmed (1973) had in mind with their classification of *formal education*. Formal education is highly institutionalized, bureaucratic, curriculum driven, and formally recognized with grades, diplomas, or certificates. It is “the institutional ladder that goes from preschool to graduate studies” (Schugurensky, 2000, ¶ 2) and thus can include “adult basic education programs that follow the prescribed curriculum and employ certified teachers” (Schugurensky, 2000, ¶ 3).

Historically, formal education, whether it be in public schools or postsecondary institutions, has had as its primary mission to serve youth. In more recent years the populations of some of these institutions—such as many community colleges, vocational-technical institutes, and colleges and universities—have changed so dramatically that they are now reaching more adult learners than traditional-age students. In fact, nearly half of the students in postsecondary institutions are over the age of twenty-four (Kasworm, Sandmann, & Sissel, 2000). For formal settings, we envision adults sitting in a classroom, with an instructor, learning in a variety of ways, from formal lectures to small-group interactions. When we ask participants what they remember as positive about learning in formal settings, they often cite well-organized, knowledgeable, and caring instructors; participatory instructional methods and well-crafted lectures; relevant and useful materials; and respect for them as adults and learners. And, conversely, when we ask participants to recall some of their worst experiences, they talk about arrogant instructors who have no sense of them as people or learners, poorly delivered content whatever the method used, and poorly organized and irrelevant materials.

The term *nonformal education* has been used most often to describe organized learning opportunities *outside* the formal educational system. These offerings tend to be short-term, voluntary, and have few if any prerequisites. However, they typically have a curriculum and often a facilitator. Nonformal educational opportunities are usually local and community-based, such as those programs offered by museums, libraries, service clubs, religious and civic organizations; mass media is also classified as a nonformal delivery system. Some insights into these nonformal settings are revealed in Taylor's studies of educators working in the nonformal settings of state and local parks (Taylor & Caldarelli, 2004) and home improvement stores (Taylor, 2005b). Instructors in both settings emphasized the informality, compressed time, and hands-on, interactive nature of the learning in which the needs and interests of the participants are paramount in the encounter.

While nonformal adult education is outside the formal schooling or education system, three subtypes can be discerned, all of which are "reactions to the limitations or failures of formal education" (Brennan, 1997, p. 187). The first subtype proposed by

Brennan (1997) is nonformal education as a *complement* to the formal system. Targeted are those who have dropped out of the formal system, or who, for whatever reason, failed to obtain basic skills such as literacy while in the system. Adult literacy classes offered by the local public library or community college would be an example of this type of nonformal education.

A second type of nonformal education Brennan terms *alternative* to the formal system. This includes traditional and indigenous education, which we discuss in more detail in the following section. Nonformal education can also be seen as a *supplement* to formal education. Supplemental nonformal education he sees as related to a response to national and global imperatives: “This type of NFE is required as a quick reaction to educational, social and economic needs because formal education is too slow in its response (if it does in fact decide to respond) to these needs” (p. 187). An example of nonformal education as supplemental might be National Issues Forums sponsored by the Kettering Foundation. These forums are held in local communities and focus on civic issues such as the health care crisis, immigration, terrorism, and so on (see www.nifi.org).

Nonformal education is also associated with international development programs designed to improve the living conditions of people in developing countries through community projects and training programs. These programs are typically sponsored by nongovernmental agencies (NGOs) and private voluntary agencies. Nonformal educational programs in developing countries (as well as some nonformal programs in the United States) are “expressly concerned with social inequities and often seek to raise the consciousness of participants towards social action” (Merriam & Brockett, 1997, p. 170).

Despite efforts to distinguish between formal and nonformal education, some adult learning opportunities that could be placed in this nonformal category often more closely resemble programs in formal educational institutions. Coombs (1989) himself identifies “homegrown hybrids” of formal and nonformal, such as programs for out-of-school youth, community learning centers, and so on. And in the United States, for example, how does one classify a corporate training center or a proprietary school? So does using this term *nonformal* have utility today? We believe that it does, both in terms of recognizing the many educational programs in

developing nations as well as focusing on the community-based programs of adult learning in all environments that fit the parameters of less structure, more flexibility, and concern with social inequalities. In addition, another type of learning usually associated with nonformal education—indigenous learning—is again being recognized as an important form of learning. Therefore, in describing nonformal educational learning opportunities, we highlight two types of these opportunities: community-based adult learning programs and indigenous learning.

Community-Based Learning

Varied pictures come to mind when we talk about community-based learning opportunities. We see people gathered in churches, the community center, or the local library organizing to overcome a specific problem or issue they believe to be important in improving life in their community. These problems have ranged from addressing racial hatred and inequality to ensuring adequate housing and sanitary living conditions. Other images of community-based learning programs include men and women learning to read and write while at the same time gaining marketable job skills, adults learning CPR at the local Red Cross, farmers being introduced to new methods and crops as a way to build economic control over their lives, and spouses who batter being taught non-violent ways of handling their anger and frustration.

One common goal of many of these programs is their focus on social action and change for the betterment of some part of the community. Educators who work in these programs believe that education and training can be a powerful tool in assisting learners to take control over their own lives. Sometimes these programs are not welcomed by the mainstream community, especially if one of their main purposes is to challenge the existing way of life, including the current social and economic structures of that community. Vivid examples include the worldwide human rights movement, the continuing struggle to eliminate poverty and hunger, community-based actions exposing hazardous waste dumps, and local attempts to end discriminatory practices based on race, class, gender, sexual orientation, and so on.

Working with adults in community-based learning settings has both its blessings and its curses. Flexibility in administration and

programming is often recognized as its greatest benefit. Because these types of organizations “start small and are typically organized as freestanding organizations with fairly simple structures . . . , they can often move relatively quickly to identify problems and develop programmatic solutions” (Hemphill, 1996, p. 21). This can translate into quicker response times, in terms of both developing funding proposals and getting resources to where they are needed. “New people can be brought in (or unfortunately let go more quickly) as needed. Curricula can be rapidly developed or revised. Teaching assignments can be quickly modified” (p. 22). Being able to move more quickly does mean that checks and balances must be in place to ensure both a focused program direction based on community needs and quality learning opportunities that are useful. In addition, people attracted to work in community-based adult learning programs, whether paid or volunteer staff, often come with a passion for a cause that gives them the drive to stay with this work, even under the most trying conditions. On the downside, the very nature of many community-based organizations often puts them on the path to an unending search for resources. This continuing search for and worry about resources, in combination with long and often difficult working conditions, can lead to staff burnout very quickly, even for the most committed individuals.

Indigenous Learning

Indigenous learning is learning linked with a culture. It refers to processes and structures people in particular societies have used to learn about their culture throughout their history (Graveline, 2005). Conscious use of indigenous forms of learning, which are often steeped in oral traditions and art forms, can enhance non-formal and perhaps even formal educational programs. Storytelling, for example, is often used by African-American women to teach about the joys and sorrows of life. When teaching these women, instructors could incorporate storytelling as an important method of learning about the topic at hand, from surviving in modern-day organizations to basic literacy skills. In another example, Hicks and Rowel (2004) studied the nonformal indigenous learning of six public housing community leaders who were inspirational in helping others in their community. These women were effective

in helping others by modeling exemplary leadership, practicing what they preached, and communicating with diverse groups.

Descriptions of indigenous forms of learning can be found in both scholarly and more popular literature (see Chapter Nine). Cajete (1994) eloquently describes the tribal foundations of American Indian education, which he sees as “shared by Indigenous cultures of the world” (p. 33). In tracing these foundations, Cajete observes:

We are tracking the earliest sources of human teaching and learning. These foundations teach us that learning is a subjective experience tied to a place environmentally, socially, and spiritually. Tribal teaching and learning were intertwined with the daily lives of both teacher and learner. Tribal education was a natural outcome of living in close communion with each other and the natural environment. The living place, the learner’s extended family, the clan and tribe provided the context and source for teaching. . . . Informality characterized the greater part of American Indian teaching and learning. . . . However, formal learning was usually required in the transfer of sacred knowledge.

Hahoh is a Tewa word sometimes used to connote the process of learning. Its closest English translation is to “breathe in.” Hahoh is a sacred metaphor describing the perception of traditional Tribal teaching—a process of breathing in—that was creatively and ingeniously applied by all tribes. . . . Through these methods [such as storytelling, dreaming, tutoring, and artistic creation], the integration of inner and outer realities of learners and teachers were fully honored, and the complementary educational processes of both realities were fully engaged. [Cajete, 1994, pp. 33–34]

Cajete beautifully expresses what teaching and learning mean to him: “A parable that often flashes through my memory during times of quiet, deep relaxation, or just before I fall asleep: ‘It is an essential, life-sharing act of each generation of a People to nurture that which has given them Life and to preserve for future generations the guiding stories of their collective journey to find life’” (1994, p. 187).

Brennan (1997, p. 191) has observed that “the lack of attention to the indigenous learning structure may have been initially the work of missionaries who viewed indigenous culture as inferior

and non-Christian and therefore to be ignored or if necessary repressed.” He goes on to suggest a four-stage process for recognizing indigenous learning as an essential part of the nonformal system of learning for adults. In Stage 1, approaches or techniques that may be relevant to educational or developmental activities are identified—for example, the role of traditional dance and music and the use of legends, myths, tales, and proverbs. Stage 2 involves classifying these approaches and techniques into a system that educators in more formal settings can understand and integrate into their own ways of thinking. “The third stage,” he writes, “is associated with advocacy for the exploration of a broader indigenous learning ‘system’ . . . [and] the fourth stage is represented by the development of more detailed and comprehensive learning ‘systems’ for a particular cultural group” (pp. 192–193). Indigenous forms of learning could also be seen as informal or self-directed learning, as was described by Cajete and is examined in the next section.

INFORMAL LEARNING

Informal learning is the third form of learning in Coombs’s typology. Defined by him as “the spontaneous, unstructured learning that goes on daily in the home and neighborhood, behind the school and on the playing field, in the workplace, marketplace, library and museum, and through the various mass media” informal learning is by far the most prevalent form of adult learning (Coombs, 1985, p. 92). Illeris (2004a) calls this type of learning “everyday learning” because it “takes place in all the private and non-organised contexts of everyday life” (p. 151). It is, as Livingstone (2001) points out, learning that takes place without the externally imposed curriculum of either formal or nonformal educative programs.

The very nature of informal learning is what makes it so difficult for adults to recognize. Embedded as it is in our everyday activities, whether we are at work, at home, or in the community, and lacking institutional sponsorship, adults rarely label these activities as learning. However, studies of informal learning, especially those asking about adults’ self-directed learning projects, reveal that upwards of 90 percent of adults are engaged in hundreds of hours of informal learning (see Chapter Five). It has also been

estimated that the great majority (upwards of 70 percent) of learning in the workplace is informal (Kim, Collins Hagedorn, Williamson, & Chapman, 2004), although billions of dollars each year are spent by business and industry on formal training programs.

Informal learning, Schugurensky (2000) suggests, has its own internal forms that are important to distinguish in studying the phenomenon. He proposes three forms: self-directed learning, incidental learning, and socialization, or tacit learning. These differ among themselves in terms of intentionality and awareness at the time of the learning experience. Self-directed learning, for example, is intentional and conscious; incidental learning, which Marsick and Watkins (1990) describe as an accidental by-product of doing something else, is unintentional but “after the experience she or he becomes aware that some learning has taken place” (p. 4); and finally, socialization or tacit learning is neither intentional nor conscious (although we can become aware of this learning later through “retrospective recognition”) (Marsick & Watkins, 1990, p. 6).

Of the three forms of informal learning, self-directed learning is the most visible and the most studied (see Chapter Five). The following two scenarios illustrate the informal nature of self-directed learning:

Scenario 1: Charlie has a passion for model railroading. He spends hours in his basement planning his layout, tinkering with his equipment, and laying track. He subscribes to every railroad magazine published and talks shop with acquaintances who also have model trains. Every once in a while, he attends a model railroad show, but for the most part, this is a hobby he enjoys pursuing on his own. Over the years he has learned a great deal about model railroading and is proud of his layout, though as he says, “I’ll never be totally satisfied. There are always new things coming out which I like to fiddle with.”

Scenario 2: Trudy has just learned that she has breast cancer. Once over the initial shock, she decides to take an active role in planning her treatment. So that she can speak intelligently with the myriad medical personnel she knows she must face, she gathers as much information as she can about the disease from a number of sources, including the American Cancer Society, her local Reach for Recovery Program, the Internet, and an oncology nurse

who is a friend of a friend. Moreover, she learns of a local support group for cancer patients and decides to join for both information and emotional solace, thereby choosing a nonformal learning opportunity as part of her own self-directed efforts. Her husband and best friend have joined her in her fight, and both are reaching out to a number of different sources for advice and counsel.

These scenarios, representing the independent pursuit of learning in natural settings, with or without the support of institutional resources, are very common in adult life. Yet even with the many verification studies that have been completed, self-directed learning in this form is not recognized by many adults, or even by some educators of adults, as “real learning.” There are a lot of Charlies out there, learning all kinds of things on their own, from model railroading to making quilts and crafting clay pots. Some find friends or independent mentors to assist them in their learning, and some deliberately choose institutional resources that might be helpful to them as part of their self-directed activities. There are also numerous Trudys whose self-directed learning activities “arise from and seek to resolve a problem or situation” (Candy, 1991, p. 199). These learners often combine resources in their natural environments with those supplied by institutions, from educational materials to people who can assist them with their learning. What becomes evident is that this type of informal learning does not necessarily mean learning alone, a major myth about self-directed learning (Brockett, 1994). Rather, adults often use other people, and even groups, whether they are institutionally based or not, in their self-directed learning pursuits.

Schugurensky (2000) makes just this point in summarizing the three forms of informal learning—that is, informal learning can occur individually or in groups and “learners can use a variety of sources for their learning, including books, newspapers, TV, the Internet, museums, schools, universities, friends, relatives, their own experience, etc.” (§ 20). He also notes that informal learning can complement and reinforce or *contradict* learning acquired in formal and nonformal settings:

For instance, one can learn in school curriculum that the capitalist system is a great contribution to humanity, and learn through informal ways that such a system is detrimental to humanity. Likewise,

one can be socialized by the surrounding community into a bigot, and learn virtues of tolerance in the public school. Moreover, one can go to a school and be aware that through the formal curriculum she or he is learning A (e.g. math), without being aware that through the hidden curriculum she or he is learning B (e.g. homophobia). [¶ 23]

Schugurensky also makes the point that informal learning can be additive, in the sense of acquiring more knowledge or skills, and it can be transformative (see Chapter Six).

In summary, we have presented a framework that encompasses three types of settings or contexts in which learning in adulthood occurs. The first two settings, formal and nonformal, involve some form of organizational or community sponsorship. The third opportunity, informal learning, is more of a hybrid. Although the majority of learning opportunities in this last category are planned and initiated primarily by learners in natural settings (such as the home, on the job, or through recreational pursuits), the learning processes and methods used in self-directed and informal learning have been incorporated by some formal and nonformal settings in the way they carry through their instructional programs.

ONLINE LEARNING

In more recent years, as the use of technology has increased in the delivery of learning programs, our picture of learning in formal settings has expanded dramatically. We now see learners doing individualized or group learning in computer labs, participating in interactive teleconferences, and interacting from their homes with fellow participants and instructors via the Internet.

And while most of the research and theorizing about online learning is occurring in the formal education sector, online learning is also going on in nonformal settings. Many businesses have their own intranet, where employees have access to company policies, events, and activities as well as learning that can be shared through chat rooms and e-mail. Local communities often use the Internet to stimulate citizen participation, and nonformal educational institutions such as museums facilitate learning through online activities. After getting a traffic ticket, one can even take a

traffic school course online, endorsed by traffic court, to avoid getting “points” on one’s driving record! And in a fascinating study of online social action, Hollenbeck (2005) explored how three online communities organized and educated their members worldwide in the art of social protest. She studied anti-McDonald’s, anti-Wal-Mart, and anti-Starbucks communities, which she labeled *antibrand* communities. All three had formed for the purpose of educating others “by providing resources for getting involved and taking action” against capitalist corporate giants (p. 207). These antibrand online groups organized e-mail campaigns protesting corporate policies, publicized and supported local protests, and offered a space for employees who were overworked and underpaid to “vent” (a number of people in these online communities were disgruntled employees of the organization in question).

Informal learning has also been affected by this technology. How many of us have been curious about something and done a Web search to learn more about it? Even older adults are accessing the Web for up-to-date information on many aspects of their lives—from travel, to the “best places to live,” to their health condition (Valente, 2005). Hayes (2005) has also demonstrated how sophisticated one’s learning can become through participating in the virtual world of video and role-playing games. She observed, for example, that since some of these virtual worlds are “not solely text-based, these worlds offer opportunities for learning through a wider range of modalities, including visual, auditory, and even kinesthetic modes, and rely less on verbal (i.e., reading and writing) skills for participation. These varied modalities may encourage or require different forms of identity construction, meaning-making, and social interaction” (p. 194).

As we noted earlier, it is from the formal education sector that we have learned the most about online learning, and it is to developments in this arena that we now turn. Online learning is a form of distance education, which has a long history of serving adults who otherwise would not have access to continuing and higher education. The defining characteristic of all forms and generations of distance education is the separation of student and teacher in time or space. What in the literature is often termed *first-generation distance education* consisted of print-based correspondence courses, a form still in existence. How many generations follow differs by

author, but the simplest model has the second generation being broadcast and television technologies, followed by the third generation of information technologies of which Web-based courses are a part (Moore & Kearsley, 1996). This generation is distinguished by “an increased degree of learner control and flexibility, interactive communication and group-oriented processes” (Conrad, 2005, p. 445).

The phenomenal growth of online learning is reflected in some statistics that will be outdated before this book is published. Internet World Stats (2005) has estimated that there are more than 223 million Internet users in North America, or 68 percent of the population. Furthermore, 81 percent of higher education institutions in the United States offered at least one fully online or blended course in 2002–03, and over 1.9 million students were studying online in fall 2003 (Allen & Seaman, 2004). According to Moore (2001), those who are enrolled in online courses tend to be women, older rather than young adults, and people employed outside the home.

As online learning has become almost commonplace in higher education, research has shifted from its technical aspects and its staying power to more pedagogical concerns encompassing “all aspects of the learning transaction, including its very important social dimension and its sub-parts, community and social presence; culture and facilitation styles; and theory-building” (Conrad, 2005, p. 445). At the same time, there are overarching concerns about this forum for learning. One big concern is with access, what some are characterizing as the *digital divide*. Distance education began in the nineteenth century to serve those who had little or no access to the traditional education system. While online learning is also designed to open up access, and does so for thousands of adults who need the flexibility of time and space for their learning, it may also be widening the gap between the haves and the have-nots:

To access the new forms of distance education, obviously you have to have access to the new technology, and richer people have that and poorer people do not have that. In the United States, high-income households are twenty times more likely to have access to the Internet than low-income families. In the United States, two-thirds of college-educated people have access to the Internet and only 6% of those with primary or elementary education. [Moore, 2001, ¶ 25]

From a global perspective, it is estimated that of the world's 6.4 billion people, only 14.6 percent are Internet users (Internet World Stats, 2005). But the digital divide is not a matter of access alone. In a study of rural learners who had access to computers in community settings, Page (2005) found that other sociocultural and psychological factors impeded their use. Factors such as "uncertainty about change, fear of technology, need for guidance, inexperience, relevance, the social context of the persistently impoverished county, and the perceived need" revealed the complexity of the digital divide (p. 334).

There are other issues of concern to adult educators when considering the growth of online learning. Moore (2001) and others talk about the commercialization of Internet education. A number of private, for-profit institutions have sprung up promising learning anytime, anywhere, for anyone. But the promise of convenience and ease (for a price) may fool some students in terms of the commitment involved and the independent learning skills needed. Or, these institutions may have poor quality courses if instructors at the institution do not live up to its advertising. Private, for-profit Phoenix University, which is a largely online university, now has two hundred thousand students and expects to serve five hundred thousand by 2010 (Selingo, 2005), yet little is known about student success or lack of success in such a fast-growing institution.

In an analysis of the rhetoric of online learning, Kelland (2005) critiques three themes that characterize the promotion of online learning. The first theme, which she calls a myth, is that online learning is inclusive and democratic. In promoting online learning to disadvantaged groups (who, as we saw earlier, do not have the cultural capital to take advantage of it), governments and institutions "continue to ignore barriers that discourage, and even prevent, disadvantaged learners from participating in on-campus programs" (p. 254). The second theme, that online learning is accessible and flexible, is countered by the digital divide that characterizes even Western countries such as the United States. The third theme, that online learning is cost-effective, does not necessarily mean that lower institutional costs are passed on to students; further, students in industrial countries have trouble getting financial aid for their distance learning.

In summary, online learning presents both opportunities and challenges to adult educators. As we have seen, online learning occurs in formal, nonformal, and informal settings. What we as adult educators need to think about is how the Internet is facilitating adult learning in all three settings and how we can maximize its potential. At the same time, online learning presents challenges particularly with regard to access, even in the information-rich, technologically advanced United States. Access issues, which are discussed more fully in the next chapter on participation, have haunted the field of adult education since its inception. It appears that online learning is yet another manifestation of this worrisome social issue at the heart of our adult education practice.

ORGANIZATIONAL LEARNING AND THE LEARNING ORGANIZATION

The concepts of organizational learning and the learning organization are so interrelated that it is difficult to speak of one without reference to the other. Illeris (2004a, p. 88) concurs, stating that “there is no clear distinction” between the two “except for the discussion on what exactly it means that an organization learns.” Indeed, sections on the learning organization and organizational learning in the recent *International Encyclopedia of Adult Education* (English, 2005b) position each term with reference to the other. Recognizing the embeddedness of one concept in the other, we begin with a discussion of organizational learning, a concept that preceded that of the learning organization.

Learning has always gone on in organizations. At least since the industrial revolution, employees have had to be trained in the technical skills needed for their jobs. This learning, or more precisely, training, was “removed from the immediate work environment on which it [was] expected to have an impact” through the “‘transfer’ of skills and understanding back to the milieu” (Laiken, 2001, p. 6). As much of this training failed to transfer, and as organizations entered a more competitive environment, broader thinking about learning in organizations emerged. Argyris and Schön’s 1978 book, *Organizational Learning: A Theory of Action Perspective*, defined the concept of organizational learning. As described by them, “Organizational learning occurs when members of the organization

act as learning agents of the organization, responding to changes in the internal and external environments of the organization by detecting and correcting errors in organizational theory-in-use, and embedding the results of their enquiry in private images and shared maps of organization” (p. 16). A number of key points about organizational learning are present in this definition. First, it is individuals who do the learning, but in service to the organization, so that the organization can adapt and develop in response to the environment. Second, theories-in-use versus “espoused theories” (what people do versus what they say they do) form the basis for practice. Finally, this learning must become “embedded in the images of organization held in its members’ minds and/or in the . . . artifacts (the maps, memories, and programs) embedded in the organizational environment” (Argyris & Schön, 1996, p. 16).

As it has evolved, organizational learning is a flexible concept spanning a number of disciplines and perspectives so that it is now “impossible to capture with a single definition” (Fenwick, 2005b, p. 446). Further, the field of organizational development (OD) and the idea of knowledge management (KM) intersect with organizational learning in terms of how to incorporate learning into changing an organization’s practices and culture, and how to employ the knowledge generated through individual and group learning. Today, all organizations are grappling with issues that include “generating innovation, integrating new technologies, improving existing processes, predicting and adapting to turbulent conditions, restructuring staff, improving performance, ensuring equitable opportunity, and fostering quality of work” (Fenwick, 2005b, p. 448).

Although learning has always gone on in organizations, it was not until the publication in 1990 of Peter Senge’s book *The Fifth Discipline: The Art and Practice of the Learning Organization* that the notion of the learning organization became a popular concept capturing the imagination of organizations worldwide. Senge defined it as “a place where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to act together” (p. 3). Implicit in this definition is the recognition that the learning organization is a vibrant, *social* entity;

further, individuals learning in conjunction with each other has a synergistic effect—the overall learning is greater than a single individual's.

It is Senge's contention that "organizations learn only through individuals who learn" (p. 140). This is a necessary but not sufficient condition for creating a learning organization. There are also five core disciplines, or "component technologies," that individuals must adopt for the learning organization to become a reality. Senge views *systems thinking* as the cornerstone of the learning organization. He believes that it is critical for people to shift their thinking from "seeing parts to seeing wholes, from seeing people as helpless reactors to seeing them as active participants in their reality, from reacting to the present to creating the future" (p. 69). Without this shift in thinking, he views the other four disciplines (developing personal mastery, changing mental models, building shared vision, and participating in team learning) as useless.

Watkins and Marsick's (1993) view of the learning organization is a bit broader. They see the learning not just with individuals but also taking place in "teams, the organization, and even in the communities with which the organizations interact. Learning is a continuous, strategically used process—integrated with, and running parallel to [the] work [of the organization]" (p. 8). Watkins and Marsick have outlined six *action imperatives* needed to create and sustain learning organizations. The first imperative is to create continuous learning opportunities at all levels of the organization. These opportunities range from on-the-job learning experiences to hosting global dialogue teams, with the goal that learning becomes an integral part of the everyday work life. To promote this continuous learning, two other action imperatives are brought into play: inquiry and dialogue, and collaboration and team learning. These learning strategies seem to form the heart of most organizational learning efforts, with the emphasis on the collective and interdependent nature of these processes. The fourth imperative, establishing systems to capture and share learning, involves "building organizational capacity for new thinking that is then embedded and shared with others" (Watkins & Marsick, 1993, p. 15). This fourth imperative, along with the fifth—empowering people toward a collective vision—mirrors Senge's disciplines of changing one's mental models and building shared vision. The final imperative,

connecting the organization to its environment, acknowledges the connections between the organization and its external constituents, including its customers and the various local, national, and international communities that affect the work of the organization. These connections are symbiotic. It is not only the external constituents that affect the organization; the organization also affects these external groups.

This learning capability improves an organization's capacity to respond quickly and in novel ways, thus increasing its ability to foster innovation and change. Organizations with this ability to make rapid changes may have a competitive advantage in the marketplace, although there is little research that actually confirms this claim. In one of the few research studies to test this assumption, Ellinger, Ellinger, Yang, and Howton (2002) correlated results of a learning organizational questionnaire with objective measures of 208 U.S. manufacturing firms' financial performance. While they caution that this study was exploratory, they did find positive associations between the learning organization concept and firm performance.

Today the learning organization goes by a number of names including *adaptive*, *resilient*, and *innovative* organizations (Marsick & Watkins, 2005). However it is conceptualized, there are some consistent features of a "healthy" learning organization. These include: "(a) openness across boundaries, including an emphasis on environmental scanning, collaboration, and competitor benchmarking; (b) resilience or the adaptability of people and systems to respond to change; (c) knowledge/expertise creation and sharing; and (d) a culture, systems and structures that capture learning and reward innovation" (p. 357).

In thinking about the process of building and sustaining learning organizations, Dixon (1997) offers the metaphor of the hallway as a useful analogy. She defines hallways as "places where collective meaning is made—in other words, meaning is not just exchanged, it is constructed in the dialogue between organizational members" (p. 25). Although the dissemination of complete and accurate information is needed to enable this process to work, it is not sufficient to promote shared meanings among people. Dixon contrasts this accessible meaning of the hallways to that of private meaning, which is knowledge known only to individuals and not accessible to others. Collective meanings of organizational

members are held in what she terms the organization's storeroom. This collective meaning, which includes norms, strategies, and assumptions about how the organization functions, is the glue that holds the organization together. She acknowledges that this collective meaning, if not allowed to be questioned, can have a negative impact on organizations' being able to learn and change.

Finally, Dixon outlines seven critical elements that characterize hallway learning: (1) reliance on discussion, not speeches; (2) egalitarian participation; (3) encouragement of multiple perspectives; (4) nonexpert-based dialogue; (5) use of a participant-generated database; (6) the creating of shared experiences; and (7) the creation of unpredictable outcomes. We find the last element especially intriguing; it asks those of us who choose to create learning organizations to move away from the predictable aspects of learning and into the realm of reframing problems in unexpected ways and finding possibilities never thought of before.

There are, of course, numerous barriers or inhibitors to creating learning organizations. Among the most critical are the inability of organizational members to recognize and change their existing mental models, the lingering power of individualism in organizations versus the spirit of collaboration and team learning, the lack of skills and developmental readiness by people to undertake "systemwide learning," and "truncated learning or the ghosts of learning efforts that took root because they were interrupted or only partially implemented" (Watkins & Marsick, 1993, p. 240). Another major barrier to creating learning organizations is that power is often in the hands of a few who may or may not buy into these ways of working and thinking (Cervero & Wilson, 2005).

As we have just seen, it is not possible to talk of the learning organization without reference to organizational learning. We believe that the concepts of organizational learning and the learning organization offer a way of working and thinking for educators in both formal and nonformal settings. It allows us to move beyond planning just for individuals and groups of learners in terms of affecting both learning processes and outcomes. Creating learning organizations, whether we are associated with educational, quasi-educational, or noneducational institutions, provides a way to foster learning communities that are open to change and innovative practices.

LIFELONG LEARNING AND THE LEARNING SOCIETY

In recent years nearly all people, and especially those of us in education, have heard the terms *lifelong learning* and *learning society*. But what do we mean by these terms and what do they mean for the field of adult education and adult learners in particular? Are they a convenient slogan to promote our field? Will their use result in more adults having access to learning opportunities? There are, of course, no simple answers to these questions. What we can do in this section is explore these concepts and in particular the issues they raise with regard to practice.

Before lifelong learning there was lifelong education, promoted chiefly by UNESCO in the 1960s and 1970s. The now-famous UNESCO report, *Learning to Be* (Faure et al., 1972), was seen as a blueprint for reforming the entire educational system. Both idealistic in its goals and humanistic in its concern with individual growth through learning, lifelong education, it was hoped, “would result in the creation of a learning society where access to and learning in education would be taken for granted—an inalienable human right like clean water or a roof over one’s head” (Boshier, 2005, p. 373).

However, as societies became more conscious of the need to develop a skilled workforce to be competitive in the marketplace, the humanistic focus of lifelong education gave way to more of an economic framing of lifelong learning. By the early 1990s the term *learning* had supplanted *education*. This shift was also marked by a significant publication, this time from the Organization for Economic Cooperation and Development (OECD) in 1996, titled *Learning for All*. It is significant that the OECD represents the economic interests of mostly affluent countries, for this report established “the political-economic *ideology* of lifelong learning (Illeris, 2004a, p. 29). Secondary to the economic focus, this report also acknowledged the importance of lifelong learning for personal development and social unity: “We are all convinced of the crucial importance of learning throughout life for enriching personal lives, fostering economic growth and maintaining social cohesion” (OECD, 1996, p. 21).

Most recently the OECD conceptualization of lifelong learning has been augmented by reports from the European Union and

the World Bank. The 2000 report of the Commission of the European Communities acknowledges that learning need not be so highly institutionalized, highlighting the importance of nonformal and informal learning contexts. The report maintains the economic aim of lifelong learning, but also says an “equally important aim” is promoting active citizenship. The World Bank’s report on lifelong learning, while including Third World and transitional economies, states the aim of lifelong learning to be the creation of a workforce “able to compete in the global economy” (World Bank, 2003, p. xviii).

Although in the United States use of the concept of lifelong learning has lagged behind other countries, we have our own report urging the nation to make adoption of a system of lifelong learning a national priority (Commission for a Nation of Lifelong Learners, 1997). The five recommendations of this report are to “acknowledge the link between lifelong learning and global economic success, establish equity of access, incorporate new technologies in lifelong learning, rethink and reorganize educational delivery, and make resource commitments commensurate with lifelong learning’s importance” (Maehl, 2000, p. 7)

Lifelong learning, at least in the United States today, is more a “principle or organizing concept than a functioning system” (Maehl, 2000, p. 4). This is partly because of the decentralization of our educational system and the myriad institutions, agencies, and programs that offer learning opportunities. There is no public policy on lifelong learning and certainly no unified funding source. The result is that the concept is shaped by whatever entities take it up. Postsecondary education, for example, seems to be in the forefront in shaping lifelong learning as access to higher education for adults of any age and stage in life. The Department of Labor, in contrast, sees lifelong learning as access to training to develop skills needed in the workforce.

The proliferation of interpretations of lifelong learning has led to some vigorous debate and discussion about its merits and limitations. The most vociferous critique of lifelong learning is that it is a tool for restricting its application to “labor market expectations that enable governments and corporations to exploit the idea of human capital” (Dale, Glowacki-Dudka, & Hyslop-Margison, 2005, p. 113). Or, because lifelong learning is so pervasive throughout

society, knowledge becomes a commodity that is produced, packaged, and sold to the consumer. Crass commercialization begins to define lifelong learning. Yet, the notion of lifelong learning has also opened up our thinking of learning as broader than what goes on in school. Nonformal, informal, and self-directed learning are much more visible as legitimate sites for learning.

The most vexing issue, one raised earlier with regard to online learning, is the question of access. As Boshier (2005, p. 376) points out, “[L]ifelong learning is used as a rationale for inflicting (often oppressive and authoritarian) forms of mandatory continuing education on citizens already marginalized and experiencing social difficulties.” Illeris (2004a) notes that while all the international reports “are quite explicit about the necessity of giving priority to those who are poorest in economic, social, and educational terms,” he wonders if in reality this is happening “in a way that is relevant seen from the life situation and perspectives of these participants” (p. 34). Finally, Holford and Jarvis (2000) raise the fundamental question of who benefits in the learning society, pointing out that the rhetoric and the reality do not match. For example, lifelong learning with regard to the workplace “will emphasize types of learning and knowledge that make sense in concrete contexts and will be widely available. Unfortunately—whatever the potential benefits to all of privileging practical knowledge—access to learning opportunities at work remains highly unequal” (p. 655).

Despite the issues involved in a society such as ours promoting the notion of lifelong learning, the concept does seem to have some usefulness in conveying the wide variety of learning activities and sites where it can occur. It also reflects what some see as the “postmodern” condition, full of change and opportunity. As Edwards and Usher (2000) write, “[C]hange and uncertainty require lifelong learning and ‘lifelong learning’ is itself a signifier of the uncertainty and change of the contemporary” (p. 99).

This notion of change and uncertainty also underlies the concept of the learning society. Just as the learning organization is designed to respond to environmental and economic developments, the learning society acts in response to social change: “The more prevalent or profound the changes that occur in a society, the greater the likelihood that it will be regarded as a learning society” (Jarvis, 2004, p. 15). China is a prime example. Undergoing

enormous change, the Sixteenth Congress of the Chinese Communist Party in 2002 declared China's intention to promote life-long learning and create a learning society. To bring about this learning society, the government has set up and is supporting sixty-one experimental learning communities throughout the nation. Using the present administrative infrastructure, which links provinces, municipalities, districts, streets, and neighborhoods, these communities are engaging people of all ages in nonformal and informal learning activities designed to bring learning to the fore as a priority in their lives and in their communities. Local governments in the experiment areas have integrated the work of building the learning community into their administrative responsibilities; learning streets and learning families in these local learning communities attest to the scope of these efforts (Bo Chang, personal communication, September 7, 2005).

The magnitude of China's efforts to create a learning society makes the concept difficult to grasp. It is perhaps easier to think in terms of learning "regions" or learning communities, cities, towns, or villages. Learning regions, according to Walters (2005), refer to a geographic area of any size that has made a commitment to linking "lifelong learning with economic development to compete globally" (p. 360). The important characteristics of learning regions such as a city, state, or province is that all forms of learning—informal, nonformal, and formal—are promoted for all ages. As Boshier (2005) explains:

In a learning city (town or village) there are attempts to foster all forms of learning for citizens old and young in many contexts. . . . Learning cities are committed to learning as a core aspect of development. As well as catching dogs and servicing sewers, the city fosters learning. They seek to sustain economic activity by building social capital. . . . A learning city (town or village) is: a form of community development in which local people from every community sector act together to enhance the social, economic, cultural and environmental conditions of their community. [pp. 376–377]

Boshier also includes learning festivals as part of the learning society. Such learning festivals are part learning, part cultural expression, and part entertainment. What is key to learning

regions, cities, or festivals is not technology, which “helps but is not essential. What matters most are local places and spaces” (Boshier, 2005, p. 376).

The learning society then can be considered as an expression of lifelong learning, one that is place-bound. What it means to be a learning society (or learning city, community, or region) will differ according to the particular society. What does the learning society look like, for example, in “middle-income countries like Brazil, India and South Africa’ or “in contexts of widespread poverty and social polarization” (Walters, 2005, p. 360)? Certainly, this concept of the learning society, along with the concept of lifelong learning, will undergo change as societies grapple with implementing learning for all across all segments of society.

SUMMARY

Learning opportunities for adults are found in a variety of settings, from formal institutions to one’s home or place of employment. The importance of understanding this vast array of learning opportunities for adults is twofold. First, acknowledging prior knowledge and experiences of learners, wherever gained, is important to the practice of adult educators. Second, if more than just formal types of adult education are made visible, individual learners, even those without formal schooling, may be better able to recognize their abilities and skills as lifelong learners.

There are three primary types of opportunities or sites in which learning occurs for adults: formal settings, nonformal settings, and informal or self-directed contexts. A fourth site explored in this chapter is online learning, which spans formal, nonformal, and informal settings. Although the categorization of these learning opportunities and the language used within these categories helps us think about learning, what is more crucial is the recognition that learning opportunities come in many sizes, shapes, forms, and places. The most critical actions that educators of adults can take is to recognize the equal importance of the various types of adult learning and advocate that people use them in whatever situation or setting they find themselves.

A second section of this chapter explored the concept of organizational learning and its manifestation in the learning

organization. In learning organizations, learning—whether done by individuals, groups, or the organization as a whole—is a central, valued, and integral part of organizational life. The heart of the learning organization is the willingness of organizations to allow their employees and other stakeholders related to the organization to suspend and question the assumptions by which they operate, then create and examine new ways of solving organizational problems and means of operating. This process requires that people at all levels of the organization be willing to think in a systems framework, with the emphasis on collective inquiry, dialogue, and action. Creating learning organizations could allow educators of adults, whether they are associated with formal or nonformal settings, to develop learning communities in which change is accepted as the norm and innovative practices are embraced.

Finally, we reviewed the evolution of the concept of lifelong learning, which has replaced lifelong education. Lifelong learning is a broader term than lifelong education because it incorporates all forms of learning, not just the formal educational system. Lifelong learning recognizes the prevalence and value of nonformal and informal learning along with the traditional formal system. This broader perspective can be seen in practice in some societies' efforts to implement lifelong learning in their societies, communities, and learning cities and regions. The term *learning society* is an attempt to capture these efforts.

CHAPTER THREE

ADULT LEARNERS: WHO PARTICIPATES AND WHY

Adult education is a large and amorphous field of practice, with no neat boundaries such as age, as in the case of elementary and secondary education, or mission, as in higher education. Adult education with its myriad content areas, delivery systems, goals, and learners defies simple categorization. In the previous chapter, we looked at the spectrum of settings where adult learning takes place, ranging from formal institutional settings, to nonformal community-based sites, to one's home, and more recently, to a computer. One way to grasp something of the field is to find out who is involved in the activity itself—hence, studies of participation.

Knowing who participates in adult education activities and why adults are participating (or not) is necessary information for both providers and policymakers. Since participation in adult education is largely a voluntary activity, knowing who is participating, reasons for participating, and what conditions are likely to promote greater participation can help providers better serve adult learners. An understanding of participation patterns can also raise important questions about assumptions underlying what is offered, who is benefiting from participating, and whose needs are *not* being met.

Knowledge about participation is useful to policymakers, particularly in terms of funding. At the federal level, for example, funding for literacy and other programs is a function of who is now participating, in conjunction with the perceived needs of nonparticipants. Along with current numbers and rates of participation of various segments of the adult population, other sociopolitical and economic factors play important parts in federal policy formation,

not the least of which is the desire to maintain a stable, democratic society and a globally competitive workforce. For those who plan learning activities and instruct adults, it is certainly helpful to know as much as possible about the clientele being served.

This chapter first offers a descriptive profile of who participates in adult learning activities, and the reasons why adults engage in learning. The second half of the chapter problematizes the concept of participation, asking who really has access to learning and who benefits from participating.

WHO PARTICIPATES?

Almost all studies of participants in adult education focus on formal, institutionally based programs. This, of course, is due to the ease of gathering this information from learners and institutions that sponsor programs. It is much more difficult to assess participation in nonformal, community-based activities or in informal self-directed learning. We first review participation of adults in formal adult education—that is, institutionally sponsored courses or classes. What little we do know about who participates in nonformal and informal learning will be reviewed at the end of this section.

JOHNSTONE AND RIVERA'S LANDMARK STUDY

In 1962 an “inquiry into the nature of adult education in America” was funded by the Carnegie Corporation and carried out by researchers Johnstone and Rivera (1965) at the National Opinion Research Center (NORC) in Chicago. The study sought to describe participation in formal and informal educational activities, assess attitudes and opinions held by adults concerning education, describe the organizations delivering adult education in a typical urban community, and focus on the educational and work experiences of young adults ages seventeen to twenty-four. The findings of this first national study have provided a baseline against which the findings of subsequent studies have been compared.

Since comparisons are made, it is important to know how *adult education* and *adult* are defined in this study. Realizing the import of this function, Johnstone and Rivera (1965, p. 26) struggled to come up with a definition of an adult educational activity that was

broad enough to capture systematic efforts at learning but not so broad as to include “a host of activities . . . which would fall beyond the range of any reasonable or workable definition of adult education.” They decided that an adult education activity would have as its main purpose the desire to acquire some type of knowledge, information, or skill and that it would include some form of instruction (including self-instruction). They thus measured involvement as a full-time adult student, as a part-time participant in adult education activities, and as a participant in independent self-education. An adult was defined as anyone either age twenty-one or over, married, or the head of a household. Interviews with a random national sample of nearly twelve thousand households formed the data set.

Using the preceding definitions, Johnstone and Rivera (1965) estimated that 22 percent of American adults participated in “one or more forms of learning” between June 1961 and June 1962 (p. 1). They also discovered that what adults were learning was largely practical and skill oriented rather than academic: “Subject matter directly useful in the performance of everyday tasks and obligations accounted for the most significant block of the total activities recorded. Together, the vocational and home and family life categories alone represented 44 percent of all formal courses studied and 47 percent of the subjects people studied on their own” (p. 3).

This landmark study also identified the major demographic and socioeconomic characteristics of participants. Age and formal schooling were delineated as the primary correlates of participation in adult education. Johnstone and Rivera’s often-quoted profile of the typical adult learner has held up, with minor deviations, in all subsequent national studies of participation. Their profile is as follows: “The adult education participant is just as often a woman as a man, is typically under forty, has completed high school or more, enjoys an above-average income, works full-time and most often in a white-collar occupation, is married and has children, lives in an urbanized area but more likely in a suburb than large city, and is found in all parts of the country, but more frequently in the West than in other regions” (p. 8).

One of the strengths of Johnstone and Rivera’s study is that they included “independent self-education” along with participation in

formal courses and community-based activities. Unfortunately, with one exception, subsequent national studies have limited participation to organized instruction offered by educational institutions, business or industry, and community organizations.

NATIONAL STUDIES OF FORMAL PARTICIPATION

Beginning in 1969, the National Center for Education Statistics (NCES) in the U.S. Department of Education undertook a set of triennial surveys of participation of adults in education. The results of the first six surveys (1969, 1972, 1975, 1978, 1981, and 1984) and three studies in 1991, 1995, and 1999 can be loosely compared with each other to reveal participation trends. In these surveys, adult education is equated with organized instruction: "Adult education is defined as any course or educational activity taken part-time and reported as adult education by respondents seventeen years old and over" (U.S. Department of Education, 1986). These courses or activities are considered "formal" because they are sponsored by educational institutions or employers. Changes in methodology and sample design over the years warrant caution in making comparisons (Collins, Brick, & Kim, 1997). Nevertheless, certain trends emerge.

One clear trend is that the number of adults participating part-time in organized instruction has increased from a low of 10 percent in the 1969 survey to 14 percent in 1984, 38 percent in 1991, 40 percent in 1995, and 46 percent in 1999 (Kim & Creighton, 2000). In a comparison of the 1991 and 1999 NCES studies, Creighton and Hudson (2002) note an overall increase in participation "among virtually every group of adults" surveyed (p. ix).

The most recent NCES survey of adult education participation was conducted in 2001. As in previous studies, NCES employed a random, national digit dial (RDD) telephone survey of civilian, noninstitutionalized persons ages sixteen and older not enrolled in secondary school at the time of the interview. In this survey, "formal" coursework or training was defined as those activities having an instructor. For the first time, informal educational activities (those that do not involve an instructor) were also surveyed. The results of this study with regard to formal participation are quite congruent with previous national studies (Kim, Collins Hagedorn, Williamson, & Chapman, 2004). As can be seen in Table 3.1, the overall rate of participation in formal educational activities was

TABLE 3.1. NUMBER OF ADULTS AND RATES OF PARTICIPATION IN SELECTED ADULT EDUCATION ACTIVITIES, BY SELECTED DEMOGRAPHIC, EDUCATIONAL, AND OCCUPATIONAL CHARACTERISTICS, 2000–01.

<i>Characteristics</i>	<i>Total Adults (in Thousands)</i>	<i>Overall Participation</i>	
		<i>Percentage</i>	<i>Standard Error</i>
<i>Total</i>	<i>198,803</i>	<i>46</i>	<i>0.5</i>
Age			
16–30	46,905	53	1.5
31–40	41,778	53	1.4
41–50	41,255	55	1.5
51–65	39,523	41	1.2
66	29,342	22	1.1
Sex			
Male	94,955	43	0.8
Female	103,848	49	0.8
Race/ethnicity			
White, non-Hispanic	144,147	47	0.6
Black, non-Hispanic	22,186	43	1.5
Hispanic	21,537	42	2.3
Other	10,932	49	2.5
Educational attainment			
Less than high school	31,343	22	1.5
High school diploma or its equivalent	64,606	34	0.9
Some college	52,559	58	1.1
Bachelor's degree or higher	50,295	66	1.1
Marital status			
Married	121,455	47	0.7
Living with a partner, unmarried	14,009	43	2.5
Separated/divorced/ widowed	30,503	38	1.3
Never married	32,836	52	1.5

TABLE 3.1. NUMBER OF ADULTS AND RATES OF PARTICIPATION IN SELECTED ADULT EDUCATION ACTIVITIES, BY SELECTED DEMOGRAPHIC, EDUCATIONAL, AND OCCUPATIONAL CHARACTERISTICS, 2000–01, CONTINUED.

<i>Characteristics</i>	<i>Total Adults (in Thousands)</i>	<i>Overall Participation</i>	
		<i>Percentage</i>	<i>Standard Error</i>
Employment/occupation			
Employed in the past 12 months	145,249	54	0.7
Professional and managerial	42,230	71	1.1
Service, sales, or support	65,298	55	1.0
Trades	37,722	34	1.3
Not employed in the past 12 months	53,553	25	0.9
Continuing education requirements			
Yes	50,549	64	1.1
No	148,253	40	0.6
Household income			
\$20,000 or less	40,246	28	1.3
\$20,001–\$35,000	38,876	39	1.2
\$35,001–\$50,000	33,035	48	1.5
\$50,001–\$75,000	40,725	56	1.5
\$75,001 or more	45,922	59	1.3
Children under 10 years old in household			
Yes	55,333	52	1.3
No	143,469	44	0.6

Source: Kim, Collins Hagedorn, Williamson, & Chapman, 2004, pp. 9–10.

46 percent. Prior educational attainment, professional or managerial employment status, and household income were all positively related to participation. While in the 1990s surveys there was no significant difference in men and women's participation rates (Valentine, 1997), in this most recent survey, women had a slightly higher participation rate than men (49 versus 43 percent). For overall participation, there were no significant differences among White, Black, or Hispanic learners.

Johnstone and Rivera's profile of the typical adult learner remains apt forty years later. Compared to those who do not participate, participants in adult education are better educated, younger, and employed full-time and have higher incomes. But as Creighton and Hudson (2002, p. ix) point out, "[A] closer look at participation in specific activities reveals some troubling signs of groups being left behind—especially Hispanics, those with lower levels of education, those with lower status jobs, and those who are employed part-time. . . . Thus, although the widespread increase in participation in adult education has been accompanied by an elimination of some inequities, in many cases the highly educated and high status groups that have been the traditional beneficiaries of adult education remain the main beneficiaries today."

NONFORMAL AND INFORMAL PARTICIPATION

As noted earlier, studies of participation most often focus on formal educational institutions or employer-sponsored programs. Partly because of definitional problems, it has been more difficult to assess participation in nonformal or informal learning activities.

Hamil-Luker and Uhlenberg (2002) studied participation in what they termed nonformal adult education activities—those sponsored by community organizations (libraries, neighborhood centers, community groups, religious organizations). Using the NCES databases from 1991 and 1999, they compared participation rates in three categories of provider—credential program (meaning educational institutions), business or industry, and community organizations. With one minor exception, participation increased for all age groups across the three providers. However, "by far the largest increase in adult education occurred in programs provided

by community organizations, where participation rates more than doubled. Increases in these nonformal educational programs were fairly uniform across the age categories” (p. S327).

The first statistics that we have on informal learning are again from the Johnstone and Rivera (1965) study in which they included “self-taught” or independent learning activities. Included almost as an afterthought, the authors admit that the “most surprising” estimate in their study is the “close to nine million persons who were active in independent studies.” Further, “the incidence of self-education throughout the adult population is much greater than we had anticipated” (p. 37).

The 2001 NCES study of participation has been the first NCES study to include informal learning in the workplace as one form of participation. “Work-related informal learning activities included supervised training or mentoring, self-paced study using books or videotapes, self-paced study using computers, attending ‘brown-bag’ or informal presentations, attending conferences or conventions, and reading professional journals or magazines” (Kim et al., 2004, p. vi). An astounding 63 percent of adults reported participating in informal workplace learning. However, as with the overall participation profile, “those adults with some college or more education, those in professional or managerial occupations, and those with higher household incomes were generally more likely to participate in work-related informal learning activities” (p. xii). But unlike participation in formal education, males participated more than females (67 versus 59 percent) and Whites more than Hispanics (no significant differences were observed when comparing Black adults with White or Hispanic adults).

Although most adult educators suspect that the majority of adult learning is informal—that is, embedded in everyday life—it is particularly difficult to measure because most adults themselves have trouble identifying these episodes. One mechanism for assessing participation in informal learning has been through studies of self-directed learning. For example, Penland (1979) was interested in corroborating Tough’s (1971) findings that more than 90 percent of adults are engaged in independent learning projects (see Chapter Five). Briefly, Tough felt that adults were engaged in learning as part of their everyday lives—learning that was not necessarily institutionally based and not easily recognized by the learners

themselves because of the association of learning with formal instruction. Consequently, Tough and Penland asked adults to think about major learning activities that were clearly focused efforts to gain and retain knowledge or skill. A learning project had to have occurred over at least a two-day period, totaling at least seven hours of learning. Respondents in both studies were given a list of things people learn about—a foreign language, gardening, raising children, and so on. Penland's 1,501 respondents were selected from the U.S. population by means of a modified probability sample. He found that “almost 80 percent (78.9) of the population of eighteen years and over perceive themselves as continuing learners whether in self-planned or formal courses” and “over three-quarters (76.1 percent) of the U.S. population had planned one or more learning projects on their own” (p. 173). Furthermore, of the nine areas of study, personal development and home and family ranked highest in popularity, followed by hobbies and recreation, general education, job, religion, voluntary activity, public affairs, and agriculture or technology.

In summary, the answer to the question of who participates in adult learning activities depends on whether we are talking about formal, nonformal, or informal settings. For formal adult education, participation rates have steadily increased to a high of 46 percent recorded in the recent NHES study of 2001. Further, the profile of the typical adult learner in formal, instructor-led educational or training activities has remained remarkably consistent across studies. We have much less data on participation in nonformal and informal adult education; however, what we do have suggests very high rates of participation. Next we discuss why adults do or do not choose to participate in learning activities.

WHY ADULTS DO OR DO NOT PARTICIPATE

Adults are busy people. Most spend at least eight hours a day working and often as many hours attending to family, household, and community concerns. Why do literally millions of these adults enroll in adult education classes, seek private instruction, or engage in independent learning projects? Teachers, counselors, administrators, and policymakers all have a keen interest in understanding why people do or do not participate in learning activities.

One approach to answering this question is to ask people their reasons for participating, and this has been done as part of the national survey studies already cited. Another approach is to try to determine the underlying motivational orientations or barriers to participation of certain groups of learners. These approaches are discussed in the following paragraphs.

SURVEY STUDIES

Hundreds of local, state, and national studies have asked adults their reasons for engaging in educational pursuits. In most of these studies, respondents are presented with a list of reasons why people might participate in organized learning activities and asked to indicate which ones apply to them. Most respondents report multiple reasons. If asked to indicate the *main* reason (as they were in the NCES surveys), however, they most commonly cite job-related motives.

The strength of employment-related motives was first uncovered by Johnstone and Rivera (1965). Thirty-six percent of respondents indicated that they were “preparing for a new job or occupation” (p. 144), and 32 percent said they participated in education “for the job I held at that time.” The authors concluded that “vocational goals most frequently direct adults into continuing education” (p. 144). The nine surveys of participation conducted by the NCES have consistently revealed job-related reasons as the most frequently cited.

In a study conducted by the United Nations Educational, Scientific, and Cultural Organization (UNESCO; Valentine, 1997), fully 90.6 percent of those surveyed in the United States cited career- or job-related reasons for participation and 9.4 percent cited “personal interest.” When asked about the goal of the learning activity, the largest percentage (58 percent) said it was professional or career upgrading, 18.3 percent “other,” 17.6 percent to earn a college or university degree, 3.8 percent to earn a vocational or apprenticeship certificate, and 2.3 percent to complete secondary school (Valentine, 1997). Clearly, there is a strong linkage between one’s work life and participation in adult education.

Approaching people’s reasons for participating in adult education from a somewhat different angle, Aslanian and Brickell (1980) sought to test the hypothesis that life transitions motivate adults to

seek out learning experiences. Of the 1,519 adults over age twenty-five randomly sampled, 744, or 49 percent, reported having learned something formally or informally in the year prior to the study. They found that 83 percent of the learners in their sample could describe some past, present, or future change in their lives as reasons for learning. The other 17 percent were engaged in learning for its own sake—that is, to stay mentally alert—or for the social aspects or because learning is a satisfying activity. Those going through transitions, such as marriage, retirement, job changes, birth of children, and so on, were able to identify specific events, such as getting fired or promoted, that triggered their transition. The authors noted seven kinds of transitions. Those relating to career and family accounted for 56 percent and 16 percent of the transitions, respectively. The other transitions, in descending importance, concerned leisure (13 percent), art (5 percent), health (5 percent), religion (4 percent), and citizenship (1 percent). “To know an adult’s life schedule,” the authors conclude, “is to know an adult’s learning schedule” (pp. 60–61).

In a similarly designed study, Aslanian (2001) also found that participation in higher and continuing education is largely due to a life transition. Of seven possible transitions, 85 percent named a career transition as their reason for wanting to learn, and hence participate, in higher and continuing education courses.

The survey studies have been helpful in identifying the reasons adults give for participating in learning activities. Since the majority of adult learners are employed (only 25 percent of adults surveyed in the 2001 NCES study had not been employed in the twelve months prior to the survey) and derive much of their identity from their work, it is not surprising to find that at least half of them are involved in education for job-related reasons. Other investigations have sought to go beyond these self-reported data in trying to understand the why of participation.

MOTIVATIONAL ORIENTATIONS OF LEARNERS

Interest in categorizing the various reasons given for participating in adult learning has spurred a line of inquiry in addition to the survey studies. This area of investigation was initiated with the publication by Houle of *The Inquiring Mind* in 1961. Choosing a small,

select sample of twenty-two adults “conspicuously engaged in various forms of continuing learning” (1961/1988, p. 13), Houle conducted in-depth interviews that explored his subjects’ history of learning, factors that led them to be continuing learners, and their views of themselves as learners. An analysis of the interview data revealed three separate learning orientations held by the adults. The now-famous typology consists of goal-oriented learners, who use education as a means of achieving some other goal; activity-oriented learners, who participate for the sake of the activity itself and the social interaction; and learning-oriented participants, who seek knowledge for its own sake.

Houle’s research stimulated a number of studies attempting to affirm or refine the original typology. By far the most extensive work has been done with Boshier’s forty-eight item Education Participation Scale (EPS), later refined to forty-two items (Boshier, 1991). Factor analysis of the forty-two items suggests the following seven factors, each containing six items: communication improvement of verbal and written skills; social contact, meaning meeting people and making friends; educational preparation, the remediation of past educational deficiencies; professional advancement, concerned with improving job status or moving to a better one; family togetherness, concerned with bridging generation gaps and improving relationships in families; social stimulation, meaning escaping boredom; and cognitive interest, seeking knowledge for its own sake (Boshier, 1991).

Boshier himself conducted an extensive test of Houle’s typology using his EPS scale (Boshier & Collins, 1985). Using cluster analysis instead of factor analysis, because the technique is more congruent with Houle’s original conceptualization of three separate but overlapping orientations, he analyzed the responses of 13,442 learners from Africa, Asia, New Zealand, Canada, and the United States. Boshier and Collins were able to effect a three-cluster solution “loosely isomorphic with Houle’s topology” (p. 125). They found that “Cluster I consisted of the Cognitive Interest items and was congruent with his [Houle’s] learning orientation.” Cluster II, the activity orientation, “was multifaceted and composed of items normally labeled Social Stimulation, Social Contact, External Expectations, and Community Service” (p. 125). Cluster III consisted of the Professional Advancement items and thus

resembled Houle's goal orientation. The authors note that although their three-cluster solution is "loosely isomorphic," the grouping of items to make up the activity cluster that matches Houle's typology is "overly generous." They conclude that "Houle's intuition has been partly collaborated; two of the six clusters were as he described them" (p. 127).

Using Boshier's EPS, Fujita-Starck (1996) analyzed responses from 1,142 students in programs at a large state university. Results confirmed the seven-factor typology proposed by Boshier in 1991 (communication improvement, social contact, educational preparation, professional advancement, family togetherness, social stimulation, and cognitive interest). The author also found the scale to be reliable "in differentiating among a diverse group of students with varying reasons for participating in continuing education" (p. 38).

Despite the limitations of this line of research (Courtney, 1992), it has become evident that learners' motivations for participating in adult education are many, complex, and subject to change. The search for an underlying motivational structure related to participation is likely to continue, however, for such knowledge "can assist educators and administrators in identifying and meeting the needs of a wide spectrum of learners relative to program content, as well as the time, duration, and location of related activities" (Fujita-Starck, 1996, p. 39).

BARRIERS TO PARTICIPATION

Knowing why adults participate in formal adult education does not tell us why many do not. That is, we cannot assume that those who are not participating are happily employed and satisfied with their family, community, and leisure activities. In fact, one of the field's biggest mysteries is why more adults, especially those who might benefit the most, are not involved in adult education. This question has prompted research into why adults do not participate in adult education.

The two most often cited reasons for nonparticipation are lack of time and lack of money. These are socially acceptable reasons for not doing something, of course, and probably very legitimate reasons for adults who are busy people trying to become or stay economically solvent and take care of their families and themselves.

Johnstone and Rivera (1965) in their national study of participation found that 43 percent cited cost as a reason for not attending adult education courses and 39 percent said they were too busy. These were also the two main reasons for nonparticipation cited in the UNESCO study (Valentine, 1997). Forty-five percent of respondents said lack of time was a barrier for job-related education; this figure climbs to 60.1 percent for non-job-related education. Interestingly, 33.4 percent gave cost as a barrier for job-related education, but 25.4 percent reported cost as a barrier for non-job-related education (Valentine, 1997). For both types of education, "family responsibilities" was cited as the next most salient barrier.

Reasons why adults do not participate have been clustered by several researchers into types of barriers. Johnstone and Rivera (1965) clustered ten potential barriers into two categories: external, or situational, and internal, or dispositional, barriers. External barriers are "influences more or less external to the individual or at least beyond the individual's control" (p. 214), such as cost of the program. Internal barriers reflect personal attitudes, such as thinking one is too old to learn. Older adults, for example, cited more dispositional barriers, and younger people and women were more constrained by situational barriers. In contrast, Valentine's (1997) analysis of the UNESCO data revealed that situational barriers affected both men and women: "Women were more likely than men to report that family responsibilities interfered with both job-related and non-job-related education. Men were more likely than women to report that work demands interfered with non-job-related education" (p. 107).

Darkenwald and colleagues have gone beyond the three-part or four-part barrier typologies in developing a scale of deterrents to participation that can be factor-analyzed to reveal the structure of reasons underlying nonparticipation (in much the same way the EPS does for participation). A form of the Deterrents to Participation Scale (DPS) used with the general adult public revealed six factors of nonparticipation: lack of confidence, lack of course relevance, time constraints, low personal priority, cost, and personal problems (such as child care, family problems, and personal health; Darkenwald & Valentine, 1985). In a later analysis of the same data, Valentine and Darkenwald (1990) derived a typology of adult nonparticipants. According to their analysis, the adult

nonparticipants in the general public cluster into five distinct groups. People are deterred from participating by personal problems, lack of confidence, educational costs, lack of interest in organized education generally, or lack of interest in available courses.

ADDING A SOCIOLOGICAL LENS TO EXPLANATIONS OF PARTICIPATION

Viewing participation from the perspective of barriers lends another dimension to the field's attempt to understand why some adults participate in adult education and others do not. But this perspective tells only part of the story. The bulk of research in North America on nonparticipation has been from the perspective of the individual's motivation, attitudes, beliefs, behaviors, position in the life cycle, and so on. This has not always been the case, however, as Courtney (1992) points out in his historical analysis of participation research. Prior to the 1960s, a popular topic among researchers was social participation. General social participation refers to the extent to which a person is an active participant in family and community life; participating in adult education activities was considered just one component of social participation. Benn (1997) has revisited this notion of social participation in a survey study of 259 adults in a range of educational programs. She concludes that the extent of one's general social activity affects learning activity, a finding that has implications for marketing and recruitment: "Rather than blanket publicity, a more effective approach might be to advertise through social groups and organizations. Adult education does not choose its students, they choose (or do not choose) adult education" (p. 34).

For some, a combination of psychological and social factors act as a barrier to participation. Rubenson (1998, p. 259) points out that "only when we include structural factors and analyze the interaction between them and the individual conceptual apparatus does an interpretation become possible. Adults' readiness to learn and barriers preventing it . . . can be understood in terms of societal processes and structure, institutional processes and structure and individual consciousness and activity." Hall and Donaldson's (1997) study of why women without a high school diploma chose not to participate provides examples of how the social and the psychological

interact. Preadult factors such as parents' education, early pregnancies, and economic status formed part of the picture. Lack of a support system was a second factor. Conventional barriers such as lack of time, information, and child care were also operative. The fourth dynamic Hall and Donaldson termed *lack of voice*: "At the heart of nonparticipation lies a 'deterrent' so deeply embedded in some women that no theory can fully capture its meaning. The way a woman feels about herself, her self-esteem and self-confidence, and the way she can express herself are significant elements in her decision about whether to participate in adult education" (p. 98).

Since the early 1990s the field of adult education has become much more conscious of the impact of sociocultural factors on shaping participation in adult education. Rubenson (1998, p. 261) characterizes this approach to participation as consisting of two dimensions—"the long arm of the family as reflected in the relationship between social background, educational attainment and participation . . . and the long arm of the job: the increased importance of adult education and training as investment." Using data collected in the International Adult Literacy Survey (IALS) from ten countries, Boudard and Rubenson (2003) predicted that literacy skills would determine participation in adult education and training. Instead, they found educational attainment to be "the most important single factor predicting participation in adult education and training" (p. 279). Further analyses revealed that "readiness to learn is formed early in life and further developed through educational and work experiences . . . the long arm of the family and the long arm of the job" (p. 279).

An even more recent analysis of participation in the United Kingdom (Gorard & Selwyn, 2005) found that participation could be predicted from variables "we could have known when each person was born"; in particular, "the influence of parental background is key" (p. 79). The authors point out that "where individuals create, for themselves and through their early experiences, a 'learner identity' inimical to further study, then the prospect of learning can become a burden rather than an investment for them" (p. 71).

Race, class, gender, ethnic group, and so on can also act as barriers to participation. Sissel's (1997) study of parent involvement in Head Start programs found that "power relations were expressed in the withholding or allocation of programmatic resources, and functioned to either impede or promote participation" (p. 123).

She recommends that more research be conducted on “specific structural factors” (such as race and gender) that “enhance or impede participation” (p. 135). Davis-Harrison (1996) also found race and class to be important variables in investigating the non-participation of blue-collar male workers.

Working from this same critical perspective, Jarvis (1985) makes the case for a class analysis in that the middle-class bias found in all studies of participation can be explained by the idea that adult education is organized by the middle class, and the presentation of knowledge is middle class in both language and content. Furthermore, previous school experiences select out “those who were labeled as successful in education” (p. 204), and those who will be labeled successful is pretty much predetermined by one’s class, age, sex, and educational background. Jarvis would concur with McClenaghan (2000) that one’s “social capital”—how one is positioned in society in terms of “the totality of actual and potential resources individuals can mobilise through membership in organisations and social networks” (p. 568)—can help explain differing levels of participation in both formal and informal adult education.

Finally, two studies examined how the social structure determines participation. Nordhaug (1990) examined participation in Norwegian adult education not from the individual participant’s perspective but from macrolevel variables over which individuals have no control, such as material resources and population density related to the structure of municipalities. He found that the amount of educational resources (as measured by the community’s level of educational attainment) was “the most efficient predictor of adult education activity . . . on a regional level” (p. 205). In a U.S. study, Jung and Cervero (2002) used national data sets on postsecondary education to determine which contextual variables in each of the fifty U.S. states would best predict the rate of participation of adults in higher education. Out of eleven variables, the two best predictors of adult participation in a state’s higher education system were availability of undergraduate education (number of seats available, public and private) and educational attainment of the state’s adult population (percentage of adults with high school or higher).

In summary, looking at social structure rather than individual needs and interests reveals some very different explanations as to why adults do or do not participate in adult learning activities.

These competing perspectives imply different strategies for increasing participation. If individual interests and motivation account for participation, then recruitment efforts would center on responding to an adult's perceived learning needs and stimulating motivation. If, in contrast, participation or nonparticipation is seen as a function of the social structure, then one would work toward changing aspects of this structure in ways that would facilitate participation. The most robust explanation of participation is likely to be found in considering both the psychological and sociological perspectives.

PROBLEMATIZING THE CONCEPT OF PARTICIPATION

Most of what we have presented thus far on participation reflects what we know about who participates and the reasons for participating (or not) in mostly formal adult education. In this section of the chapter we stand back and question some of the assumptions that underlie the dominant discourse of participation. As Crowther (2000) points out, this discourse has been narrowly conceived around four assumptions: (1) participation is a good thing; (2) participation equals formal learning; (3) learners are abstract, not socialized, individuals; and (4) there are barriers to participation, not resistance. We take each one of these assumptions in turn to critique the concept of participation.

PARTICIPATION IS A GOOD THING

Studies of participation assume that everyone should want to engage in adult education because it is a good thing to do. Underlying many of the stated purposes of adult education in America is the assumption that the ideal of a democratic society must be maintained, and that education is one way to do this. Individualism, independence, and a Protestant-capitalist work ethic frame the actual provision of adult education in America. Further, because this is a democratic society, all individuals have access and the opportunity to benefit through education. As Lindeman (1926/1989) proposed early in the founding of the field, adult education had a dual purpose of improving both society and the individual. In practice, however, a case can be made that education

is “an apparatus for social control” (Cunningham, 1988, p. 133) rather than empowerment, and that adult education in the United States is elitist and exclusionary. As evidence of adult education’s elite bias, Cunningham points to middle-class participation patterns, the homogeneous, technically oriented training of adult educators, the “psychology of individual deficit” that serves as a basis for explaining social inequities, and the erosion of the voluntary nature of adult education.

Most societies in fact use education to preserve the status quo rather than to bring about change or address inequities. In reviewing the common functions of adult education, Jarvis (1985) points out how they can be used in the service of maintaining the status quo. Adult education maintains the social system and existing social relations because “the education of adults transmits the dominant culture and in the process it reproduces the cultural system which, in itself, is a force for the retention of the status quo rather than social change” (p. 139). Individual advancement and selection, while appearing to develop individuals, is actually a selective process carefully monitored by the system itself. Another function—offering a second chance and legitimization—also promotes the dominant culture since “second chance education actually produces an appearance of greater equality of opportunity and, hence, reinforces the existing social structures” (p. 143). Even leisure-time pursuits have as a latent function “the retention of stability in the social system at a time when many people do not have work to occupy their time and their minds” (p. 147). Finally, development and liberation can be goals of adult education, although one should be aware that such development and liberation may actually be designed to enable people to fit more easily into the existing social system.

The problems to which adult educators respond tend to be identified by those who have a value perspective not necessarily shared by the target population. As Cunningham (1988, p. 141) has noted, much program planning is based on an individual deficit model rather than an examination of “the oppressive structures in which people live.” Programs are thus designed around learner deficiencies that may or may not be of concern to the learner. What is necessary, Cunningham and others assert, is for socially responsible adult educators to become aware of the “social as well as personal dimensions of learning and the capacity of education to respond” (Cunningham, 2000, p. 574). Cunningham goes on to point out that

“if one conceptualized any nation as composed of the state (governmental sector), civil society (voluntary sector), and the market (economic sector), then how these sectors are related and how education serves these sectors become critical questions in understanding the relationships between adult education and society” (p. 574).

Nevertheless, “adult education is given public support when the public can see the connection between education and the solution to a threatening situation” (Griffith & Fujita-Starck, 1989, p. 172). Most “threatening” are challenges to economic stability and social order. The emphasis may shift with changes in society’s social, cultural, and economic structures. Literacy education in colonial America was invested in for a greater religious purpose; this gave way to a citizenship orientation in the wake of independence during the mid-eighteenth century, which in turn was eclipsed by vocational training and immigrant education at the turn of the twentieth century.

In light of the social forces documented in Chapter One—demographics, economics, and technology—the purposes of adult education today for which there is public support cluster around the United States sustaining a competitive edge in a global economy. This translates into preparing and then maintaining an informed and efficient workforce. Along with this economic imperative is the assumption that social stability is both a product and a goal of adult education and training. Thousands of restless, illiterate, unemployed, or underemployed adults pose a threat to the stability of the social order, not to mention a drain on social resources. So although the rhetoric of adult education suggests some rather lofty ideals for the purpose of the endeavor, the reality suggests a more conservative purpose: maintenance of the status quo, which today means a capitalist economic system that values individuality, independence, and entrepreneurialism. Thus we see a growing emphasis on human resource development and training, continued provision for basic skill acquisition, and ever-expanding postsecondary opportunities for adults.

PARTICIPATION EQUALS FORMAL LEARNING

In writing this chapter on participation we would have liked to present as comprehensive a picture as possible. However, as we stated earlier, nearly all of the studies are of participation in

formal institutionally sponsored programs. Yet we know that adults engage in learning activities sponsored by community-based non-formal groups. Further, adults learn informally on their own. Even in business and industry it has been estimated that upwards of 70 percent of learning in the workplace is informal (Bruce, Aring, & Brand, 1998).

What accounts for this bias in participation studies? It has to do in part with the ease of collecting information from educational institutions; in part it is due to adult learners themselves not recognizing the informal learning embedded in their everyday lives. And certainly the bias in part has to do with policy and funding. While the field is proud of its service orientation and the voluntary nature of participation, in reality what is offered cannot be uncoupled from the question of who finances the various adult learning opportunities. And the answer to this question of who finances adult education is easier to find in reference to formal adult education.

In North America, there are many providers of formal learning opportunities, including government at all levels, employers, educational institutions, and community institutions such as libraries. Because much of the expenditure for this form of learning is hidden under a variety of budgetary labels—at one time more than 270 federal programs alone had some adult learning component (Griffith & Fujita-Starck, 1989)—it is difficult to measure the relative financial power of various providers.

To complicate the matter, what is offered at any particular time “will almost inevitably relate to the pressures generated in the social system. Social pressures act in such a manner as to create an imbalance in the system to which institutions, other than that generating pressure, respond by seeking to restore the system to some form of equilibrium” (Jarvis, 1986, p. 57). Institutions are currently being pressured to respond to the issues of an increasingly diverse workforce, technological obsolescence, and health threats such as AIDS. This notion of mobilizing institutions in the service of maintaining social equilibrium is but one explanation for the shifts in curriculum emphasis.

Crowther (2000) points out that it could be argued that the monopoly of formal adult education is being challenged “by developments in experiential learning, the growth of new educational technologies, distance learning and procedures such as the accreditation of prior learning” (p. 485). He goes on to ask, “Are these not

examples of a more democratic, pluralistic, learning process which both facilitates access and disperses control over the curriculum?” (p. 485). However, these mechanisms of dealing with and recognizing informal experiential learning can also be seen as “reaffirming, rather than undermining, the dominant assumptions about control over definitions of educationally relevant knowledge” (p. 485). In other words, when the recognition of informal learning is tied to the formal system as in accreditation of prior learning, control still rests with the system that has predetermined what counts as learning. That the formal system will serve its own interests is underscored by an interesting article in *Training & Development* about “free agent learners” (Caudron, 1999). Acknowledging the rise of employees learning on their own, Caudron warns that “companies have to be willing to accept the new ideas such employees are bringing to work” and that “free agent learners threaten corporate governance because the more that people learn, the more competent and confident they become” (p. 30).

Participation equals formal learning because of ease of measurement but also because the formal system controls what gets “counted” as adult education. In a pluralistic society such as ours, there is no single answer to the question of who decides what learning opportunities to offer. In reality, for formal learning programs at least, decisions are made by those who pay—whether that means the learners themselves, government, employers, or educational institutions. And those who pay are in positions of power to determine which social pressures will be addressed and how those responses will be structured. Those not in positions of power rarely decide what learning opportunities are offered. Their role is limited to deciding whether to participate.

LEARNERS ARE ABSTRACT, NOT SOCIALIZED, INDIVIDUALS

As we have already noted in this chapter, the predominate view of adult learner participation is through the lens of individual learners who have chosen to participate in a learning activity. Much of the discourse on participation explains nonparticipation from an individual deficit stance—that is, there is something wrong with or deficient about nonparticipants or they would be clamoring to be

in our adult education programs. Further, these nonparticipants are probably most in need of what adult education has to offer.

This discourse fails to take into account the sociocultural context of adult learners and the structural characteristics of the adult education enterprise itself. Although we have addressed some of these factors in the preceding section, “Adding a Sociological Lens to Explanations of Participation,” there is more that can be said about this major misconception about participation.

The democratic ideals of equal opportunity and open access make the current reality of uneven and unequal participation in formal adult learning particularly worrisome to some policymakers, educators, and researchers. Most explanations focus on a person’s stated reasons for nonparticipation, such as cost, time, transportation, and lack of confidence. When viewed from a social perspective, other explanations emerge. Rubenson (1989, p. 64) argues, for example, that “through socialization within the family, the school, and, later on, in working life, a positive disposition towards adult education becomes a part of some group’s habitus but not of others.”

Those adults who have been socialized into valuing and acquiring the attitudes and skills of the middle class will be the ones to take advantage of learning opportunities. Since most providers of such opportunities are themselves middle-class, little effort is expended trying to understand and provide for other populations. The modus operandi of most providers is to offer a set of activities that they assume learners will want. A response, however, is predicated on the assumptions that learners know about the program, can attend at the time it is offered, and can afford it; that the subculture of the institution is conducive to their own; and that what is offered corresponds with what they need (Jarvis, 1985). Rubenson (1989, p. 65) argues that “a system of adult education that implicitly takes for granted that the adult is a conscious, self-directed individual in possession of the instruments vital to making use of the available possibilities for adult education—a system that relies on self-selection to recruit the participants—will by necessity widen, not narrow, the educational and cultural gaps in society.”

There are other reasons why certain adults have more access to learning opportunities than other adults. Where one happens to live, what one’s primary language is, what color, age, or sex one

happens to be, what one does for a living all contribute to the participation pattern in adult education. Cropley (1989, p. 146) calls these factors “framework conditions,” which “are largely a function of the circumstances in which people live, especially of factors such as the values, attitudes, habits, priorities and the like of the social groups to which they belong, the economic structure of their society, even features of the education system itself.” The result is that “some individuals are more equal than others in the choices available to them” (p. 146).

By way of illustrating how these framework conditions can determine who is more likely to benefit from adult learning opportunities, where and how one lives make a difference. It is common knowledge that there is less accessibility in rural areas than in urban or suburban centers. The picture is a bit more complicated than just a rural-urban split, however. Those in small-town rural areas are better off than those living in isolated areas, and some urban centers are as impoverished as the most rural areas. Worldwide, access to learning opportunities in rural areas is a problem at all levels of education. Further, there are those who lack a geographical place altogether—migrant, transient, homeless, and refugee populations. Migrants, for example, “are the most undereducated major subgroup in the United States, with a high school dropout rate larger than that of any other group. Their mobility, their language differences, and the cultural differences experienced as they move from one community to another combine with health and nutritional problems to negatively affect school achievement. Migrant lifestyles revolve around working, moving on to find other work, and working again” (Velazquez, 1996, p. 28). For any of these geographically mobile groups, there is little more than sporadic access to education or social services.

Age is another condition that often determines who benefits from learning opportunities. Older adults not only have the lowest levels of participation in adult education generally (Creighton & Hudson, 2002) but also receive far less training in the workplace than younger workers. In some settings and in other parts of the world, age in combination with gender makes for another condition affecting access. For example, in the United States, since managerial and professional workers and all nonmanual workers receive

more training than manual workers—and women are underrepresented in these positions—women, and older women in particular, are much less likely to receive employer-sponsored training than are men (Stacy & To, 1994).

THERE ARE BARRIERS, NOT RESISTANCE

Readers will recall that there is a section of this chapter on barriers to participation. In that section we reviewed the studies that identify personal barriers such as lack of interest, personal problems, thinking one is too old to learn, and so on as well as situational barriers such as lack of time and money. We also pointed out that the individual's motivation, beliefs, and behaviors and life situation explain only part of the picture. Social structural factors such as family of origin, class, race, and so on shape one's level of participation in formal adult education.

What Crowther (2000) is proposing from a critical theory perspective is that nonparticipation can be construed as an act of resistance. Rather than being prevented from participating because of some insurmountable barrier, the learner chooses not to participate—that is, resistance is a matter of deliberate choice. While resistance has been studied more frequently with secondary school populations, several adult educators have written about this phenomenon, especially in reference to literacy education (Belzer, 2004; Quigley, 1990; Sandlin, 2000).

In summarizing this notion of nonparticipation as resistance rather than barriers, Crowther (2000, pp. 489–490) writes:

It seems reasonable to surmise that many people find adult education unattractive and irrelevant to their daily lives. Despite many well intentioned efforts to attract people the sense of frustration felt by their failure to respond to what is offered is often evident. It is easy thereafter to assume people are “apathetic” and have limited horizons. Redefining non-participation as a form of resistance may, however, open up the possibility of rethinking what adult education is for and where it occurs. . . . If we started to think about participation in these terms then the problem of participation could be faced the right way round—that is, that adult education is part of the problem rather than simply the solution.

SUMMARY

Participation is one of the more thoroughly studied areas in adult education. We have a sense of who participates, what is studied, and what motivates some adults and not others to enroll in a course or undertake an independent learning project.

Although there were numerous small-scale studies of participation in the forty years between the inauguration of the field of adult education and the 1960s, it was not until 1965 that the first national study of participation was published. Johnstone and Rivera's study, with its care in defining participation and selecting methods of data collection and analysis, remains a benchmark contribution to this literature. Subsequent surveys by the National Center for Education Statistics (NCES) and UNESCO (Valentine, 1997) have contributed to this database. Regardless of the study, the profile of the typical adult learner in formal educational activities remains remarkably consistent: white, middle-class, employed, younger, and better educated than the nonparticipant. Further, employment-related reasons account for the majority of participant interest in continuing education.

Why adults do or do not participate in adult education is an important question, having implications for both theory and practice. Surveys have uncovered both reasons for, and barriers to, participation. The work on determining an underlying structure of motivational orientations begun by Houle (1961/1988) has been carried on most notably by Boshier's research using the Educational Participation Scale (EPS). Further, explanations of participation have been advanced from a sociological rather than a psychological perspective. In these analyses, people's decisions to participate have less to do with their needs and motives than with their position in society and the social experiences that have shaped their lives.

Finally, we "problematized" the current understanding of participation by questioning and critiquing four assumptions about participation presented by Crowther (2000). These four assumptions are that participation is a good thing, that participation equals formal learning, that learners are abstract, not socialized individuals, and that there are barriers, not resistance, to participating in formal adult learning activities.

PART TWO

ADULT LEARNING THEORY AND MODELS

The accumulation of information and experiences grounded in practice often leads to thinking about how the parts of what we know might fit together to form some sort of explanatory framework. In Part Two of *Learning in Adulthood*, we review a number of efforts to explain adult learning. Some of these efforts, as in the work on self-directed learning, are in fact tentative frameworks for ordering research—frameworks suggesting future directions for theory. Other efforts can properly be labeled models, if we define model as a visual representation. A theory, which may have a model accompanying it, is a set of interrelated concepts that explain some aspect of the field in a parsimonious manner.

We begin Chapter Four with a discussion of Knowles's (1980) concept of andragogy, which he originally termed a theory of adult learning. Probably the best-known set of principles or assumptions to guide adult learning practice, andragogy actually tells us more about the characteristics of adult learners than about the nature of learning itself. The first half of the chapter is devoted to a thorough review and critique of andragogy. The second half of Chapter Four reviews three other models of adult learning: McClusky's (1970) theory of margin, Illeris's (2002, 2004b) three dimensions of learning model, and Jarvis's (2006) model of the learning process.

Since Tough's work on adult learning projects was published in 1971, self-directed learning and individual learning projects have captured the imagination of researchers and writers both inside and outside the field of adult education. Although learning on one's own is the way most adults go about acquiring new ideas,

skills, and attitudes, this context has often been regarded as less important than learning that takes place in more formal settings. Chapter Five discusses three types of models—linear, interactive, and instructional—developed to describe the process of learning when that learning is primarily managed by the learners themselves. Most adults use more of an interactive model in that they do not necessarily plan what, how, or when they want to learn. Scholars have also focused on studying self-direction as a personal attribute of the learner. Two ideas that have received the greatest attention in this approach are the notion of readiness for self-directed learning and the concept of autonomy. The chapter concludes with a review of the major issues researchers need to address in building future research agendas in self-directed learning.

Changes in cognition and consciousness constitute the focus of transformational learning reviewed in Chapter Six. Mezirow's (1991) perspective transformation and Freire's (1970) conscientization contend that changes in perspective or consciousness are the defining characteristic of learning in adulthood. Mezirow's theory in particular has stimulated considerable debate and research during the past ten years. Using Taylor's (2005b) "lenses" for organizing the literature on transformational learning, the first half of the chapter reviews the various theoretical bases for transformational learning. Also examined are three concepts key to understanding transformative learning: the centrality of life experience, the nature of critical reflection, and the connection between transformative learning and adult development. We then discuss the extent to which transformative learning theory takes context into account, whether the theory relies too heavily on rationality, the role of relationships, the place of social action, and the educator's role in facilitating transformative learning.

In the last chapter of Part Two we explore the role of experience and learning, which has a long legacy in the writings on adult learning. Discussed first in the chapter are representative theories that offer varying conceptual views of the process of learning from experience, including the seminal work of Dewey (1938) and Kolb (1984), and the contemporary work of such scholars as Jarvis (2001), Boud and Walker (1991), Fenwick (2003), and Usher, Bryant, and Johnston (1997). Although the focus of this work has been on

individual learners, in recent years there has been a shift to understanding how the context affects learning and how it is an integral component of the learning process. We then describe reflective practice, one of the primary ways in which educators have structured learning from experience. We conclude the chapter with an overview of situated cognition and descriptions of two instructional approaches—cognitive apprenticeship and anchored instruction—that are based in situated cognition, stressing how “authentic experiences” grounded in real-life situations are viewed as key components in operationalizing this concept.

CHAPTER FOUR

KNOWLES'S ANDRAGOGY, AND MODELS OF ADULT LEARNING BY MCCLUSKY, ILLERIS, AND JARVIS

Do adults learn differently than children do? What distinguishes adult learning and adult education from other areas of education? What particular characteristics about the learning transaction with adults can be identified to maximize their learning? Prior to the 1970s, adult educators relied primarily on psychological understandings of learning in general to inform their practice (see the chapters in Part Four). With the publication of Houle's *The Design of Education* (1972), Kidd's *How Adults Learn* (1973), and Knowles's *The Adult Learner: A Neglected Species* (1973) and *The Modern Practice of Adult Education* (1970), attention turned to research and theory-building efforts in adult learning. Attempts at codifying differences between adults and children as a set of principles, a model, or even a theory of adult learning have been, and continue to be, pursued by adult educators. However, just as there is no single theory that explains all of human learning, there is no single theory of adult learning. Instead, we have a number of frameworks, or models, each of which contributes something to our understanding of adults as learners. The best known of these efforts is *andragogy*, a concept Knowles introduced from Europe in a 1968 article. Andragogy focuses on the adult learner and his or her life situation, as do a number of other models presented in this chapter.

The first part of the chapter is devoted to describing and critiquing andragogy. In the second half of the chapter we review three other models of the adult learning transaction: McClusky's theory of margin, Illeris's three dimensions of learning model, and Jarvis's learning process.

ANDRAGOGY

Nearly forty years ago Malcolm Knowles (1968, p. 351) proposed “a new label and a new technology” of adult learning to distinguish it from preadult schooling. The European concept of andragogy, meaning “the art and science of helping adults learn,” was contrasted with pedagogy, the art and science of helping children learn (Knowles, 1980, p. 43). Andragogy is based on a number of assumptions about the adult learner. Knowles originally advanced the following **four assumptions**:

1. As a person matures, his or her self-concept moves from that of a dependent personality toward one of a self-directing human being.
2. An adult accumulates a growing reservoir of experience, which is a rich resource for learning.
3. The readiness of an adult to learn is closely related to the developmental tasks of his or her **social role**.
4. There is a change in time perspective as people mature—from future application of knowledge to immediacy of application. Thus, an adult is more problem centered than subject centered in learning. [Knowles, 1980, pp. 44–45]

In later publications, Knowles also referred to a fifth and a sixth assumption:

5. The most potent motivations are internal rather than external (Knowles & Associates, 1984, p. 12).
6. Adults need to know why they need to learn something (Knowles, 1984). (For a review of which of Knowles's writings contain which assumptions, see Holton, Swanson, & Naquin, 2001.)

Knowles clearly saw these assumptions as foundational to designing programs for adults. From each of these assumptions, Knowles drew numerous implications for the design, implementation, and evaluation of learning activities with adults. For example, with regard to the first assumption that as adults mature they become more independent and self-directing, Knowles suggested that the classroom climate should be one of "adulthood," both physically and psychologically. The climate should cause "adults to feel accepted, respected, and supported"; further, there should exist "a spirit of mutuality between teachers and students as joint inquirers" (1980, p. 47). Being self-directing also means that adult students can participate in the diagnosis of their learning needs, the planning and implementation of the learning experiences, and the evaluation of those experiences.

This theory, "model of assumptions" (Knowles, 1980, p. 43), or "system of concepts" (Knowles, 1984, p. 8), as Knowles has also called it, has given adult educators "a badge of identity" that distinguishes the field from other areas of education, especially childhood schooling (Brookfield, 1986, p. 90). Andragogy became a rallying point for those trying to define the field of adult education as separate from other areas of education. However, it also stimulated controversy, philosophical debate, and critical analysis matched only, perhaps, by the recent discussions on transformational learning (see Chapter Six).

At first the main point of contention was whether andragogy could be considered a "theory" of adult learning (Elias, 1979). Davenport and Davenport (1985, p. 157) chronicled the debate, noting that andragogy has been classified "as a theory of adult education, theory of adult learning, theory of technology of adult learning, method of adult education, technique of adult education, and a set of assumptions." They are a bit more optimistic than other critics for andragogy's chances of possessing "the explanatory and predictive functions generally associated with a fully developed theory" (p. 158). For them, the issue can be resolved through empirical studies that test the underlying assumptions.

Hartree (1984) observed that it was not clear whether Knowles had presented a theory of learning or a theory of teaching, whether adult learning was different from child learning, and

whether there was a theory at all—perhaps these were just principles of good practice. The assumptions, she noted, “can be read as descriptions of the adult learner . . . or as prescriptive statements about what the adult learner should be like” (p. 205). Because the assumptions are “unclear and shaky” on several counts, Hartree concludes that while “many adult educators might accept that the principles of adult teaching and conditions of learning which he [Knowles] evolves have much to offer, and are in a sense descriptive of what is already recognized as good practice by those in the field, conceptually Knowles has not presented a good case for the validity of such practice. . . . Although he appears to approach his model of teaching from the point of view of a theory of adult learning, he does not establish a unified theory of learning in a systematic way” (pp. 206–207).

Brookfield (1986, p. 98), who also raises the question of whether andragogy is a “proven theory,” assesses to what extent a “set of well-grounded principles of good practice” can be derived from andragogy. He argues that three of the assumptions are problematic when drawing inferences for practice. The first assumption about self-direction is more a desired outcome than a given condition. The third and fourth assumptions relating learning to particular social roles and focusing on immediate application can lead to a narrow, reductionist view of learning. These two assumptions “could lead practitioners to equate the sum total of adult learning with instrumental learning; that is, learning how to perform at an improved level of competence in some predefined skill domain,” in essence ignoring the complexity of learning (p. 99). Brookfield finds only the experience assumption to be well-grounded. However, we feel that even this assumption can be questioned. The fact that adults have lived longer than children and thus have a quantity of experience greater than children does not necessarily translate into quality experience that can become a resource for learning; indeed, certain life experiences can function as barriers to learning (Merriam, Mott, & Lee, 1996). Further, children in certain situations may have a range of experiences qualitatively richer than some adults (Hanson, 1996).

As for the fifth assumption on motivation, although adults may be more internally than externally motivated to learn, in much of workplace learning and continuing professional education, not to mention governmental or socially mandated learning (as in the

case of driving school, job preparation, welfare programs, and prison education, for example), participation is required. The sixth assumption, which appears in only a couple of Knowles's publications, that adults need to know why they need to learn something, may be true much of the time, but some studies also suggest that adults may learn for the sheer enjoyment of learning (see Chapters Three and Five of this volume).

On the issue of whether andragogy can be considered a theory of adult learning, perhaps Knowles himself put the issue to rest. In his autobiographical work, *The Making of an Adult Educator* (1989, p. 112), he wrote that he "prefers to think of [andragogy] as a model of assumptions about learning or a conceptual framework that serves as a basis for an emergent theory."

A second point of criticism was Knowles's original inference that andragogy, with all its technological implications for instruction, characterized adult learning, while pedagogy, with another set of implications, characterized childhood learning. Close scrutiny of the assumptions and their implications for practice by educators in and out of adult education led Knowles to back off his original stance that andragogy characterized only adult learning. The clearest indication of this rethinking was the change in the subtitles of the 1970 and 1980 editions of *The Modern Practice of Adult Education*. The 1970 subtitle is *Andragogy Versus Pedagogy*, whereas the 1980 subtitle is *From Pedagogy to Andragogy*. Knowles's later position, as reflected in the 1980 subtitle, is that pedagogy-andragogy represents a continuum ranging from teacher-directed to student-directed learning and that both approaches are appropriate with children and adults, depending on the situation. For example, an adult who knows little or nothing about a topic will be more dependent on the teacher for direction; at the other extreme, children who are naturally curious and who are "very self-directing in their learning outside of school . . . could also be more self-directed in school" (Knowles, 1984, p. 13). Andragogy now appears to be situation-specific and not unique to adults.

RECENT CRITIQUES OF ANDRAGOGY

More recent critiques of andragogy have pointed out that in its slavish focus on the individual learner, the sociohistorical context

in which learning takes place is virtually ignored (Grace, 1996b; Pearson & Podeschi, 1997; Pratt, 1993). Knowles's reliance on humanistic psychology results in a picture of the individual learner as one who is autonomous, free, and growth oriented. There is little or no awareness that the person is socially situated, and to some extent, the product of the sociohistorical and cultural context of the times; nor is there any awareness that social institutions and structures may be defining the learning transaction irrespective of the individual participant.

Grace (1996b) points out how Knowles himself and his theory of andragogy were logical products of the 1960s, "a period of rapid change; action-oriented curricula that valued individual experience were advocated. The individual had to keep up and self-improvement was in *vogue*. The andragogical model in the face of pedagogy was welcomed by many adult educators as revolutionary" (p. 383). But although its influence on adult learning has been substantial ever since it was originally proposed, "Knowles never proceeded to an in-depth consideration of the organizational and social impediments to adult learning; he never painted the 'big picture.' He chose the mechanistic over the meaningful" (Grace, 1996b, p. 386).

Lack of attention to the context in which learning takes place is a critique emanating from a sociological perspective (Jarvis, 1987) and more recently, from critical perspectives. Sandlin (2005) applied critical, feminist, and Africentric theoretical orientations to andragogy and identified five issues that cut across the three different perspectives. First, andragogy is criticized for assuming education is value-neutral and apolitical. Second, andragogy assumes adult learners all look and learn the same—and this universal image is of a White middle-class individual learner. Third, other ways of learning are ignored, thus resulting in silencing other voices. Fourth, the relationship between self and society is ignored, and—"consequently, andragogy does not take into account structural systems of privilege and oppression, based on race, gender, and class, that influence learning and does not consider how culture impacts a person's development and ways of learning" (Sandlin, 2005, p. 28). The fifth issue to cut across critical, feminist, and Africentric perspectives is that andragogy thus reproduces society's inequalities and supports the status quo.

While Sandlin summarizes the critical perspectives on andragogy, Lee (2003) and Alfred (2000) examine andragogy from specific cultural lenses. Lee considers andragogy's application to foreign-born learners. In citing several studies with different immigrant groups ranging from Hmong refugees to Caribbean immigrant women, Lee concludes: "These studies . . . illustrated that andragogical assumptions do not characterize the experiences of some adult immigrants. Moreover, . . . by overgeneralizing the characteristics of a particular group of learners as those of all adult learners, Knowles effectively silenced and marginalized various social groups, including the adult immigrant learners whose values, experiences, and realities do not likely resemble the discourse of the dominant population" (p. 15).

Using four tenets from an Africentric feminist perspective, Alfred (2000) assessed how applicable andragogy is to African-American learners. First, personal experience is necessary to establish meaning and credibility. While andragogy certainly acknowledges personal experience, it does not acknowledge "the facilitator's experience as a valuable part of the pedagogical process" (p. 20). Further, "African American experience is centered in a culture of race, class, and gender oppression, which is often managed through wisdom or intuitive knowledge," while andragogy values objective ways of knowing (p. 20). Second, from an Africentric perspective, "for knowledge to be validated, it must be made public, and that is done in relationships with individuals or within a community," while andragogy stresses individual learning (p. 21). Third, an ethic of care characterizes this perspective; while care and a trusting environment are emphasized in andragogy, the political dimensions of this environment are not considered. Finally, the Africentric tradition evaluates "not only the knowledge that is articulated, but also the person who is making the claim" (p. 21). Andragogy does not consider the credibility of the learner and his or her claims of knowledge.

In reference to the workplace in particular, Kessels and Poell (2004) argue that andragogy in conjunction with social capital theory can transform the workplace into a conducive learning environment. Social capital theory stresses social networks, mutual trust, communities of practice, and relational forms of capital. Andragogy and social capital theory together offer HRD "assumptions on the

facilitation of learning in the workplace, the strong motivational aspects of self-directedness and autonomy in competence development, and the network of meaningful relationships that helps learning integrate in the social contexts of the day-to-day work environment” (p. 154). Finally, St. Clair (2002, p. 2) states that adult education and human resource development are moving closer together: “Although adult education programs have become more instrumental and employment focused, training and development in the business world have increasingly emphasized the holistic development of workers. . . . This convergence is further underlined by the way HRD practitioners have worked to address the shortcomings of the andragogical model by remodeling it to recognize contextual factors more fully” (Holton & Swanson, 1999).

RESEARCH ON ANDRAGOGY

Considering that andragogy has been the primary model of adult learning for over forty years, relatively little empirical work has been done to test the validity of its assumptions or its usefulness in predicting adult learning behavior. A few studies have focused on the relationship between andragogical assumptions and instruction. Beder and Darkenwald (1982) asked teachers who taught both adults and preadults if their teaching behavior differed according to the age of the students. Teachers reported viewing adult students differently and using more andragogical techniques. Gorham (1985), however, actually observed teachers who taught both adults and preadults. She found no differences in how a particular teacher instructed adults or preadults, although teachers claimed that they did treat the two age groups differently.

With regard to involving learners in planning their own learning, Rosenblum and Darkenwald (1983) compared achievement and satisfaction measures between groups who had planned their course and those who had it planned for them. No differences were found in either achievement or satisfaction. Courtenay, Arnold, and Kim (1994) reviewed all previous literature and research and conducted their own quasi-experimental study of learner involvement in planning. They found previous research results to be inconclusive (indeed, “capricious”); from their own study, which attempted to address some of the shortcomings of previous studies, they found

that “participation in planning does not appear to affect learning gain or satisfaction, even when the amount of participant input in planning is increased; the relationship between classroom environment and achievement or satisfaction is inconsequential; and classroom environment . . . may simply be a function of the satisfaction of the learner” (p. 297). They recommended that more thought be given to both the independent variable (that is, just what constitutes learner participation in planning) and the dependent variables (for example, perhaps unintended learning is as important as achievement).

Most recently, Rachal (2002) reviewed eighteen studies on andragogy conducted between 1984 and 2001, all of which attempted to assess the efficacy of an andragogical versus pedagogical instructional design. Based on measures of achievement, attendance, and/or satisfaction, studies revealed mixed results due to the varied “customizations” of the studies. For example, some studies did not segment adult undergraduates from traditional-age students, several studies had predetermined objectives, some used paper-pencil tests of content acquisition, two studies involved mandated participation, and so on. To bring more rigor and comparability to empirical studies of andragogy, Rachal proposed seven standards or criteria for designing future studies. Briefly, these seven are that participation should be voluntary, participants should be clearly adults (and not students of traditional college age), objectives should be collaboratively determined, assessment should be performance-based, or where achievement is not the primary objective, satisfaction with the learning experience should be measured, an adult learning environment should be in place, and research methodological issues should be attended to (like random assignment to treatment groups where possible).

The studies reviewed by Rachal were mostly dissertations and all were experimental or quasi-experimental in design. While certainly this is one approach to assessing the validity of andragogy, it reinforces the psychologically driven, individually focused aspect of andragogy. Social context was not considered, for example, nor were any qualitative designs included.

Perhaps the nature of andragogy, with its assumptions for adult learner-focused practice, makes it particularly difficult to validate directly. As Rachal (2002, p. 224) himself comments, “It may well

be that researchers examining the effectiveness of andragogy will perpetually be stymied by its fluidity, even its amoeba-like formlessness. In that view, its art will forever be paramount, and its science forever elusive.”

Although assessing the validity of andragogy directly may prove difficult to do, one could consider the extent to which a broader range of research in adult learning may or may not support the assumptions underlying andragogy. For example, the research on self-directed learning that finds upwards of 90 percent of adults are engaged in self-directed learning projects and that 70 percent of projects are planned by the learner (see Chapter Five) would tend to support the assumption that adults are self-directed and can plan their own learning. Further, studies on participation (see Chapter Three) indicate that participation is clearly linked to adult roles of worker, family member, and so on, lending support to the assumption that the readiness of an adult to learn is closely linked to the developmental tasks of his or her social roles. That the developmental issues of adulthood lead to learning was also underscored in Aslanian and Brickell’s (1980) findings that 83 percent of adult learners were engaged in learning activities because of some transition in their lives. Nevertheless, the growing prevalence of mandated continuing education and training could be cited to argue against the assumption that adults are internally motivated.

Despite some writers’ grim predictions of andragogy’s demise, practitioners who work with adult learners continue to find Knowles’s andragogy, with its characteristics of adult learners, to be a helpful rubric for better understanding adults as learners. As St. Clair (2002, p. 2) suggests, “[A]s a guide to teaching adults, andragogy has a great deal more to offer when it is approached, as Knowles originally suggested, as a set of assumptions.” Further, the implications for practice that Knowles draws for each of the assumptions are also considered to be good instructional practice for all ages, especially adults. Thus, we see andragogy as an enduring model for understanding certain aspects of adult learning, and as maintaining “its role as a necessary component of the field’s shared knowledge” (St. Clair, 2002, p. 2). It does not give us the total picture, nor is it a panacea for fixing adult learning practices. Rather, it constitutes one piece of the rich mosaic of adult learning.

OTHER MODELS OF ADULT LEARNING

Although andragogy remains the best-known model of adult learning, there are a number of other models that offer us some insights into adult learning. Three have been selected for review here. First, we have chosen to present McClusky's theory of margin (which actually predates andragogy) because it continues to captivate learners who find they can readily relate their life situation and their learning to this model. Second, we present a recent model, Illeris's three dimensions of learning, because it captures major components of the learning process in an easy-to-grasp visual of an inverted triangle. The third model is Jarvis's learning process. Originating in research with over two hundred adult learners more than twenty years ago, this model has undergone several revisions as Jarvis comes closer to understanding the learning process—"a mirage," he says, "since the closer you get the further away the goal appears" (personal communication, August 15, 2005). His model draws from a wide philosophical base as well as psychology and sociology.

MCCCLUSKY'S THEORY OF MARGIN

McClusky first presented his theory of margin in a 1963 publication, followed by discussions of application in 1970 and 1971. His theory is grounded in the notion that adulthood is a time of growth, change, and integration in which one constantly seeks balance between the amount of energy needed and the amount available. This balance is conceptualized as a ratio between the "load" (L) of life, which dissipates energy, and the "power" (P) of life, which allows one to deal with the load. "Margin in life" is the ratio of load to power. More power means a greater margin to participate in learning.

Both load and power consist of external and internal factors. Hiemstra (1993, p. 42) explains: "The external load consists of tasks involved in normal life requirements (such as family, work, and community responsibilities). Internal load consists of life expectancies developed by people (such as aspirations, desires, and future expectations). Power consists of a combination of such external resources . . . as family support, social abilities, and

economic abilities. It also includes various internally acquired or accumulated skills and experiences contributing to effective performance, such as resilience, coping skills, and personality.”

Taking both power and load into consideration, McClusky (1970, p. 83) explains how the theory works:

Margin may be increased by reducing Load or increasing Power, or it may be decreased by increasing Load and/or reducing Power. We can control both by modifying either Power or Load. When Load continually matches or exceeds Power and if both are fixed and/or out of control, or irreversible, the situation becomes highly vulnerable and susceptible to breakdown. If, however, Load and Power can be controlled, and, better yet, if a person is able to lay hold of a reserve (Margin) of Power, he [sic] is better equipped to meet unforeseen emergencies, is better positioned to take risks, can engage in exploratory, creative activities, is more likely to learn, etc.

To engage in learning, then, an adult must have some margin of power “available for application to the processes which the learning situation requires” (McClusky, 1970, p. 84). Adult students in particular have to be adept at juggling multiple responsibilities and demands on their time. Take the hypothetical case of Caroline, a single parent who wants to upgrade her skills. She enrolls in the local community college, where she can learn to be a physician’s assistant, a job she would like and that pays more than her current job on the housekeeping staff of a local hospital. On top of juggling her shift work at the hospital and her class schedule, Caroline has to find child care for her youngest and transport her older child back and forth to school. If one of the children or Caroline herself gets sick, she will have to miss class or work or both. Caroline has very little margin to deal with her present situation, let alone respond to any other demands on her time and energy. In contrast, Michele is a high-salaried vice president of a marketing company. She is married and has a nanny who comes to her home to care for her two children while she is at work. Michele has always wanted to be a master gardener and considers taking a course at the local botanical garden. Michele’s skills, education, income, and support network are sources of power that she can adjust to deal with her load, affording her a comfortable margin wherein she can take the class.

Maintaining some margin of power in order to engage in learning is a concept adults readily relate to. As Hiemstra (1993, p. 42) observes, adult students' first encounter with McClusky's theory is often "an epiphany in terms of their own life circumstances."

McClusky (1970) also saw his theory as helpful in explaining the developmental changes characteristic of adult life (see Chapter Thirteen). Changes adults undergo as they age could be translated into adjustments of load and power. These adjustments are made "as a person accumulates and later relinquishes adult responsibilities and modifies the varying roles which the successive stages of the life cycle require" (p. 84). Since learning in adulthood is often a function of changing roles and responsibilities and physical and mental development, McClusky's theory can be used in understanding this link between changing social roles and learning.

Several studies have in fact investigated this link. Baum (1980) used the theory as a framework for exploring the power and load of one hundred randomly selected widows. Self-identified problems encountered in widowhood were viewed as load factors, and services and resources available to widows were categorized as power factors. She found that negative attitudes toward widowhood predicted more problems (load), but that it also led to finding more resources (power). As load increased, power increased, resulting in a fairly stable margin in life.

Using an instrument developed to measure margin in life, Stevenson (1980) compared the load, power, and margin patterns of independent older adults, nursing home residents, and young and middle-aged adults. She found that the two groups of older adults perceived themselves as having slightly more power (and less load) than the young and middle-aged adults.

A number of studies have used McClusky's theory to study adult student needs, performance, and participation in continuing and higher education (Demko, 1982; Garrison, 1986; Hansen, 1988; James, 1986; Mikolaj, 1983; Root, 2000; Schawo, 1997; Walker, 1996; Weiman, 1987). Findings across these studies are mixed, so no clear-cut generalizations can be drawn about the validity of McClusky's theory for predicting aspects of participation in continuing and higher education. His theory has also been used in a study of employees' readiness to change in the workplace

(Hanpachern, Morgan, & Griego, 1998). Based on 131 employees of a manufacturing company, "overall MIL and five work subscales had significant positive relationships with readiness for change" (p. 339). Londoner (1993) developed a load-power matrix exercise for assessing work and personal loads and the powers available to address the load. He suggests that this matrix can be used as a tool by HRD counselors and others in helping professions. The matrix is a device "to help adults manage stress and crises more effectively by developing and implementing specific change strategies that create favorable margin in their lives" (p. 126).

McClusky's theory has appeal in that it speaks to the everyday events and life transitions that all adults encounter. It is perhaps a better counseling tool than it is an explanation of adult learning, however. In fact, there is a striking similarity between McClusky's power, load, and margin concepts and the components of Schlossberg's model for counseling adults in transition. In her model, one determines the ability to work through a transition by assessing the relative strength of four factors: the situation, the self (internal strengths), external supports, and strategies one has developed to handle stress (Schlossberg, 1984, 1987). Indeed, McClusky's theory has been operationalized as an assessment tool to counsel applicants about their readiness for continuing pastoral education (Association for Clinical Pastoral Education, n.d.).

Although life events and transitions certainly precipitate many (and some would say the most potent) learning experiences, McClusky's model does not directly address learning itself but rather when it is most likely to occur. One might also question whether a reserve of energy or margin of power is necessary for learning to arise. Learning can happen under conditions of stress, or in McClusky's terms, when load is greater than power. Wolfin's (1999) study, for example, found that "overloaded" adults were as likely to learn as those with a surplus of power: "A surplus of power over load is not a 'necessary condition' or 'crucial element' for adults to be more likely to learn. . . . Overloaded Adults will do all they can, regardless of their inhibiting activities if those Overloaded Adults perceive the subject matter as essential, meaningful, or worthwhile and perceive the learning method as convenient" (p. 281). In addition, the fact that learning itself has the potential to increase one's power is not addressed by McClusky.

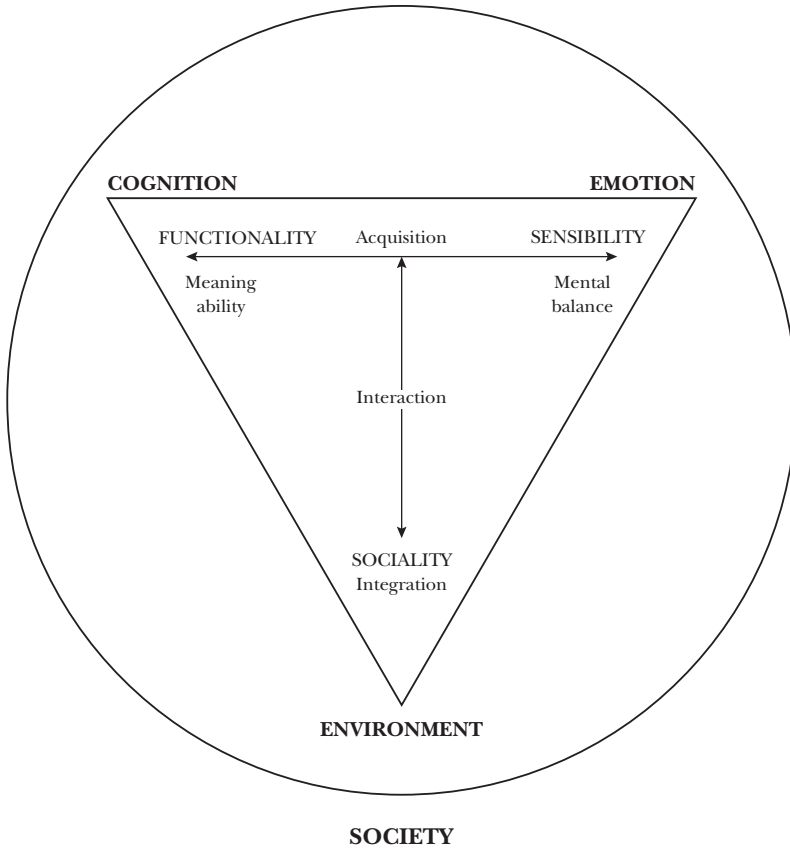
ILLERIS'S THREE DIMENSIONS OF LEARNING MODEL

While McClusky's theory of margin focuses on how learning intersects with an adult's life situation, Illeris (2002) is most interested in the learning process itself. In his model there are three dimensions involved in learning—cognition, emotion, and society. As can be seen in Figure 4.1, he pictures these dimensions as an inverted triangle, with cognition and emotion at the top and environment at the bottom of the inverted apex; **all three aspects of learning occur within society, represented by the circle around the triangle.** Although one dimension might be emphasized over the other two, all three are always present in a learning activity. The cognitive dimension involves knowledge and skills while the emotional dimension consists of feelings and motivation. Cognition and emotion are internal processes that interact simultaneously in the acquisition of knowledge or skills. Cognition is what psychologists have concentrated on when studying learning and refers to “both knowledge and motor learning, both of which are controlled by the central nervous system” (2002, p. 18). Emotions, in contrast, involve “psychological energy, transmitted by feelings, emotions, attitudes and motivations which both mobilize and, at the same time, are conditions that may be influenced and developed through learning” (p. 18).

The dimension he labels “environment” or “sociality” in the triangle “is the dimension of external interaction, such as participation, communication, and cooperation. It serves as the personal integration in communities and society and thereby also builds up the sociality of the learner” (Illeris, 2004b, p. 83). This dimension is about interacting with other people as we learn, or it can refer to contributions of others to our learning (Illeris, 2002). Society wherein all three aspects of learning are encompassed is the context for our learning. That is, our learning is always within the society or social context in which we live and this context interacts with and shapes our learning.

How the process of learning begins is with one of five stimuli, what he calls the “raw material” of the process: (1) perception is “where the surrounding world comes to the individual as a totally unmediated sense impression” (Illeris, 2002, p. 120); (2) transmission, wherein someone else passes on information or transmits

FIGURE 4.1. LEARNING PROCESSES AND DIMENSIONS.



Source: Illeris, 2004b, p. 82. Reprinted by permission.

“specific sense impressions or messages” (p. 120); (3) experience, which while it can include both perception and transmission, we could also “limit the use of the word so that experience presupposes a particular activity, i.e., that the learner is not simply receiving, but also acts in order to benefit from the interaction” (p. 120); (4) imitation occurs when the learner attempts to imitate or model another’s actions; and (5) activity or participation in which the learner is engaged in a goal-directed activity sometimes participating with others as in a community of practice. Illeris cautions that

these five "input[s] of the learning process . . . should not be regarded as separate, but rather as characteristics which can be combined in a single learning event, each of them being more or less present or prominent in a pattern unique to the specific situation" (p. 227).

Illeris gives an example of how the three dimensions of cognition, emotion, and society might play out in a learning process. His example is a chemistry lesson that has as its focus the cognitive content of learning a particular chemical process. But each student experiences this lesson in a specific way, which involves emotions, motivations, and psychological energy. The result of the learning "will be closely connected with how the emotional dimension has been functioning" (p. 20). For example, depending on the cognitive-emotional and social interaction it is possible the learning could be "distorted, or perhaps no learning at all will take place, or something quite different will be learned: maybe a negative impression of the teacher, of some other students, of the subject, or of the school situation in general" (p. 21). Finally, external societal conditions will influence the process, such as whether the learning is to be examined, or whether the learning is needed to function in society.

This model, of course, can be applied in the same way to any type of adult learning activity. An adult learning to read, for example, engages both the cognitive and emotional dimensions, and this learning activity will be influenced by social interaction with instructor and fellow students. Further, society's expectations, internalized by the learner, that being literate is both desirable and necessary to function in today's world, interacts with the other two components of the process.

The strength of Illeris's model lies in its comprehensiveness but also its simplicity. We can all relate to how a learning activity reflects cognitive, emotional, and social dimensions. Much of adult learning research and theory building emphasizes the cognitive, so Illeris's inclusion of emotional and social dimensions is a real strength. Further, his model can be used to understand resistance to or rejection of learning as well as something as powerful as transformational learning: "Very special and demanding situations, often with a crisis-like character, can lead to deep and comprehensive transformative learning processes that include simultaneous changes in all the three learning dimensions and have to do with

the very identity of the learner” (2002, p. 229). And while he does not claim it to be a model of *adult* learning per se, its application to preadults seems limited due to their level of cognitive and emotional development and their awareness of the societal context.

JARVIS’S LEARNING PROCESS

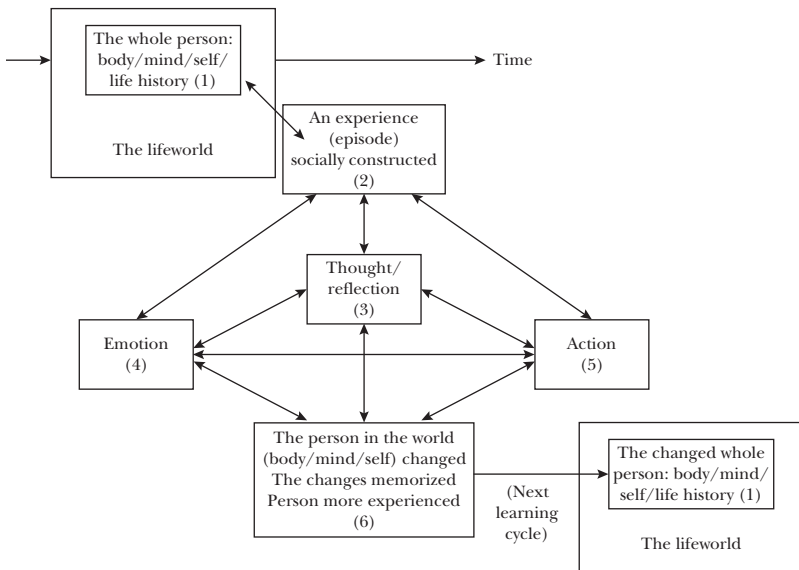
Jarvis’s model begins with an adult’s life situation, or more correctly, an adult’s experience: “Even miseducative experiences may be regarded as learning experiences. . . . *All* learning begins with experience” (1987, p. 16; italics in original). Some experiences, however, are repeated with such frequency that they are taken for granted and do not lead to learning, such as driving a car or household routines. At the start of the learning process is a disjuncture between biography (all that a person is at a particular point in time) and experience—an incident that a person is unprepared to handle. “Disjuncture occurs when our biographical repertoire is no longer sufficient to cope automatically with our situation so that our unthinking harmony with our world is disturbed to some degree or other” (Jarvis, 2006, p. 9). “No longer can previous learning cope with the present situation, people are consciously aware that they do not know how to act. We have to think, to plan or to learn something new. Learning then always begins with experiencing” (Jarvis, 2004, p. 93). This “inability to cope with the situation unthinkingly, instinctively, is at the heart of all learning” (1987, p. 35).

Jarvis theorizes that all learning begins with the five human sensations of sound, sight, smell, taste, and touch. He believes that “our learning is ultimately dependent on our body and biology is a significant factor in the learning process—not because of our genes, but because of the way that our senses function” (2006, p. 13). In our everyday lives we meet unfamiliar situations; for instance, we hear a new sound or we read a word whose meaning we do not know. Through asking others or by chance or by design we acquire the meaning of the unfamiliar sensation. This meaning is memorized and practiced (for example, we may try to use a word whose meaning we have just learned) until it becomes a part of us and we once again take the world for granted. “The significant thing is that the original sensations have been transformed into knowledge, skills, attitudes, values, emotions, and so on” (p. 14).

For Jarvis, all experience occurs within the learner's world (that individual's world, not *the* world), which is ever changing—"[I]t changes over time in relation to the changes that occur both in the wider world, in which it exists, and to the individual's involvement in it, and so we cannot depict a simple relationship with it in respect of learning. . . . [T]he person exists in a 'flow of time' within the lifeworld" (Jarvis, 2006, p. 7).

The learner is more than a cognitive machine. The learner is a whole person made up of the mind and the body and comes to a learning situation with a history, a biography that interacts in individual ways with the experience that generates the nature of the learning. As can be seen in Figure 4.2, Jarvis's model of the learning process begins with the whole person who encounters an experience in her social context, one that cannot be automatically accommodated or assimilated. This creates the disjuncture

FIGURE 4.2. THE TRANSFORMATION OF THE PERSON THROUGH EXPERIENCE.



Source: Jarvis, 2006, p. 16. Reprinted by permission.

between one's biography and the experience, a state of unease that can trigger learning. If, in contrast, the individual chooses to ignore or dismiss this unease, no learning occurs (as evidenced by the two-way arrow between Boxes 1 and 2).

The next level of the model portrays three ways of learning, thinking, doing, and feeling (experiencing emotion). Each of these can occur in any combination with the others, as the arrows among the three boxes indicate. Jarvis explains that different combinations can produce different types of learning, "critical thinking, problem-solving learning, reflective learning, action learning, and so on." He speculates that "it is perhaps through the emotions that thought can be transformed into action. However, either of these two can dominate in the process of learning and a number of different types of learning can occur: contemplation, rational thinking, desiring, planning, action learning, and so on. In addition, the emotions can have a considerable effect on the way that we think, on motivation and on beliefs, attitudes and values" (2006, p. 11).

The result of this learning, as seen in Box 6, is a person affected in some way by the learning. There are three possible ways a person is changed. One is "the person's self is changed both by the acquisition of all the things we have discussed mentally, emotionally . . . but also in terms of identity, self-confidence, esteem, and so on" (2006, p. 17). Second, "the learner may place a new meaning on the world and events" through both incidental and purposeful learning. The third way a person may have changed is he or she "is more experienced, more able to cope with similar situations and problems because of the learning that has occurred, that is to say that the learner is more intelligent" (p. 17).

The last section of the model, where the first box is repeated in the bottom right corner, is Jarvis's attempt to capture the continuous nature of learning. The changed person in her social world again encounters an experience that stimulates learning. Jarvis's definition of human learning summarizes the model: "I now regard human learning as the combination of processes whereby the whole person—body (genetic, physical and biological) and mind (knowledge, skills, attitudes, values, emotions, beliefs and senses)—experiences a social situation the perceived content of which is then transformed cognitively, emotively or practically (or through any combination) and integrated into the

person's individual biography resulting in a changed (or more experienced) person" (p. 7).

Jarvis's model is perhaps the most comprehensive of models reviewed in this chapter. Furthermore, his model situates learning in a social context; learning is an interactive phenomenon, not an isolated internal process. In his most recent book (2006) he presents each component in detail. Not just the learning process, but also concepts of the whole person, the social context, types of learning, and the nature of experience itself are dealt with in depth, drawing from a wide body of literature. Although his early work on this model was constructed from research with adult learners, it is clear that his interest is understanding and explaining *human* learning, not just adult learning. He does, however, imply that his model is perhaps easier to apply when speaking of adults, because young children do not have the cognitive skills, emotional range, or action alternatives available to adults. Further, the child and the adult's life situation or context are quite different, leading to different kinds of experiences shaping the learning. His model has been unfolding over the past twenty years, so that the most recent iteration looks quite different from the original 1987 version. However, the processing of experience remains fundamental to his thinking.

SUMMARY

Although there was sporadic attention given to adult learning in the early decades of the twentieth century, it was not until the 1970s that adult educators themselves began to focus systematically on some of the distinguishing characteristics of adult learning as separate from the body of information from psychologists' and educational psychologists' investigations of learning in general. This shift in focus was part of the field's efforts to differentiate itself from other areas of education. It also led to the search for a single theory of adult learning, one that would differentiate adults from children, include all types of learning, and was at once elegant and simple. But just as there is no single theory that explains human learning in general, no single theory of adult learning has emerged to unify the field. Rather, there are a number of theories, models, and frameworks, each of which attempts to capture some aspect of adult learning.

The best-known theory of adult learning is Knowles's andragogy. Nevertheless, it is less a theory and more a set of assumptions about adult learners that learners and educators alike can use to strengthen the learning transaction. The assumptions regarding an adult's self-concept, experience, readiness to learn, problem-centered focus, and internal motivation all have some intuitive validity, making andragogy popular with practitioners in many fields. These assumptions were critiqued in this chapter, as was Knowles's isolation of the individual learner from the learning context.

The chapter then turned to reviewing other, less well-known models of adult learning. Like andragogy, McClusky's theory of margin is more about the personal life situation of adults than learning per se. McClusky's theory of margin emphasizes both personal characteristics (internal load and power factors) and situational characteristics (external load and power factors). His model has more to say about adult development and the timing of learning, though, than about the actual learning transaction.

Two other models do focus on the learning process itself, although neither claims to be about adult learning only. Illeris's three dimensions of learning model positions learning as the continuous interaction among cognition, emotions, and social context. Jarvis's model of the learning process links the whole person (body, mind, self, life history) with an experience encountered in the person's social context. The disjuncture between the person's biography and the experience leads to learning that involves emotion, thought, and action. The result is some change in the person.

Each model discussed in this chapter contributes in its own way to advancing our understanding of adult learners. However, there has been little research testing the power of the models to explain or predict adult learning behavior. The process of model and theory building does, however, stimulate inquiry and reflection, all of which may eventually provide some of the answers to our questions about adult learning.

CHAPTER FIVE

SELF-DIRECTED LEARNING

Since Tough's work on adult learning projects was published in 1971, self-directed learning has captured the imagination of researchers and writers both inside and outside the field of adult education. Many public schools and colleges and universities have used this concept to describe one of the primary goals of their institutions: to enable their students to be lifelong, self-directed learners. While certainly adults have always learned on their own, serious study of this phenomenon is relatively recent in comparison to other aspects of learning, such as memory, cognition, and intelligence (see the chapters in Part Four). This lag is due in part to much of self-directed learning occurring outside of formal institutional settings, and therefore being so embedded in people's everyday lives as to be invisible. Tied in with this perspective is the role of educators of adults. Should we be working with learners outside the formal institutional environment? And might we be cutting into our own "business" as educators if we acknowledge that many adults can learn very effectively without our assistance? Despite these concerns, the study of self-directed learning has emerged as one the major thrusts of adult education research. There is, in fact, a voluminous literature base to draw from, an annual conference on the topic, and a recently inaugurated Web site (www.sdlglobal.com), which houses, along with other resources, an online journal devoted to self-directed learning.

Tough (1967, 1971), building on the work of Houle (1961/1988) and others, provided the first comprehensive description of self-directed learning as a form of study that he termed *self-planned learning*. Drawing on a study of the learning projects of sixty-six people

from Ontario, Canada, he found that “highly deliberate efforts to learn take place all around you. The members of your family, your neighbors, colleagues, and acquaintances probably initiate and complete several learning efforts, though you may not be aware of it” (Tough, 1971, p. 3). Writing about the same time as Tough, Knowles proposed that one of the hallmark assumptions of adult learning is that learners become increasingly self-directed as they mature (Knowles, 1970, 1980). Knowles’s thinking about self-directed learning is grounded in his concept of andragogy, discussed in Chapter Four. Although there have been challenges to his assumption that adult learners strive toward greater self-direction, there are many who treat it as fact and structure their practice accordingly.

Building on the pioneering work of Houle (1961/1988), Tough (1978, 1979), and Knowles (1970), the earlier research in this arena was primarily descriptive in nature (Brockett, 1985; Caffarella & O’Donnell, 1987). The emphasis in this early work was on verifying that adults do deliberately learn on their own and on discovering how they go about doing this. Following these descriptive studies, researchers began providing more in-depth conceptual models (for example, Brockett & Hiemstra, 1991; Candy, 1991; Garrison, 1997). Scholars also initiated a debate about what the goals of self-directed learning should be (Brockett & Hiemstra, 1991; Brookfield, 1986; Collins, 1988; Mezirow, 1985) and started exploring the personal characteristics and attributes of those who are self-directed in their learning (Candy, 1991; Chene, 1983; Oddi, 1986). In addition, a number of writers sought to bring greater clarity and precision to the term and the many related terms that have been used to describe this phenomenon.

In reviewing this rich array of work on self-directed learning (SDL), we have grouped the literature into three broad categories, each outlining a major facet of self-directed learning. We report first on literature that explores the goals of self-directed learning. We then examine research that describes self-directed learning as a process or form of study. Third, we review self-directedness as a personal attribute of the learner. We conclude the chapter with a discussion of recent applications of SDL and the important challenges to be considered in building future research and theory in self-directed learning.

GOALS OF SELF-DIRECTED LEARNING

Often defined by the underlying philosophical position of the writer, the three main goals of self-directed learning can be grouped as follows: (1) to enhance the ability of adult learners to be self-directed in their learning, (2) to foster transformational learning as central to self-directed learning, and (3) to promote emancipatory learning and social action as an integral part of self-directed learning.

The first goal, to enhance the ability of adults to be self-directed in their learning, has stemmed primarily from the work of Knowles (1980) and Tough (1979). This ability to be self-directed in one's learning is conceived as both a set of personal attributes and specific skills (Caffarella, 2000; Brockett & Hiemstra, 1991; Caffarella & O'Donnell, 1989). Within this goal, the assumption is that part of the job of educators of adults is to help learners, whether they are learning on their own or in formal learning programs, to be able to plan, carry out, and evaluate their own learning. For example, in the independent pursuit of learning, educators might provide assistance to individuals or groups of learners in locating resources or mastering alternative learning strategies. The learners themselves would seek out this assistance, perhaps in community learning centers or through learning technologies. Of course, as some writers point out, we cannot wait until adulthood to begin developing self-directed lifelong learners. This goal is something that needs to be attended to at all levels of schooling from primary education through university and professional training (Schrader-Naef, 2000; Williams, 2001). This first goal has spawned the majority of research in self-directed learning.

Goal One is grounded primarily in humanistic philosophy, which posits personal growth as the goal of adult learning. Brockett and Hiemstra (1991, pp. 26–27), for example, have stated that their model of self-directed learning, the **Personal Responsibility Orientation (PRO) model**, is based on three fundamental ideas espoused by this philosophy: “[T]hat human nature is basically good, . . . that individuals possess virtually unlimited potential for growth . . . [and] that only by accepting responsibility for one's own learning is it possible to take a proactive approach to the

learning process.” Accepting responsibility and being proactive take into account two other tenets of humanistic philosophy: personal autonomy and free will to make individual choices.

Goal Two, to foster transformational learning as central to self-directed learning, is found primarily in the work of Mezirow (1985) and Brookfield (1985, 1986). Mezirow (1985, p. 27) suggests that “there is probably no such thing as a self-directed learner, except in the sense that there is a learner who can participate fully and freely in the dialogue through which we test our interests and perspectives against those of others and accordingly modify them and our learning goals.” In essence, adults need to reflect critically and have an understanding of the historical, cultural, and biographical reasons for their needs, wants, and interests. “Such self-knowledge is a prerequisite for autonomy in self-directed learning” (p. 27). For Mezirow, the “key” to self-directedness is “becoming critically aware of what has been taken for granted about one’s own learning” (p. 17). Brookfield (1985, 1986) echoes Mezirow’s ideas by calling on adult educators to distinguish clearly between the techniques of self-directed learning and the internal change in consciousness. More specifically, Brookfield (1986, p. 38) asserted that “the most complete form of self-directed learning occurs when process and reflection are married in the adult’s pursuit of meaning.” The critical reflection component of the second goal is foundational to the third goal of self-directed learning: promoting emancipatory learning and social action.

Writers advancing Goal Three have been some of the strongest critics of the first goal of self-directed learning: enhancing the ability of individual learners to be more self-directed in their learning. The heart of their criticism is that this first goal is too narrow, with the focus of that goal being primarily instrumental learning and assisting individual learners. In contrast, authors who support the goal of promoting emancipatory learning and social action want included not only the examination by learners of the sociopolitical assumptions under which they learn and function but also the incorporation of collective action as an outcome. Unless the definition of self-directed learning is broadened to include these components, these proponents view self-directed learning as merely a technique “to condition the individual into taken-for-granted

acceptance of what is offered” (Collins, 1996, p. 115). Collins has been the most persistent and eloquent in echoing these concerns about how self-directed learning has been conceptualized and practiced. Collins emphasizes the importance of having an “unequivocal focus of emancipation as a core concern” in the study of self-directed learning and adult learning in general (p. 119). By this Collins means that participatory research methods should be used to foster democratic and open dialogue about self-directed learning, and ethical and political concerns about self-directed learning should be a part of this dialogue. To foster the study of this critical practice of self-directed learning, Collins suggests that researchers use critical theory and interpretive and participatory research approaches. An example of this orientation is a study by Andruske (2000) wherein she investigated the self-directed learning projects of women on welfare. She found that the women became “political change agents as they attempt[ed] to control and to initiate change in their everyday worlds in response to oppressive external structures” (p. 11).

In this same vein, Brookfield (1993, p. 227) asserts that “any authentic exercise of self-directedness requires that certain political conditions be in place.” More specifically, Brookfield argues first that having learners exercise control over all educational decisions needs to be a consistent element of self-directed learning. As such, educators of adults in formal and nonformal settings need to shift to learners as much control as possible in the learning process. Brookfield views this shift as difficult to accomplish in settings where the culture itself is highly controlling, such as some higher education institutions or corporate environments. Therefore, he asserts that educators “might decide to work collectively at changing the political culture of institutions. . . . Control from this perspective would be seen in our coming to understand the origins, functioning and contradictions of the system and in our working to change or replace it with one that honors our daily activities as educators” (1993, p. 235). Second, Brookfield calls for more easily accessible and adequate resources so that learners can more readily exercise control over their learning, especially learners who have been denied access to resources because of cost or preferential treatment for privileged groups.

Most of the process models reviewed in the next section reflect Goal One, enhancing the ability of adult learners to be self-directed in their learning, and to a lesser extent, Goal Two, fostering transformational learning.

SELF-DIRECTED LEARNING AS A PROCESS

Self-directed learning as a process of learning, in which people take the primary initiative for planning, carrying out, and evaluating their own learning experiences, has received a great deal of attention in the literature. We contend, as described in Chapter Two, that this form of learning can take place both inside and outside institutionally based learning programs. For the most part, however, being self-directed in one's learning is a natural part of adult life. Within this category of self-directed learning as a process, three types of models—linear, interactive, and instructional—have been extensively discussed in the literature. In the next three subsections we set out descriptions and critiques of the most prominent and the most promising models of self-directed learning. These models represent a mixture of conceptual, empirical, and experientially derived views of the process of self-directed learning.

LINEAR MODELS

The early models of self-directed learning, those proposed by Tough (1971) and Knowles (1975), were linear in nature. Learners moved through a series of steps to reach their learning goals in a self-directed manner. The resulting frameworks of the learning process for these models included many elements of the traditional teaching process.

Tough (1967, 1971, 1979) proposed the first comprehensive description of self-directed learning, which he termed self-planned learning. Drawing on a study of the learning projects of sixty-six people from Ontario, Canada, he found that 70 percent of all learning projects were planned by the learners themselves. He defined a learning project as “a highly deliberate effort to gain and retain certain definite knowledge and skill, or to change in some other way. To be included, a series of related learning sessions (episodes in which the person's primary intention was to learn)

must add up to at least seven hours” (Tough, 1978, p. 250). Tough found that learners used thirteen steps in self-planned learning projects, representing key decision-making points about choosing what, where, and when to learn along with deciding on resources for learning, detecting possible barriers to learning, and so on.

Tough’s research on self-directed learning became the basis for numerous dissertations and research studies around the world. In the 1970s and early 1980s a range of specific populations were studied using Tough’s original or modified interview schedule. These studies confirmed the prevalence of self-directed learning in adults’ lives. Although there is some variance across these studies in the amount and type of self-directed learning that goes on in the general population, we can say without reservation that the existence of the independent pursuit of learning in adulthood has been established (Brookfield, 1984; Caffarella & O’Donnell, 1987; Owen, 2002).

Knowles’s (1975) description of self-directed learning consists of six major steps: (1) climate setting, (2) diagnosing learning needs, (3) formulating learning goals, (4) identifying human and material resources for learning, (5) choosing and implementing appropriate learning strategies, and (6) evaluating learning outcomes. His steps are somewhat similar to those proposed by Tough (1979). Knowles includes numerous resources for both learners and teachers for completing each of these tasks. Among the materials he describes, we have found the ones on learning contracts and evaluation to be the most useful. Although the work of Tough and Knowles “has provided the language, the concepts, and more importantly the descriptive terms for key elements and processes of self-planned learning” (Kasworm, 1992, p. 56), other scholars have conceptualized different processes.

INTERACTIVE MODELS

A second portrait of self-directed learning is that this learning process is not so well planned or linear in nature. Rather, there is an emphasis on two or more factors, such as opportunities people find in their own environments, the personality characteristics of learners, cognitive processes, and the context of learning, which collectively interact to form episodes of self-directed learning.

Three such models are discussed as illustrative of the work in this arena: the models of Spear (1988), Brockett and Hiemstra (1991), and Garrison (1997).

Spear's Model

Spear (1988), building on his earlier work with Mocker (Spear & Mocker, 1984), has presented a model that rests on three elements: the opportunities people find in their own environments, past or new knowledge, and chance occurrences. Spear proposed that each self-directed learning project is composed of sets or clusters of those elements. For example, a move from an apartment to a single-family residence affords an opportunity to pursue gardening. This fortuitous action in conjunction with some prior knowledge of gardening, perhaps in combination with a chance encounter with an old friend who is an accomplished gardener, results in a self-directed learning project.

Spear also concluded from his study that self-directed learning projects do not generally occur in a linear fashion—that is, one cluster does not necessarily bear any relation to the next cluster. Rather, information gathered through one set of activities (one cluster) is stored until it fits in with other ideas and resources on the same topic gleaned from one or more additional clusters of activities. A successful self-directed learning project is one in which a person can engage in a sufficient number of relevant clusters of learning activities and then assemble these clusters into a coherent whole. Spear (1988, p. 217) concludes, “The learner is perhaps in greatest control when the assembling of the clusters begins and decisions are made regarding what knowledge is of most and least importance.”

Although only a few studies have been conducted using all or parts of Spear's framework (for example, Berger, 1990; Padberg, 1994), other researchers have come to similar conclusions in their work. Danis and Tremblay (1987, 1988), for example, who studied ten long-term adult learners, found that their respondents were able to specify learning goals only when they had mastered certain knowledge or skills, and that in general these learners went about learning on their own using multiple approaches as opposed to only one approach. In addition, they noted that the impact of random events stood out in that these learners took advantage of any

opportunities offered to them. Berger (1990), in her study of twenty white males with no formal degrees beyond high school, found little evidence that her subjects did any preplanning in their self-directed learning activities. Her subjects “constantly redefined their projects, changed course, and followed new paths of interest as they proceeded” (p. 176). In essence, the majority of her respondents adopted a trial-and-error approach, with an emphasis on hands-on experience and practice, guiding themselves by both their successes and their mistakes as they moved on to new levels of learning.

Brockett and Hiemstra’s Model

In their Personal Responsibility Orientation (PRO) model, Brockett and Hiemstra (1991, p. 26) provide a new framework for what they term *self-direction in learning*, which comprises “both instructional method processes (self-directed learning) and personality characteristics of the individual learner (learner self-direction).” In the instructional processes dimension, learners assume primary responsibility for planning, implementing, and evaluating their learning experiences. The authors note that “an educational agent or resource often plays a facilitating role in this process” (p. 24). In this facilitation role, instructors must possess skills in helping learners do needs assessments, locate learning resources, and choose instructional methods and evaluation strategies. Many of these skills have been discussed in previous literature on self-directed learning (for example, Knowles, 1975, and Tough, 1979) and are stressed in their model, with an emphasis on the interactive nature of the teaching and learning process.

Their second dimension, related to the personality characteristics of individual learners, “centers on a learner’s desire or preference for assuming responsibility for learning” (Brockett & Hiemstra, 1991, p. 24). The notion of personal responsibility, which they define as “individuals assuming ownership for their own thoughts and actions” (p. 26), is the point of departure for understanding their concept of self-direction in adult learning. Their concept of personal responsibility is grounded in the concepts of humanism and human potential. Although they agree that individual learners are central to the idea of self-direction, they also regard the context, or social milieu, in which that learning activity

transpires as important. In acknowledging these contextual factors, they recognize the importance of situational factors in the self-directed learning process, which mirrors others' descriptions of the process of self-directed learning.

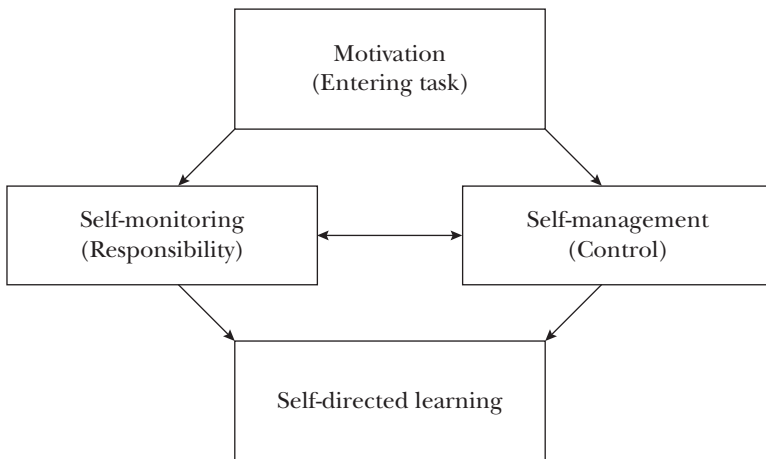
Hiemstra (1992) and Hiemstra and Brockett (1994) have further described various aspects of using self-directed learning as an instructional method. Further, two recent dissertations were based on the PRO model. Stockdale (2003) developed an instrument to assess the two components (teaching-learning and learner characteristics) of the model. Her thirty-five-item Personal Responsibility Orientation to Self-Direction in Learning Scale (PRO-SDLS) was found to be highly reliable with the sample of graduate and undergraduate education students. Fogerson's (2005) study correlated Stockdale's PRO-SDLS instrument with selected satisfaction variables in an online higher education course. While the reliability of the PRO-SDLS was confirmed, no significant correlations were revealed between the scale and satisfaction. Fogerson speculates that this finding might be due to the student population, who were older and had experience with online courses; they also reported being "satisfied" or "very satisfied" with the course.

Garrison's Model

Garrison (1997) is the most recent scholar to propose a multidimensional and interactive model of self-directed learning. His model (see Figure 5.1), grounded in a "collaborative constructivist" perspective, "integrates self-management (contextual control), self-monitoring (cognitive responsibility) and motivational (entering and task) dimensions to reflect a meaningful and worthwhile approach to self-directed learning" (p. 18).

The first dimension, self-management, acknowledges the social milieu in which learners are interacting, whether they are in formal or informal settings. It involves learners' taking control of and shaping the contextual conditions so that they can reach their stated goals and objectives. "Control," says Garrison, "does not translate into social independence or freedom from influence. Educational self-management concerns the use of learning materials within a context where there is opportunity for sustained communication. Self-management of learning in an educational

FIGURE 5.1. DIMENSIONS OF SELF-DIRECTED LEARNING.



Source: Garrison, 1997, p. 22. Reprinted by permission.

context must consider the opportunity to test and confirm understanding collaboratively” (1997, p. 23), which translates into increased responsibilities for the learner.

“The next two dimensions of the model—self-monitoring and motivation—represent the cognitive dimensions of self-directed learning” (1997, p. 24), which Garrison believes have been given little attention in the literature on self-directed learning. Self-monitoring describes the ability of learners to be able to monitor both their cognitive and metacognitive processes, which includes their being able to use a repertoire of learning strategies and the ability to think about their thinking. “Self-monitoring is synonymous with responsibility to construct meaning . . . [and] is very much associated with the ability to be reflective and think critically” (pp. 24–25). The motivational dimension involves what influences people to participate or enter into a self-directed learning activity and what keeps them participating in the activity or task: “Motivation and responsibility are reciprocally related and both are facilitated by collaborative control of the educational transaction”

(p. 29). Garrison observes that self-monitoring and motivation need to be explored in much greater detail by those studying self-directed learning.

Other Models

A number of other interactive models of the self-directed learning process have been introduced into the literature. After conducting a case study of how the Wright brothers learned to fly, Cavaliere (1992) identified five stages of a learning project—inquiring, modeling, experimenting, theorizing, and actualizing. Within each of these steps were four cognitive processes. Her model, though not tested, is provocative in describing the stages of the process as well as the cognitive elements that cut across the stages.

Danis's (1992) "framework" for studying self-directed learning incorporates research from SDL, self-instruction, and learning and study strategies. The main components thus consist of learning strategies, phases of the learning activity, the content of the learning, learner or collective learner characteristics, and the external context of the learning activity. Unlike the other models reviewed, Danis explicitly takes into account the context as well as the potential of self-taught groups of learners. A recent study (Rager, 2003) of the self-directed learning of women with breast cancer, underscores the importance of context and seems to fit well with Danis's framework. Rager's study uncovered the emotional context as critical in shaping participants' SDL: "As reported by the participants, emotions interfered with their ability to begin learning and their ability to make use of some resources, influenced their reactions to some of the information they did find, and impaired their ability to stay focused" (2003, p. 290).

Other models of the self-directed learning process can be found in studies of specific populations or topics. For example, Valente (2005) studied the self-directed learning process of older adults who managed their own health care. Her model begins with a "health event." Once a health event is diagnosed, the cycle of self-directed learning begins. Health care professionals are consulted, which stimulates the older adult to acquire and assess information, followed by choosing a treatment option. The treatment is monitored and reflected upon and adjustments in lifestyle or treatment or both are made. The cycle then repeats itself as the learner

acquires and assesses more information, often in consultation with health care professionals.

Roberson and Merriam (2005) also uncovered a process of self-directed learning in their study of rural older adults. The process begins with an incentive, often related to late life changes, to learn; if the person has an interest in the topic or activity, he or she will pursue it. Next, resources are accessed and systematic attention and time are given to the project. Adjustments are made as the project progresses. An interesting component of the process is that the motivation and intensity to learn are often enhanced by a catalyst, such as another person stimulating interest, or a late-life change in family or health.

INSTRUCTIONAL MODELS

The third category of self-directed learning models represents frameworks that instructors in formal settings could use to integrate self-directed methods of learning into their programs and activities. Two models are highlighted that were designed with formal settings in mind: those of Grow (1991) and of Hammond and Collins (1991).

Grow's (1991, 1994) Staged Self-Directed Learning (SSDL) model outlines how teachers can help students become more self-directed in their learning. Grow, who grounded his model in the situational leadership model of Hersey and Blanchard (1988), describes four distinct stages of learners:

Stage 1: Dependent learner: Learners of low self-direction who need an authority figure (a teacher) to tell them what to do

Stage 2: Interested learner: Learners of moderate self-direction who are motivated and confident but largely ignorant of the subject matter to be learned

Stage 3: Involved learner: Learners of intermediate self-direction who have both the skill and the basic knowledge and view themselves as being both ready and able to explore a specific subject area with a good guide

Stage 4: Self-directed learner: Learners of high self-direction who are both willing and able to plan, execute, and evaluate their own learning with or without the help of an expert

At each of these stages, Grow outlines possible roles for the teacher or facilitator. Figure 5.2 shows how the four types of learners, four roles of the facilitator, and appropriate instructional methods are interrelated. Grow also explores the problems that may arise when there is a mismatch between the role or style of the teacher and the learning stage of the participants. Grow emphasizes that good teachers individualize their teaching strategies to match the learners' stage of self-direction and allow the students to become more self-directed in their learning. Therefore, integrating self-directed learning as a way to organize learning experiences is situational in nature.

FIGURE 5.2. APPLYING THE STAGED SELF-DIRECTION MODEL TO A COURSE.

S4: Self-directed learner			Independent projects. Student-directed discussions. Discovery learning. Instructor as expert, consultant, and monitor.	
S3: Involved learner		Application of material. Facilitated discussion. Teams working closely with instructor on real problems. Critical thinking. Learning strategies.		
S2: Interested learner	Intermediate material. Lecture-discussion. Applying the basics in a stimulating way. Instructor as motivator.			
S1: Dependent learner	Introductory material. Lecture. Drill. Immediate correction.			
	T1: Authority, expert	T2: Salesperson, motivator	T3: Facilitator	T4: Delegator

Source: Grow, 1991, p. 143. Reprinted by permission.

The instructional model proposed by Hammond and Collins (1991) is the only model that explicitly addresses the goal of promoting emancipatory learning and social action as a central tenet of self-directed learning. Grounding their work in studies of critical pedagogy, popular education, and participatory research, these authors have outlined a seven-component framework for assisting learners in formal settings to engage in the critical practice of adult education. In their model, learners take the initiative for:

1. Building a cooperative learning climate
2. Analyzing and critically reflecting on themselves and the social, economic, and political contexts in which they are situated
3. Generating competency profiles for themselves
4. Diagnosing their learning needs within the framework of both the personal and social context
5. Formulating socially and personally relevant learning goals that result in learning agreements
6. Implementing and managing their learning
7. Reflecting on and evaluating their learning

What makes their model different from Knowles's and other process models is the purposeful inclusion of the critical perspective through the examination of the social, political, and environmental contexts that affect their learning, and the stress on developing both personal and social learning goals.

Although greater control of the learning process is what Hammond and Collins see as the immediate goal for learners using their model of critical self-directed learning, their "ultimate goal is to empower learners to use their learning to improve the conditions under which they and those around them live and work" (1991, p. 14). As with other models of SDL, such as Garrison's (1997) and Cavaliere's (1992), we found no studies where the researchers used Hammond and Collins's model as their conceptual framework.

SELF-DIRECTION AS A PERSONAL ATTRIBUTE OF LEARNERS

An important focus in the research literature on self-directed learning has been self-directedness as a personal attribute or characteristic of the learner. The assumption underlying much of this

work is that learning in adulthood means becoming more self-directed and autonomous. Recall that one of Knowles's (1980, p. 43) four major tenets of andragogy is that mature "adults have a deep psychological need to be generally self-directing." Brockett and Hiemstra (1991) echo Knowles's assumption in that they see a link between learner self-direction, which they define as characteristics of learners that predispose them toward taking primary responsibility for their own learning, and a positive self-concept. Tennant and Pogson (1995) have asserted that "the idea of autonomous or self-directed learning is firmly entrenched in contemporary thinking about adult education and there has been a great deal of scholarly interest in the subject" (p. 121).

Research into the nature of the self-directed learner asks the who and what questions: Are these learners introverts or extroverts? What is their learning style? What level of education have they achieved, and does this affect their ability to be self-directed? Are they more autonomous than other learners? How do we know if learners are ready for self-directed ways of learning? Basically, researchers are trying to gain an understanding of the typical self-directed learner's characteristics or attributes. More specifically, researchers have tried to link a number of different variables, such as learning style, level of education, or life satisfaction, with being self-directed in one's learning. Findings from these studies have been, for the most part, inconclusive. The focus on SDL as a personal attribute has also been studied with the use of instruments assessing the presence of self-direction as a trait, and of the readiness to be self-directed; further discussions center on the concept of autonomy and its relationship to self-direction.

ASSESSING SELF-DIRECTEDNESS

Two instruments, the OCLI and the SDLRS, have been widely used to assess aspects of self-directedness as a personality trait. The Oddi Continuing Learning Inventory (OCLI) is a twenty-four-item Likert scale that measures one's self-directedness as a personality trait (Oddi, 1986; Oddi, Ellis, & Roberson, 1990). More than twenty-five variables have been positively correlated with self-directedness as measured by the OCLI; some of these variables are self-efficacy, self-concept, personal responsibility, on-the-job learning, grade point average, and left

brain hemisphericity (Owen, 2002). It might be mentioned that the OCLI was developed by a nurse educator particularly interested in participation in continuing professional education (CPE); hence, a number of studies with the OCLI are in areas of CPE.

Readiness, which implies an internal state of psychological readiness to undertake self-directed learning, has received the most attention in the study of self-directed learning in terms of data-based studies (Guglielmino, 1997). Guglielmino (1977) has provided the most-used operational definition for self-directed learning. She states that it consists of a complex of attitudes, values, and abilities that create the likelihood that an individual is capable of self-directed learning. She identifies the psychological qualities involved in readiness for self-directed learning as initiative, independence, and persistence in learning; acceptance of responsibility for one's own learning; self-discipline; a high degree of curiosity; a strong ability to learn independently; enjoyment of learning; a tendency to be goal oriented; and a tendency to view problems as challenges rather than obstacles. These qualities undergird her Self-Directed Learning Readiness Scale (SDLRS), of which there are two versions, one of them a self-scoring version (the Learning Preference Assessment).

The SDLRS is the most frequently used quantitative measure in studies of self-directed learning. Examined in studies using the SDLRS are a wide range of issues from relating readiness for self-directed learning with job satisfaction, course grades, occupation, self-concept, life satisfaction, job performance, and so on (Owen, 2002). Many of these studies are correlational, examining the relationship of SDLRS scores with scores on other instruments. For example, in a report of three dissertations using the SDLRS, one correlated the SDLRS with a scale measuring cross-cultural adaptability, another correlated the SDLRS with a learning style instrument, and the third used a scale measuring creativity (Beswick, Chuprina, Canipe, & Cox, 2002). All three studies found positive relationships between self-directed learning readiness scores and scores on the instruments measuring cross-cultural adaptability, learning styles, and creativity.

Examples of the most far-reaching implications, based on studies using readiness as a major variable, are that "individual readiness for self-directed learning could be an important factor in

matching certain types of jobs with applicants seeking those jobs” (Guglielmino & Roberts, 1992, p. 271) and that “employees who score lower in readiness for self-directed learning should be given opportunities to become effective self-directed learners” (Durr, Guglielmino, & Guglielmino, 1996, p. 355).

Over the years claims and counterclaims have been made about the basic reliability and validity of the SDLRS. Without getting into the intricacies of these claims, we concur with Brockett and Hiemstra’s (1991, pp. 74–75) assessment:

We believe that despite several apparent substantive and methodological concerns, the SDLRS has made a most important contribution to the present understanding of the self-directed learning phenomenon by generating considerable research, controversy and dialogue. We think that this contribution ultimately outweighs the limitations that seem to be inherent within the instrument. At the same time, we believe that the criticisms raised cannot be overlooked. There remains too many questions, particularly relative to the validity of the scale. We are unwilling to dismiss the scale [like Field and Straka]. However, we do recommend that the SDLRS be used with the same discretion as any other standardized instrument.

AUTONOMY AND SELF-DIRECTEDNESS: INNATE OR SITUATIONAL?

The relationship of autonomy and self-directedness in learning has been discussed primarily at the conceptual level. Chene (1983), for example, defines three elements that describe an autonomous learner: independence, the ability to make choices and critical judgments, and the capacity to articulate the norms and limits of a learning society. Candy (1991) adds to Chene’s notion of the autonomous learner by characterizing autonomous people as those with a strong sense of personal values and beliefs. These values and beliefs give them a solid foundation for conceiving goals and plans, exercising free choice, using rational reflection, having the willpower to follow through, and exercising self-restraint and self-discipline. The same overarching concepts of independent thinking, self-responsibility, and control over actions of learning are also highlighted by Brockett and Hiemstra (1991), Garrison (1992), and Tennant and Pogson (1995).

Autonomy, however, is not necessarily context-free; there is a relationship between the personal and situational variables that must come into play for a person to be autonomous in certain learning situations. Knowles (1975, 1980) was the first to express the importance of context in his descriptions of andragogy. He qualified his assertion that adults are naturally self-directing when he observed that people move toward self-directedness at differing rates and not necessarily in all dimensions of life, and that in some situations adults may need to be at least “temporarily dependent” in learning situations. For example, when coping with a crisis, such as a flood or an earthquake, people may need or want to rely on the information and direction of others, both during the event itself and at least for a time in the aftermath of the event. This same sentiment, that even those adults who can and want to be self-directed in their learning may choose not to exhibit or pursue this characteristic at certain times, has been expressed by a number of authors (Brockett & Hiemstra, 1991; Candy, 1987, 1991; Pratt, 1988; Tenant & Pogson, 1995).

A recent study has confirmed the situational characteristic of autonomy in SDL (Poulton, Derrick, & Carr, 2005). Using a path-analytic model relating resourcefulness and persistence in SDL of 492 adults, the authors found that although adults might intend to persist in valued learning activities, they often do not choose to engage in such activities. They attribute this to the nature of adulthood: “Although an adult may anticipate the future rewards of present learning and even prioritize such learning over nonlearning activities in terms of value attribution, the lawn may need mowing, the kids may need to be taken to soccer practice, or perhaps a friend may need consoling now. . . . The exhibition of autonomy is presently argued as domain specific. That is, one can be an autonomous lawn mower or an autonomous learner” (p. 124).

Four major variables appear to have the most influence on whether individual adult learners exhibit autonomous behavior in learning situations: their technical skills related to the learning process, their familiarity with the subject matter, their sense of personal competence as learners, and their commitment to learning at this point in time. “Since this combination will vary from situation to situation, a learner’s autonomy is also likely to vary from one context to another, and educators must avoid the automatic assumption that simply because a person has successfully learned

something in the past either in an instructional setting or outside it, he or she will be able to succeed in a new area: Orientation, support and guidance may all be required in the first stages of a learning project” (Candy, 1991, p. 309). In addition, moving from an individual to more of a collective context, Candy (1991) and Tennant and Pogson (1995) posit that the socially constructed nature of the self and knowledge may also limit adults’ capacity for autonomy or self-directedness in learning. Adults, in part, are their historical and cultural selves and often find themselves in learning situations where others around them determine what is worth knowing and how that knowledge should be used.

In a similar vein, Boucouvalas (1988) has challenged the exclusive emphasis on the autonomous self as only a partial explanation of what selfhood is all about. Although autonomy reflects independence and uniqueness, homonomy is “the experience of being part of meaningful wholes and in harmony with superindividual units such as family, social group, culture, and cosmic order” (p. 58). The prime motivations for the autonomous self are achievement and conquest, whereas participation in something beyond the individual self is the motivation for the homonomous (connected) self. Other writers in self-directed learning agree with Boucouvalas’s observation and call for further exploration of the social and cultural aspects of self-directedness and the concept of interdependence in the learning process (Ahteenmaki-Pelkonen, 1994; Brown, 2000; Nah, 2000; Rowland & Volet, 1996). Nah (2000), for example, points out that for Koreans to cultivate self-directedness and independence “without being interdependent passes for immaturity or self-centeredness” (p. 18). Giving wider recognition to this connected or interdependent part of the self may allow for a fuller explanation of the collaborative aspects of self-directed learning referred to by Tough (1978, 1979), Knowles (1975), and Caffarella (1993) in activities such as teamwork, shared resources, and peer networks.

RECENT APPLICATIONS OF SDL AND BUILDING RESEARCH AND THEORY

Recent research and writing in SDL demonstrates an interest in the concept’s applicability to lifelong learning, human resource development, and online learning. Schrader-Naef (2000) makes

the case that to implement lifelong learning in society, “schools of all levels have to set the foundations for self-directed lifelong learning and adult education has to build on those foundations” (p. 143). No longer can educational systems “hand on knowledge to the next generations”; rather, schools from primary through university must “develop the conditions, foundations and motivation” for people to see learning as “their own responsibility and motivation” (p. 144).

The professions in particular are recognizing the importance of developing practitioners to be lifelong learners. Nowadays, formal training is only a beginning; knowledge is accumulating at such a fast rate that one must continue to learn to be effective (Williams, 2001). Indeed, most professions mandate that their members continue learning in order to maintain their license to practice. Self-directed learning activities, such as journal reading, are growing in acceptance as one form of CPE (Cole & Glass, 2004). Research to better understand the nature of SDL in professional lives is another form. Sipe (1995) studied experimentally “open” teachers and found that they valued SDL, collaboration, reflection, and challenge; risk taking in their learning was seen as an opportunity, not a threat. Dunlap and Grabinger (2003) make the case that in order to prepare students in higher education to be lifelong learners, we must develop their capacity for self-direction, metacognitive awareness, and a disposition toward learning. They propose three teaching strategies to facilitate these ends: problem-based learning (PBL), intentional learning environments, and cognitive apprenticeships. Similar to Dunlap and Grabinger’s work is Bolhuis’s (2003) process-oriented teaching for self-directed lifelong learning. He argues that since learning is a social phenomenon, even in SDL we need to consider how the social context, prior knowledge, and emotional aspects of learning foster self-directed lifelong learning.

The role of SDL in human resource development (HRD) practice is also drawing attention. Some propose how SDL can be harnessed to address the needs of the organization. For example, Piskurich (1993, p. 330) defined SDL as “a training design in which trainees master packages of predetermined material, at their own pace, without the aid of an instructor,” noting that there is little choice in learning objectives on the trainees’ part, particularly in technical and skills training. Smith (2002) also advances this utilitarian notion

of SDL by pointing out that “there is considerable commercial value in encouraging employees” to be self-directed learners because they can then “contribute to competitiveness without the need for all learning to occur when there is direct training by an instructor” (p. 111). Guglielmino and Guglielmino (2005) have in fact explored the relationship between self-directed learning readiness, dimensions of culture, and economic indicators for seven countries. They found strong positive relationships between self-directed learning readiness and gross domestic product per capita and per-capita income.

Other writers consider how the self-directed part of SDL can enhance the workplace. Brown (2000) examined the interaction between social influences at work and the individual’s commitment to being self-directed. Clardy’s (2000) study of job-related self-directed learning projects of fifty-six employees from five organizations found three types of projects—induced, voluntary, and synergistic. Induced SDL projects are undertaken by an employee because of some perceived imbalance between current and needed skills, voluntary projects are those an employee undertakes because of a personal desire to learn, and synergistic projects “arise in situations where there are new enabling organizational conditions that ignite a latent employee readiness to act and learn” (p. 121). Interestingly, among the five organizations studied, the one where the most synergistic and voluntary projects were found was an organization that “used a system of organizational practices that formed a culture of learning” (p. 118).

That SDL and the learning organization are interrelated is explored by Cho (2002). Cho points out that although “the primary purpose of SDL has been recognized as personal growth, interaction and collaboration with others can play very important roles in the process. . . . Such interdependent and collective aspects of SDL appear to be fully consistent with some essential characteristics of the learning organization” (2002, pp. 468–469).

One of the most thoughtful examinations of the linkages between SDL and HRD is by Ellinger (2004). She reviews the literature on SDL with special attention to how instructional models, organizational characteristics, and assessment tools can all be incorporated into promoting SDL in an HRD context. The article concludes with a number of suggestions for research and theory building in this area, such as assessing the prevalence of SDL in

the workplace, how it is linked with organizational learning, the cultural and ethical issues involved, and so on.

One of Ellinger's suggestions for research is to examine the impact of technology on SDL. This is definitely an area of growing interest with the prevalence of the Internet and Web-based instructional strategies. Recent studies of SDL have uncovered the fact that the Internet is an important learning resource (Roberson, 2003; Valente, 2005). But the Internet is not only a resource in SDL; many studies of online learning at least acknowledge if not foster the need for self-direction on the part of learners in this environment. Freed (2003), for example, examined how graduate students in an online discussion used reflection, dialogue, and self-direction to construct knowledge. Another study attempted to correlate self-directed learning readiness with student success as measured by grades in Web-based courses (Pachnowski & Jurczyk, 2000). Self-directedness turned out not to be a good indicator of success, but this may have been due to the very low participation rate and the difficulties of collecting data from distance education students. Finally, it is an interesting speculation that younger generations of students and workers "for whom the Web is becoming a natural habitat," may already be "adapting to change by developing a self-directed learning orientation" (Kerka, 1999, p. 2).

Research on self-directed learning continues to engage both academics and practitioners, as noted earlier in this chapter. There is also an active research group at the University of Tennessee exploring the literature on SDL. This group has reviewed dissertations produced between 1980 and 2002 (Canipe & Fogerson, 2004) and analyzed ERIC documents that appeared between 1993 and 2003 (Canipe, Fogerson, & Duffley-Renow, 2005). Analyses of both databases suggest a steady interest in and research on SDL.

There is a sense, however, that research and theory building in self-directed learning is in need of fresh questions. Brockett (2000) attributes the decline in the number of *published* articles (in contrast to the dissertations and ERIC documents already mentioned) on SDL since the mid-1980s with the shift away from "the individual adult learner toward looking at the sociopolitical context of adult education" (p. 543). This sociopolitical context is, of course, one of the very questions that could be explored with regard to SDL. Brockett (2000) also suggests that the field consider developing "new

ways to measure self-directedness” and “raise questions about the limits of self-direction, and how self-direction interfaces with issues of power and conflict in various practice settings” (pp. 543–544). From Brockett’s (2000), Ellinger’s (2004), and our own thinking, we suggest the following areas for investigation, all of which could expand our understanding of adult learning through SDL:

- How do issues of power and control interact with the use of SDL in formal settings?
- Does being self-directed as a learner have an impact on one’s own instructional and planning activities?
- Are there public policy issues at the national, state, or local level related to SDL? If so, what roles could adult educators play in advocating and developing such policies?
- Should policy and procedures be formulated related to SDL in formal settings, such as the workplace, so that SDL is recognized as an integral part of education and training programs?
- What constitutes the critical practice of self-directed learning? How can critical SDL practice be incorporated in our work as educators?
- To what extent is SDL situational or cultural?
- How do cultural and contextual factors shape SDL?
- How is technology relating to and affecting SDL?

SUMMARY

Self-directed learning is one of the most researched topics in adult learning. Although learning on one’s own has been the principal model of learning throughout the ages, serious studies of this subject did not become prevalent until the 1970s and 1980s. In reviewing this research, what became clear is that self-directed learning is a multifaceted concept. Therefore, we grouped the work that we reviewed into three broad categories: the goals of self-directed learning, processes and applications of self-directed learning, and self-direction as a personal attribute of learners.

In discussing the goals of self-directed learning, three major ones were identified. The first goal, that of enhancing the ability of adults to be self-directed in their learning, has generated the most research in self-directed learning. The fostering of transformational

learning as central to self-directed learning, the second goal, is foundational to the third goal, that of promoting emancipatory learning and social action. Our assumption is that each of these goals is of equal importance in capturing the essence of self-directed learning.

Within the broad category of self-directed learning as a process, three types of models have been extensively discussed in the literature: linear, interactive, and instructional. The linear models often reflect more traditional ways of thinking about teaching, although they could be applied to learners' informal learning as well as to formal and nonformal settings. The interactive models more closely resemble how learners go about learning primarily on their own, and the instructional models are specifically designed to be used as ways to organize instruction in formal and nonformal settings. Although a rich array of models is now available, little data-based research has been conducted using these models as frameworks, except for studies using Tough's (1979) work.

Assessing self-directedness and the concept of autonomy have received the greatest attention from scholars who are studying self-direction as a personal attribute of learners. Two popular scales, the OCLI and the SDLRS, were reviewed. Readiness, which implies an internal state of psychological readiness to undertake self-directed learning, has generated the majority of the data-based studies. The relationship of autonomy and self-directedness in learning has been discussed primarily at the conceptual level. An important question regarding autonomy and self-directedness is the extent to which the context of the learning situation affects learner autonomy.

The chapter concluded with a review of recent applications of SDL to lifelong learning, human resource development, and online settings. Finally, suggestions for building future research agendas in self-directed learning were discussed.

CHAPTER SIX

TRANSFORMATIONAL LEARNING

Geri, a mother of two, was a successful lawyer and master gardener. She expected to be named a partner at the law firm within the next year. At age thirty-seven, she was diagnosed with bone cancer. She researched treatment options and joined a support group. Before the diagnosis, Geri's priorities included buying a larger house in an upscale neighborhood, purchasing her "dream car," and spending time with her family on a vacation in Europe. After her diagnosis, Geri reflected on her priorities and she recognized that her relationships with family and friends were more important than material possessions.

Geri's story exemplifies transformative learning. *Transformative* or *transformational* (terms used interchangeably in the literature) learning is about change—dramatic, fundamental change in the way we see ourselves and the world in which we live. Unlike informational learning, which refers to "extend[ing] already established cognitive capacities into new terrain" (Kegan, 2000, p. 48), transformational learning refers to "chang[ing] . . . *what we know*" (p. 49; italics in original). The mental construction of experience, inner meaning, and reflection are common components of this approach.

This chapter examines transformational learning theory through seven lenses (Taylor, 2005a); we review three individualistic conceptualizations and four sociocultural perspectives on transformative learning. Next, three important concepts in transformational learning are discussed: experience, critical reflection, and development. Last, we highlight several unresolved issues in

transformational learning theory in addition to discussing recent trends in the transformative learning literature.

THE LENSES OF TRANSFORMATIONAL LEARNING

Lenses simultaneously allow us to see things and limit our view. It is the same with the lenses through which we see transformative learning. While not exhaustive, these lenses provide a reasonably holistic view of transformative learning. Taylor (2005a) provides seven lenses through which to view transformative learning. He divides them into two groups based on their “locus of learning” (Taylor, 2005a, p. 459). The first group comprises those perspectives whose locus of learning concerns the *individual*—namely, the psychocritical, psychodevelopmental, and psychoanalytic perspectives. The second group is composed of approaches where the focus of learning is *sociocultural*, including the social-emancipatory, cultural-spiritual, race-centric, and planetary approaches.

The lenses that focus on the individual are represented by the works of Jack Mezirow, Laurent Daloz, and Robert Boyd. Mezirow’s psychocritical perspective is a fully developed theory of adult learning that has generated a plethora of articles, books, and dissertations. Less well known are Daloz’s psychodevelopmental approach and Boyd’s psychoanalytic perspective. Daloz focuses on the intuitive nature of transformative learning, which champions the importance of stories in the process. Boyd’s psychoanalytic approach explains the importance of symbols and the unconscious in the transformative learning process.

The best-known sociocultural approach is Freire’s social-emancipatory view of transformative learning. Freire’s orientation emerges from a context of poverty and oppression and focuses on radical social change. The three other sociocultural perspectives represent relatively recent developments in the transformative learning literature. Tisdell delineates the cultural-spiritual view of transformative learning. This approach emphasizes the connection between individuals’ various socially constructed positionalities (race, class, gender) and their knowledge construction through storytelling. This perspective emphasizes fostering cultural and spiritual awareness (Taylor, 2005a). The race-centric view concentrates on

the experiences of individuals of African descent within the “socio-cultural, political, and historical context” in which they find themselves (Sheared, 1994, p. 36). Transformative learning is seen as a daily, conscious strategy in this view (Johnson-Bailey & Alfred, 2006). Last, the planetary view, detailed by O’Sullivan, examines the “interconnectedness between the universe, planet, natural environment, human community, and the personal world” (Taylor, 2005a, p. 462).

MEZIROW’S PSYCHOCRITICAL APPROACH

Based on interviews with women who returned to college after an extended hiatus, Mezirow’s theory, introduced in 1978, has invited philosophical critique and a burgeoning of empirical research since the 1990s. The first national conference on transformative learning was held at Teachers College, Columbia University, in April 1998 (Wiessner & Mezirow, 2000). It continues to be a biannual, much anticipated event where transformative learning in general and Mezirow’s theory in particular are discussed. In 2005, approximately eighty-five papers were presented at the conference.

Mezirow’s theory concerns how adults make sense of their life experience. Mezirow defines learning as “the process of using a prior interpretation to construe a new or a revised interpretation of the meaning of one’s experience in order to guide future action” (2000, p. 5). He differentiates between *types* of meaning structures, including frame of reference, habits of mind, and points of view. Mezirow indicates that a “*frame of reference* is a ‘meaning perspective,’ the structure of assumptions and expectations through which we filter sense impressions. It involves cognitive, affective, and conative dimensions. . . . It provides the context for making meaning within which we choose what and how a sensory experience is to be constructed and/or appropriated” (p. 16; italics in original).

There are two dimensions to our frame of reference: a habit of mind, and a point of view (Mezirow, 2000). A habit of mind is “a set of assumptions—broad, generalized, orienting predispositions that act as a filter for interpreting the meaning of experience” (p. 17). There are several varieties of habit of mind, including moral/ethical, philosophical, psychological, and aesthetic generalized predispositions. For example, a habit of mind may be ethnocentrism—the belief that one’s group is superior to others (Mezirow, 1997a).

A point of view is made up of *meaning schemes*, which are “sets of immediate, specific beliefs, feelings, attitudes, and value judgments” (Mezirow, 2000, p. 18). A resulting point of view of ethnocentrism may be the specific beliefs one has regarding particular groups of people outside one’s own group (Mezirow, 1997a). Points of view change more easily than habits of mind because we receive feedback on points of view and are more aware of them than we are of habits of mind (Mezirow, 1997a).

Transformative learning occurs when there is a transformation in one of our beliefs or attitudes (a meaning scheme), or a transformation of our entire perspective (habit of mind) (Mezirow, 2000). Transformative learning, says Mezirow, is “the process by which we transform our taken-for-granted frames of reference (meaning schemes, habits of mind, mindsets) to make them more inclusive, discriminating, open, emotionally capable of change, and reflective so that they may generate beliefs and opinions that will prove more true or justified to guide action” (2000, p. 8). Through transformative learning we are freed from uncritical acceptance of others’ purposes, values, and beliefs. Transformations in our habits of mind may be sudden and dramatic (epochal) or they may be slower, incremental changes in our points of view (meaning schemes), which eventually lead to a change in our habits of mind (meaning perspective) (Mezirow, 2000). For example, two of Andy’s friends have revealed that they are gay over the past several years. As a result, Andy begins to question his homophobic reaction to gays and lesbians. Over time, Andy changes his point of view (meaning scheme) about gays and lesbians and is no longer homophobic (change in meaning perspective).

Mezirow recognizes that not all learning is transformative. He states, “We can learn simply by adding knowledge to our meaning schemes or learning new meaning schemes . . . and it can be a crucially important experience for the learner” (1991, p. 223). For example, in a study that examined the stability of the perspective transformation in HIV-positive adults over time, the authors noted that the perspective transformation (new worldview) had not only held over time but people continued to make new meaning schemes, such as the “adoption of a future-oriented perspective” (Courtenay, Merriam, Reeves, & Baumgartner, 2000, p. 110). A subsequent study with the same participants almost two years later noted additional changes in meaning schemes, including a more tolerant, forgiving attitude toward others (Baumgartner, 2002).

Mezirow's transformative learning theory is made up of ten steps or phases. However, there are four main components of the transformative learning process: experience, critical reflection, reflective discourse, and action. (A more in-depth discussion of experience and critical reflection appears later in the chapter.) The process begins with the learners' experiences. However, just *having* the experience is not enough. The learner must critically self-examine the assumptions and beliefs that have structured how the experience has been interpreted. This sets in motion a revision of "specific assumptions about oneself and others until the very structure of assumptions becomes transformed" (Mezirow, 1981, p. 8).

The new meaning created by a perspective transformation is highly subjective and changeable. To test whether our new meanings are true or authentic (Mezirow, 1995), and to arrive at the best possible judgment, we seek out a variety of opinions, including ones that challenge the status quo, and we engage in the Habermasian concept of "discourse" (Mezirow, 2000, p. 10). Discourse is "dialogue devoted to searching for a common understanding and assessment of the justification of an interpretation or belief" (Mezirow, 2000, pp. 10–11). People weigh evidence for and against the argument and critically assess assumptions. Clearer understanding is achieved through talking with others.

Drawing from Habermas, there are "ideal" conditions for discourse: having complete information, being free from self-deception, being able to evaluate arguments objectively, having empathy, having an "equal opportunity to participate in the various roles of discourse," and so on (Mezirow, 2000, p. 13). Mezirow is aware that these are *ideal* conditions; nevertheless, fostering this discourse is "a long established priority of adult educators" (p. 14).

Mezirow clearly states: "Discourse is not a war or a debate; it is a conscientious effort to find agreement, to build a new understanding" (1996, p. 170). Adult educators must be aware that helping adults learn how to move from an argumentative mindset to an empathic understanding of others' views is a priority (Mezirow, 2000).

Discourse can occur in one-to-one relationships, in groups, and in formal educational settings. Several publications have focused on applications, experiences, and suggestions for educators interested in facilitating this type of learning in educational settings

(Cranton, 1996, 2002; Lee & Greene, 2003; Sawyer, 2004; Yorks & Sharoff, 2001).

Action is the final component of the transformative learning process. The person may take “immediate action, delayed action or reasoned reaffirmation of an existing pattern of action” (Mezirow, 2000, p. 24). Action can range from making a decision about something to engaging in radical political protest. For critics, who see the goal of adult education as social action, Mezirow’s theory, with its emphasis on individual transformation, is too egocentric (Taylor, 1997a). However, Mezirow speaks to social action in certain circumstances: “When the disorienting dilemma is the result of oppressive action, the person needs to take individual or collective action against the oppressor” (Mezirow, 1997b, p. 60). Mezirow continues, “Personal transformation leads to alliances with others of like mind to work toward effecting necessary changes in relationships, organizations, and systems, each of which requires a different mode of praxis” (1992, p. 252). A three-step process for social action begins with becoming aware of a need to change (Mezirow, 1993). This need arises through critically reflecting on assumptions and biases. Next, “a feeling of solidarity with others committed to change” (p. 189) needs to be established. And finally, one has to learn what actions are appropriate in particular situations to implement change.

To illustrate this three-step process, let us take the case of Karen, who returns to college as an adult. She has always had trouble in math courses and had assumed she was not academically inclined. Nevertheless, she decides to try again to get her college degree. Once again, she encounters problems and she considers withdrawing. However, she has done exceptionally well in other courses, and one of her instructors suggests she be tested for a learning disability. This suggestion causes her to question assumptions about her academic ability, and when a learning disability is confirmed, Karen seeks accommodations that allow her to stay in school. In the process, her image of herself changes. She locates others with learning disabilities, and they form a support and advocacy group. The group works toward raising awareness and changing attitudes on campus regarding learning disabilities.

According to Mezirow, the process is most often set in motion by a disorienting dilemma, that is, a particular life event or life experience such as the death of a loved one or an illness that a person

experiences as a crisis. This crisis cannot be resolved through the application of previous problem-solving strategies. In the preceding example, Karen's diagnosis of a learning disability may be her "disorienting dilemma." The disorienting dilemma is the first step in the ten-phase or ten-step process. (See Mezirow, 1991, for a delineation of all ten steps.) Next, the learner engages in self-examination, which is often accompanied by "feelings of fear, anger, guilt or shame" (Mezirow, 2000, p. 22). Initially, Karen may feel shame or anger at being learning-disabled. Self-examination is included in the third step of a critical assessment of assumptions. After the initial shock of the diagnosis, Karen starts to recognize that the diagnosis of a learning disability means she can begin to think more positively about her academic abilities. After all, she is not "dumb" or "incompetent"; she just has a weakness in one area. This assessment leads to the fourth phase of recognizing that others have gone through a similar process. When Karen seeks accommodations for her disability and joins a support group, she recognizes that she is not alone. Step 5 consists of exploring options for forming new roles, relationships, or actions, which leads to formulating a plan of action. This plan has four steps: acquiring knowledge and skills, trying out new roles, renegotiating relationships, and building competence and self-confidence in the new roles and relationships. In our example, Karen may try being an advocate for people with disabilities. She gains skills and builds confidence as a spokesperson for people with disabilities in her effort to raise awareness and change people's attitudes toward people with disabilities. The final step or phase of the process is a reintegration back into one's life based on the new, transformed perspective (Mezirow, 2000). Mezirow (1995, p. 50) comments that although "a perspective transformation appears to follow" the process of creating meaning, it is not necessarily "in this exact sequence."

Empirical studies of transformative learning reviewed by Taylor, although generally supportive of this process, have added depth to the recursive and evolving nature of the transformative learning process (for example, Taylor, 1994; Saavedra, 1995, as cited in Taylor, 2000a). Several studies also revealed a number of other factors inherent in the transformative learning process. For example, Erickson (2002) reasoned that individuals' *level* of meaning-making may influence how they experience the transformative

learning process. Erickson used Lahey, Souvaine, Kegan, Goodman, and Felix's (1988) subject-object interview to determine participants' current level or order of meaning-making (as cited in Erickson, 2002). Next, Erickson analyzed the interview for Mezirow's ten-phase process of perspective transformation. Participants' meaning-making capacity influenced their experience of the perspective transformation. For example, those at more advanced orders of meaning-making "seemed more purposeful and less accidental" in their exploration of new roles, relationships, and actions (Mezirow's Phase 5) than participants at a lower order (Erickson, 2002, p. 105). Likewise, Merriam (2004) argued that "mature cognitive development is foundational to engaging in critical reflection and rational discourse necessary for transformational learning" (p. 65). Yet, she noted that two studies confirmed that people "had transformed their perspective without being aware of the change process" (p. 66). Merriam concluded that Mezirow should "expand the theory of transformational learning to include more . . . affective and intuitive dimensions on an equal footing with cognitive and rational components" (pp. 66–67).

In sum, Mezirow's psychocritical approach to transformative learning has produced a plethora of scholarship and research. His recursive ten-step, or ten-phase, model contains four main components: experience, critical reflection, reflective discourse, and action. In short, the learner must critically reflect on his or her experience, talk with others about his or her new worldview in order to gain the best judgment, and *act* on the new perspective. Recent research adds depth to a theory long criticized for its overreliance on rationality. Studies indicate that one's cognitive development may influence his or her ability to experience a perspective transformation (Merriam, 2004) or experience of the perspective transformation process (Erickson, 2002).

DALOZ'S PSYCHODEVELOPMENTAL PERSPECTIVE AND BOYD'S PSYCHOANALYTIC APPROACH

Perhaps less well known, but equally important, Daloz's psychodevelopmental perspective and Boyd's psychoanalytic approach to transformative learning augment Mezirow's ideas. While Mezirow sees transformation as a more rational endeavor and emphasizes

critical reflection, Daloz and Boyd view transformative learning as more holistic and intuitive (Dirkx, 1998).

A teacher and administrator, Daloz focuses on adults who are returning to higher education. In his view, the goal of transformative learning is lifelong personal development, with the teacher serving as a mentor in the transformative learning process (Taylor, 2005a). Like Mezirow, Daloz recognizes that people need to make meaning of their experiences and that individuals are often in a developmental transition when they seek higher education to “help them make sense of lives whose fabric of meaning has gone frayed” (Daloz, 1999, p. 4). Education is a “transformational journey” (Daloz, 1986, p. 16) that should “promote development.” (Further discussion of adult development as it relates to transformative learning appears later in the chapter.)

The mentor serves as guide, cheerleader, challenger, and supporter during the learning process. The teacher/mentor challenges students to examine their conceptions of self and the world and to formulate new, more developed perspectives. Like Mezirow, for Daloz dialogue/discourse is integral to the process of transformation. However, unlike Mezirow, Daloz concentrates on the importance of stories on the journey toward an expanded worldview. He notes, “The first business of a guide is to listen to the dreams of the pilgrim. How are our students moving? What do they want for themselves? How do they tell their own stories?” (Daloz, 1986, p. 21). Next, the mentor can *tell* the student stories in an effort to promote development. It is through this mutual storying of lives that development can occur. Stories also assist mentors in doing three things for students: providing support, challenging students, and providing a vision (Daloz, 1999).

Daloz (1999, p. 43) offers three “maps” of adult development but he does not prescribe an end point to this transformational journey. The first map consists of phase theories of adult development such as presented by Daniel Levinson in *Seasons of a Man's Life* (Levinson, Darrow, Klein, Levinson, & McKee, 1978) and *Seasons of a Woman's Life* (Levinson & Levinson, 1996). This family of theories examines “common tasks that people confront as they face the problems associated with aging” (Daloz, 1986, p. 47). These tasks can be culturally determined and may vary depending

on a variety of sociocultural factors including gender, class, and ethnicity. Stage theories, the second map, such as Kegan's *The Evolving Self* (1982), examines cognitive growth and the ability to think outside of one's cultural reference. The third map, Perry's model of intellectual and ethical development (1970, 1999) helps us look at how we and our students make "the journey from naïve and simplistic thinking to complex and relativistic reasoning" over time (Daloz, 1986, p. 48).

To summarize, Daloz takes a storied approach to development and transformative learning. Through storytelling, Daloz and his students journey toward a more holistic and transformed worldview. Like Mezirow and Freire, Daloz recognizes the importance of cognitive growth. He acknowledges the importance of the whole person in that growth.

Boyd's psychoanalytic approach to transformative learning (Boyd, 1989, 1991; Boyd & Myers, 1988) predates the recent flurry of attention given to spirituality in adult education (Fenwick & English, 2004; Kovan & Dirkx, 2003; Tisdell, 2003). His work, grounded in depth psychology, sees transformation as an inner journey of individuation from parts of the psyche such as the ego and the collective unconscious (Boyd, 1991). He defines transformation as "a fundamental change in one's personality involving conjointly the resolution of a personal dilemma and the expansion of consciousness resulting in greater personality integration" (1991, p. 459). By coming to terms with one's inner psychic conflicts, one can achieve self-actualization. To integrate the emotional and spiritual parts of learning into ourselves, we must make sense of the symbols and images in our psyche. Only then can we understand how the unconscious influences our daily lives (Dirkx, 1998).

Like Mezirow and Daloz, Boyd indicates that dialogue is important to the transformative learning process. Dirkx states (1998), "The goal of transformative learning is to identify these images . . . and to establish an intrapersonal dialogue with them" (p. 7). The dialogue occurs between the ego and other "unconscious structures that populate the psyche, such as the Shadow, Anima, and Animus" (p. 7). Through dialogue we can individuate and become less subject to "compulsions, obsessions, and complexes," which may be the more unconscious manifestation of the individuation process (p. 7).

FREIRE'S SOCIAL-EMANCIPATORY PHILOSOPHY

Brazilian educator Paulo Freire's philosophy of transformative learning is the best-known sociocultural approach to transformative learning. His perspective emerged from his literacy work with rural Brazilian farmers in the mid-twentieth century (McLaren, 2000). Unlike Mezirow's theory, which is based on the experiences of White, middle-class women and concentrates primarily on personal transformation, Freire's theory emerges from the context of poverty, illiteracy, and oppression and is set in a larger framework of radical social change. In Freire's approach, personal empowerment and social transformation are inseparable processes. His conceptions of conscientization and empowerment have contributed significantly to the underlying theoretical framework of transformational learning.

Freire differentiates between two kinds of education: banking and problem posing. *Banking education* is teacher-centered as the "all-knowing" teacher deposits knowledge into the passive students who serve as receptacles for this knowledge (Freire, 2000). The teacher decides the content of the course and is the authority in the classroom. Banking education resists dialogue. Students are oppressed and live in a "culture of silence" because their respective worlds are defined by the teacher (oppressor) (Freire, 1985, p. 72). Banking education serves the oppressors because it domesticates the oppressed. In contrast, the purpose of *problem-posing education* is liberation. Central to the learning is a changed relationship between teacher and student. They are coinvestigators into their common reality, the sociocultural situation in which they live (Freire, 2000). Further, dialogue is considered "indispensable to the act of cognition which unveils reality" (p. 64).

The process of conscientization, which is an ongoing process where the learner becomes increasingly aware of the various oppressive forces in his or her life and eventually becomes part of the process of social change (Heany, 2005), begins with dialogue. Through dialogue, generative themes or concerns are posed by the learners themselves and become the content of a learning situation. For example, in asking learners for some words that capture their everyday experience, the word for "slum" or "land" or "taxes" or "illness" or "government" might come up. These words

are then broken down into syllables and used in various contexts in learning how to read. At the same time, participants engage in discussions about these concepts. These discussions raise their awareness about their life situations (Freire, 2000).

Conscientization occurs at several levels. At the least-aware levels is a magical, fatalistic consciousness in which nothing about one's world is questioned; external forces are in charge, and there is nothing that can be done to change things as they are. Midway between being totally unaware and critical consciousness, people begin to sense that they may have some control over their lives and turn to questioning things as they are. The most sophisticated stage of consciousness is critical consciousness. Here one achieves an in-depth understanding of the forces that shape one's life space, and becomes an active agent in constructing a different, more just reality.

The ultimate goal of education is liberation, or praxis, "the action and reflection of men and women upon their world in order to transform it" (Freire, 2000, p. 60). Note that a key component of Freire's philosophy, like Mezirow's, is critical reflection. Critical reflection occurs through problem posing and dialogue with other learners.

Freire has operationalized his theory of education with techniques that have demonstrated success in combating illiteracy in numerous countries, including Chile, Switzerland, Tanzania, Australia, and Italy (McLaren, 2000). Its application in North America has been limited, owing perhaps to the necessary corollary of social change. Although conscientization is always a political act in Freire's theory, it can be seen as similar to perspective transformation in its characterization of adult learning as the process of becoming aware of one's assumptions, beliefs, and values and then transforming those assumptions into a new perspective or level of consciousness (Mezirow, 1995).

EMERGING SOCIOCULTURAL PERSPECTIVES: THE CULTURAL-SPIRITUAL, RACE-CENTRIC, AND PLANETARY APPROACHES

Tisdell (2003) discusses the main concepts of the cultural-spiritual approach. Tisdell posits that "spirituality . . . is fundamentally about how we make meaning in our lives" through conscious and

unconscious processes such as dreams and symbols (p. 31). In this way, Tisdell's perspective seems similar to Boyd's (1989) conceptualization. However, Tisdell also includes the role of culture in the transformative learning experience. This approach examines how learners, in various cultural contexts and with different positionalities (for example, race, class, gender, sexual orientation), "construct knowledge as a part of the transformative learning experience" (Taylor, 2005a, p. 461). Whole-person learning, including personal, political, historical, and sacred learning, is emphasized. In this view, the teacher serves as a collaborator and helps the learners share and revise their narratives as new meaning is made.

Tisdell (2003) names several factors that foster spiritual-cultural transformative learning. First, cross-cultural relationships allow us to be exposed to different ways of thinking and being in the world. Second, educators need to be spiritually and culturally grounded in order to promote authenticity in students. When we are authentic and open to experiences, transformation can occur. Third, transformative learning may occur more easily in community-based, culturally relevant settings because community-based educators feel "freer to use different modalities to provide a different kind of experience for people or simply to go with how communities draw on the spirituality that is part of their lifeblood" (p. 195). Last, the environment needs to allow for explorations on the cognitive, affective, relational, and symbolic levels.

The race-centric approach to transformative learning is a "culturally bounded, oppositional, and non-individualistic conception of transformative learning" that puts people of African descent at the center (Taylor, 2005a, p. 461). It is culturally bounded in that it emerges from the experiences of people of African descent. Johnson-Bailey and Alfred (2006) explain that this perspective is "grounded in oppositional spirit" because Blacks (and other minority cultures) live in opposition to the cultural norm. The race-centric perspective focuses on the transformative learning of the group in an effort to raise race consciousness.

Central to this view is Sheared's (1994) conception of polyrhythmic realities or attention to African descendents' "lived experience within a sociocultural, political, and historical context" (p. 36). Johnson-Bailey (Johnson-Bailey & Alfred, 2006) recalls an experience where these polyrhythmic realities intersected. At

age five, in the segregated southern United States of the 1950s, Johnson-Bailey was told she could no longer play with her best friend—a White girl named Dianne. Johnson-Bailey writes, “This lesson on race, on difference, on power, would become more sophisticated and theoretical over my life span. . . . [I]t was the first . . . that would transform my way of thinking . . . my way of existing” (p. 50). Johnson-Bailey notes that because of racism and sexism, Black women’s conceptions of themselves and the world in which they live are transformed. She continues, “Most of my Black women colleagues see transformational learning as the only medium in which we exist, learn, and teach. Since it is the air we breathe, maybe [we] just take it for granted and don’t attend to or claim it sufficiently” (p. 51).

In order to foster transformative learning, this perspective promotes inclusion of voices traditionally silenced and a sense of belonging as a member of the group (Johnson-Bailey & Alfred, 2006). The race-centric approach understands the importance of intra- and intercultural negotiation in the transformative learning process. Finally, similar to other transformative learning approaches, people deconstruct their assumptions through dialogue with others.

Last, the planetary view of transformative learning “recognizes the interconnectedness between the universe, planet, natural environment, human community and the personal world” (Taylor, 2005a, p. 462). The goal of this perspective is planetary consciousness. It emphasizes “quality of life issues, fostering a community’s sense of place, diversity within and between communities, and an appreciation of spirituality” (p. 462). Its uniqueness amongst the perspectives is in its attention to how people relate to the physical world.

For O’Sullivan (2002), visionary transformative education includes several elements. First, people must move beyond the limited vision of a global market economy and locate their lives “in a larger cosmological context much more breathtaking than the market vision of our world” (p. 7). Second, we must adopt a definition of development that “links the creative evolutionary processes of the universe, the planet, the earth community, the human community, and the personal world” (p. 8). Third, we need to understand how our quality of life goes beyond our standard of living to include our need for community and the necessity

of diversity within and between communities. Last, transformative education must address spirituality.

In sum, all perspectives possess commonalities. All theorists are constructivists. That is, they view knowledge as constructed by the learner rather than “out there” to be discovered (Dirkx, 1998). Second, dialogue is necessary for transformative learning to occur. Dialogue with others, or intrapsychically in Boyd’s case, assists the learner in expanding her views. Third, critical reflection on the origin and nature of our submerged assumptions, biases, beliefs, and values, and in Boyd’s case, symbols, is also necessary for change and growth to occur. Fourth, most theorists mention social change as a result of transformative learning (Daloz, 2000; Freire, 2000; Mezirow, 2000; O’Sullivan, 1999).

KEY CONCEPTS IN TRANSFORMATIONAL LEARNING

Three key concepts of transformative learning emerge: life experience, the nature of critical reflection, and the connection between transformative learning and development. We draw from several sources to discuss these three areas.

EXPERIENCE

Experience is integral to learning. One of the assumptions of andragogy is that adults bring with them a depth and breadth of experience that can be used as a resource for their and others’ learning (Knowles, 1980). These experiences come in different *dimensions*. For example, a “direct embodied experience” is “an immediate encounter in the here-and-now, planned or unplanned, involving us physically, emotionally, sensually, mentally, and perhaps spiritually” (Fenwick, 2003, p. 13). Other dimensions of experience include vicarious experiences, simulated experiences, collaborative experiences, and introspective experiences such as meditation.

However experience is construed, the ways in which it can be used in learning differs according to one’s theoretical orientation. Tennant (1991) delineates several uses: “First, . . . teachers can link their explanations and illustrations to the prior experiences of learners. . . . Second, teachers can attempt to link learning

activities to learners' current experiences at work, home, or in the community" (pp. 196–197). Third, teachers can create activities such as simulations, games, and role-plays. These activities can lead to learners' critical reflection of assumptions.

Clearly, Tennant's third level is most congruent with the use of experience in transformative learning. Equally obvious is that not all experiences trigger learning—whether the learning is a simple addition to our prior knowledge or a fundamental change in our perspective. Further, the identical experience—a job change or a divorce, for example—can trigger learning for some people but not others. Adults may be unable to respond to a new experience. It is “at this point of disjuncture” that “individuals are forced to ask why this has occurred to them or what it means. These questions are located at the start and at the core of human learning” (Jarvis, 1992, p. 15).

CRITICAL REFLECTION

With an experience that one cannot accommodate into the prior life structure, the transformative learning process can begin. Necessary to the process is critical reflection, the second key concept. As Criticos (1993, p. 162) points out, “Effective learning does not follow from a positive experience but from effective reflection.” Reflection is a cognitive process. We can think about our experience—muse, review, and so on—but to reflect critically, we must also examine the underlying beliefs and assumptions that affect how we make sense of the experience.

Mezirow (2000) differentiates among three types of reflection, only one of which can lead to transformative learning. *Content reflection*, the first type, is thinking about the actual experience itself. *Process reflection* is thinking about ways to deal with the experience—that is, problem-solving strategies. *Premise reflection* involves examining long-held, socially constructed assumptions, beliefs, and values about the experience or problem.

Much has been written about critical reflection, especially under the more common topic of critical thinking and reflective practice (see Chapter Seven). There are a number of adult educators in addition to Mezirow who have focused on critical thinking, especially as it relates to transformative learning. For example, Cranton's (2002)

scholarship concerns fostering transformative learning in the classroom. In order to engage learners in self-reflection, Cranton suggests using reflective journals in which students reflect on various incidents in their lives to foster the critical reflection that promotes transformative learning.

The most prominent adult educator writing about critical thinking is Brookfield (1987, 1994). He presents a rationale as to why critical thinking is important and how adults can become critical thinkers in their family, work, and personal lives and in relation to mass media. Especially relevant to the link between critical thinking or critical reflection and transformative learning is his model of critical thinking.

The model consists of five phases very similar to Mezirow's conceptualization. First is what he calls a trigger event, "some unexpected happening [that] prompts a sense of inner discomfort and perplexity" (Brookfield, 1987, p. 25). The next stage, appraisal, captures several of the steps in Mezirow's process, including a self-examination of the situation, "brooding" about our discomfort, and finding others who are experiencing a similar problem. In the third phase of exploration, we examine new and different ways of explaining or accommodating the experience that has led to our discomfort. The fourth phase is one of developing alternative perspectives. Basically, we try on a new role, a new way of behaving, a new way of thinking about the problem or experience, and simultaneously gain confidence in the new perspective. Finally, we are able to integrate these new ways of thinking or living "into the fabric of our lives" (p. 27).

In subsequent writing (1996, 2000, 2005a), Brookfield has clarified and expanded his notion of critical thinking. He now believes that critical thinking helps us scrutinize (2000, p. 136) "how we view power relationships in our lives" and helps us analyze "hegemonic assumptions" (Brookfield, 2000, p. 138). Hegemonic, or taken-for-granted assumptions about the world, serve the status quo and keep others disenfranchised. An example of a hegemonic assumption is the idea that "adult education is a vocation requiring self-abasement of practitioners on behalf of learners" (Brookfield, 2000, p. 138). If adult educators believe this assumption, administrators can "guilt" them into taking on more work and reducing costs. In this view, critical reflection is employed to examine social

inequities. Brookfield acknowledges that his definition of critical reflection is a stricter and more radically political definition than Mezirow's because Mezirow "allows for the possibility of implicit critical reflection 'as when we mindlessly choose between good and evil because of our assimilated values'" (Mezirow, 1998, p. 186, as cited in Brookfield, 2000, p. 131).

DEVELOPMENT

In addition to the centrality of experience and critical reflection, there is in transformational learning theory the notion of individual development. Individual development is both inherent in and an outcome of the process. The ability to think critically, which is mandatory to effecting a transformation, is itself developmental; that is, we can become better, more critical thinkers. Elias (1997, pp. 3–4) explains how individual and cognitive development are intertwined:

What are transformed through the processes of transformative learning are several capacities of mind or consciousness. First is the development of a "conscious I" capable of exercising critical reflection. Second is a transformed capacity for thinking, transformed to be more dialectical or systemic, thinking (for example) that perceives polarities as mutually creative resources rather than as exclusive and competitive options and that perceives archetypes as partners for inner dialogue. Third is the capacity to be a conscious creative force in the world, as expressed, for example, as the capacity to intervene in and transform the quality of discourse in a group or learning community.

Mezirow (1995) acknowledges that other scholars make important contributions to understanding adult critical reflection. King and Kitchener's (1994, 2002) model, which draws on the earlier work of Perry (1970), consists of seven stages, of which only the last two are characteristic of critical reflection (see Chapter Thirteen for a further explanation of this model).

Development is also the outcome of transformative learning. Mezirow (1991, p. 155) states clearly that the process of perspective transformation is "the central process of adult development."

And “meaning perspectives that permit us to deal with a broader range of experience, to be more discriminating, to be more open to other perspectives, and to better integrate our experiences are superior perspectives” (1990b, p. 14).

K. Taylor (2000) discusses changing *how* one knows in developmental terms. She explores movement along five dimensions. First, learners move “toward knowing as a dialogical process” (p. 160). They learn how they construct knowledge and they reconstruct knowledge in light of new experiences and reflections. Second, learners move “toward a dialogical relationship with oneself” by learning who they are and that they can choose to be another way (p. 163). Third, individuals move “toward being continuous learners” (p. 163). They become aware that learning is up to them. Next, they move “toward self-agency and authorship,” where they “increasingly recognize their responsibility for their actions, choices, and values and for the decisions they may make based on those values” (p. 163). Finally, they move “toward connections with others,” where they learn in community but retain their individuality (p. 163).

That the outcome of transformational learning is development is congruent with the growth orientation of much of adult learning literature generally. Underpinning this orientation is humanist psychology. Rogers (1961, p. 115) contended that “significant learning” results in a more mature self who is open to experience, to “new people, new situations, new problems.” Knowles’s (1980) model of andragogy is written quite explicitly from this humanistic perspective, defining adult learning as “a process that is used by adults for their self-development” (p. 25) and “to mature” (p. 28). Similarly, Kegan (1994, p. 287) wrote that higher and adult education’s “mission” is to “assist adults in creating the order of consciousness the modern world demands.”

This fact raises yet another dimension to the link between transformation and development. Tennant (2000) argues that what constitutes psychological development is itself a social construction; that is, in any society at any particular point in time, there are normative expectations about “what it means to be enlightened or developmentally more mature” (Tennant, 1993, p. 41). He warns that changes that are part of the expected life course (instances of normative development) should not be confused with actual changes in perspective.

Although there are certainly other factors important to transformational learning, we have discussed three that are central to the process. First, transformative learning posits experience as its starting point and as its content for reflection. Engaging the life experience in a critically reflective manner is a necessary condition for transformation. Finally, the entire process is about change—change that is growth-enhancing and developmental.

UNRESOLVED ISSUES IN TRANSFORMATIONAL LEARNING THEORY

The growing prominence of transformative learning theory has generated closer scrutiny of several aspects of the theory. Mezirow's psychocritical perspective has been critiqued for its inattention to context and its overreliance on rationality in the meaning-making process. In addition, scholars have examined the role of relationships in transformative learning, the place of social action, and the educator's role in fostering transformative learning.

CONTEXT

Clark and Wilson (1991) were the first to point out that Mezirow's theory appeared to be acontextual. Derived as it was from research on women returning to school, they note that the women's experiences "were studied as if they stood apart from their historical and sociocultural context, thereby limiting our understanding of the full meaning of those experiences" (p. 78). Further, they contended, Mezirow's own orientation toward autonomy uncritically reflects the values of the dominant culture in our society—masculine, White, and middle-class. In addition, Taylor's (2000a) review of the empirical research on Mezirow's theory revealed a number of studies that found that aspects of the individual's biographical history and sociocultural factors shaped the nature of the transformative learning. Taylor points out that more attention to such factors can help explain, for example, why a disorienting dilemma might lead to a perspective transformation for one person but not another. Indeed, studies accounting for individual biography and context are beginning to give a richer picture of transformative learning. Recent studies have explored transformative learning in the urban context (Kappel & Daley, 2004), in an experiential Hawaiian ecological

course that emphasized indigenous knowledge (Feinstein, 2004), and in corporate America (Henderson, 2002). All have indicated that the context affects the transformative learning process.

Power, an interrelated aspect of context, has not been adequately addressed in Mezirow's theory. McDonald, Cervero, and Courtenay (1999) examined the role of power in ethical vegans' transformative learning process. The authors acknowledged that while vegans experienced a perspective transformation when they journeyed from being meat eaters to vegans, "the sustained power of the normative ideology . . . brought subtle changes in the vegans' praxis over time" (p. 19). They remained vegans but were worn down by "social-cultural and interpersonal challenges to veganism," and "their praxis became less outspoken" (p. 19). Likewise, in a longitudinal study of international service program participants in Nicaragua, participants indicated that upon returning to the United States, respondents had a "chameleon complex" where they held unpopular views on global issues but felt "compelled to conform and blend in with mainstream views on local and global issues even though they disagree[d]" (Kiely, 2003, p. 221).

Mezirow (1996, 2000) has attempted to explain better how context fits into his theory. He acknowledges, "The justification for much of what we know and believe, our values and our feelings, depends on the context—biographical, historical, cultural—in which they are embedded" (Mezirow, 2000, p. 3). He maintains that certain sociocultural factors such as racism, sexism, and classism may impede or encourage critical reflection and reflective discourse. "Transformation Theory," Mezirow (1996, p. 169) writes, "does not suggest a disengaged image of the individual learner, but of a learning process characterized by dialogical voices. The social dimension is central, but so are the historical and cultural dimensions of the process."

RATIONALITY AND AFFECT

The second major issue with Mezirow's view of transformational learning theory is what appears to be an overreliance on rationality as the means of effecting a perspective transformation; other forms of knowing are secondary at best. Rational thinking is a particularly Western concept, a product of the Enlightenment and

Descartes' mind-body split. The idea that emotions and cognition are separate and that emotions are "less evolved" continues to this day despite evidence to the contrary (Taylor, 2001). Even in the West, rationality, and in particular its separation from experience, is also gender-specific, privileging men, those of the middle and upper classes, and Whites. Mezirow (1998, pp. 187–188) has responded to these charges, noting that rationality is not in itself an ideology; rather, "the justification for embracing an ideology depends upon advancing and supporting reasons for doing so. . . . Arguments against the universality of rationality and critical reflection themselves demonstrate the necessity of assessing reasons and becoming critical of assumptions. Once these critics enter into rational discourse, they have no choice but to agree to observe universal principles of rationality."

Although Mezirow's (2000) work briefly acknowledges other ways of making meaning, including intuition, imagination, and dreams, and acknowledges the role of feelings in the transformative learning process, Taylor (2000a) notes of Mezirow's theory that "critical reflection is granted too much importance and does not give enough attention to the significance of affective learning—the role of emotions and feelings in the process of transformation" (p. 303). Further, Taylor (2000a) cites several studies indicating that people's emotions must be worked through before they can engage in critical reflection. The interdependence of affect and critical reflection cannot be overlooked. For example, Mulvihill (2003) discusses the importance emotion plays in the transformative learning experiences of survivors of clergy abuse. Mulvihill writes, "When individuals and groups can be encouraged to uncover the emotional impact of perspectives and meanings, and to blend this information with other ways of knowing, a more holistic transformative paradigm might be embraced" (2003, p. 325). In addition, the exploration of feelings leads to greater self-awareness (Taylor, 2001).

As previously noted, other transformative learning scholars delve more deeply into the importance of learning through other ways of knowing, including emotion and intuition (Blacksher, 2001; Johnson, 2001), "soul learning" (Dirkx, 1998), and levels of consciousness (Boucouvalas, 1993), and through stories (Rossiter, 2002), the physical body (Amann, 2003), and the subconscious (Scott, 1997). For example, using Boyd's extrarational approach

to transformative learning as a framework for their study, Kovan and Dirx (2003) sought to understand the “role of learning in sustaining commitment to nonprofit work” of environmentalists (p. 100). They discovered that the participants’ transformative learning was “a struggle for consciousness in a largely unconscious world, a process that Jung referred to as individuation” (p. 107). For these participants, transformation was an ongoing process, which involves the whole person including the “head, heart and spirit” (p. 114).

Last, in an effort to explain how participants in several studies experienced a perspective transformation *without* critical reflection, Taylor (2001) explored the literature on neurobiology. He found that “nonconscious memory . . . has a tremendous influence on how we think and act” (p. 228). He continues, “Implicit memory of experience can be received, stored and recovered without conscious awareness of the individual” (p. 226). Examples of implicit memory include learning category-level knowledge such as grammar. People know the rules of grammar but are unable to say exactly what guides their speaking. A second form of implicit memory is learning a conditioned response (Taylor, 2001). For example, people may be conditioned into accepting the norms of a new culture. Taylor (1994) found that people in cultures different from their own developed new habits and uncritically accepted many of the routines and norms of the culture. They “absorbed” cultural norms without trying to make meaning of them. Yet, despite this uncritical acceptance of the culture, participants reported experiencing a perspective transformation.

In sum, the charge that Mezirow’s (2000) theory relies too heavily on rationality has sparked discussions about the role of feelings and the unconscious in the transformative learning process. In addition, researchers have explored how people experience a perspective transformation in the absence of critical reflection.

ROLE OF RELATIONSHIPS IN THE TRANSFORMATIVE LEARNING PROCESS

Closely tied to the role of feelings in the transformational learning process is the role of relationships. Taylor (2000a) indicates the importance of “relational ways of knowing” (p. 306) in the

transformative learning process. In particular, he indicates that elements such as “trust, friendship, and support” are necessary for effective reflective or rational discourse to occur (p. 306). Receiving support, connecting with family, and developing trust were all ways in which relationships were evident in the transformative learning process.

Recent studies support the assertion that relationships are an important part of the transformative learning process. Harvie (2004) found that the transformative learning process for undergraduates was a highly social process, with interpersonal support being an important component of the process. Likewise, Hwang (2004) analyzed the transformative learning of Korean Presbyterian disciples in training. Hwang indicates, “The transformative learning experiences did not appear to rely upon rational discourse for critical reflection of assumptions. . . . Instead, participants experienced transformative learning through relationship dialogue based on the relationships among group members and the relationship with God” (abstract).

Both the importance and the *nature* of the relationships in the transformative learning process have received attention (Taylor, 2003). For example, Carter (2000) uncovered four types of developmental relationships in the lives of midcareer women: utilitarian, memory, imaginative relationships with self, and love relationships. The author discovered: “Psychosocial support functions that predominate in love, memory and imaginative relationships generated proportionally more instances of transformative learning than did mostly career-enhancing functions of utilitarian relationships” (p. xiii).

SOCIAL ACTION

The place of social action in transformational learning theory remains controversial. Mezirow in particular has been criticized for focusing too much on individual transformation at the expense of social change. Mezirow (1990a, p. 363) indeed states that “we must begin with individual perspective transformations before social transformations can succeed.” As previously mentioned, for Mezirow “action can mean making a decision, being critically reflective or transforming a meaning structure as well as a change

in behavior" (1995, pp. 58–59). Perspective transformation may also result in social action. For Mezirow, though, the role of adult education is to promote and facilitate individual critical reflection in which "the only anticipated learning outcome . . . is a more rational and objective assessment of assumptions" (1995, p. 59). To assume that the outcome is social action is to require "the learner to share the convictions of the educator's own view of social reality [which] would be tantamount to indoctrination" (p. 59).

Both Freire and Mezirow have been criticized for romanticizing the social change process. Both educators "start with the oppressed or the person trapped within a culturally induced dependency role, and both require these victims to liberate themselves, albeit with the help of the dialogic or transformative educator" (Newman, 1994, p. 241). Newman believes this offers little help to those who are oppressed. Newman believes that adult teaching and learning should focus on identifying strategies to deal with oppression at the same time that we help learners "build up their skills, increase or regenerate their knowledge, and rework their meaning perspectives in order to be better able to carry out those strategies" (p. 241). Mezirow (1997b, p. 62) has responded to Newman's critique, arguing that "often learners are unaware of being oppressed; they internalize the values of the oppressors." In these situations, it may be necessary to engage in the "'deconstruction' of reified frames of reference" before action can be taken "on one's own behalf" (p. 62).

THE EDUCATOR'S PLACE IN FOSTERING TRANSFORMATIVE LEARNING

There is yet another dimension to this issue of the place of social action in transformational learning theory. The ethical issues involved have been little addressed. For example, what right do adult educators have to tamper with the worldview (mental set, perspective, paradigm, or state of consciousness) of the learner? How invasive is it to study adults in the process of transformation (Courtenay et al., 2000)? How is the goal of educational intervention, whether it is social or personal change or something else, to be determined? What is the educator's responsibility for the action component of praxis?

The educator who supports personal and social transformation as the goal of adult education is confronted by a more practical issue: how exactly to facilitate such learning. Brookfield (1987, 1996) offers some help through his critical questioning techniques and through a critical incident activity. Daloz (1986) suggests that mentors use the strategies of challenging, supporting, and visioning to facilitate the learner's personal journey of transformation. Freire (1970) and Hart (1990) discuss techniques for consciousness-raising in groups. Vella (1994) presents twelve principles of adult learning with specific case examples of their implementation in popular education sites around the world.

The most extensive discussions of techniques for fostering transformative learning can be found in Cranton's work (1996, 2002). Recognizing individual differences and learning preferences, Cranton suggests drawing from a repertoire of strategies, including critical questioning and experiential techniques such as role-plays and simulations, journal writing, and life histories. In addition, Lamb (2003) investigated best practices for fostering transformative learning in the workplace. She studied three corporate workplace programs that indicated transformative learning was an outcome. Lamb uncovered eight conditions that fostered transformative learning, including "putting participants in unfamiliar and new situations, . . . maximizing the diversity mix of participants, . . . and repeated team opportunities balancing action and reflection" (pp. 266–267).

Mezirow (1995) lays out the "ideal conditions" of discourse for fostering transformative learning, which have found some support in recent studies. Taylor (2000b) reviewed twenty-three empirical studies that explored the practice of fostering transformative learning in the classroom. He found that the studies supported Mezirow's ideal conditions for fostering transformative learning, including providing a trusting environment for learning, promoting autonomy and collaboration, and utilizing activities that "encourage exploration of alternative personal perspectives and critical reflection" (p. 9). Other themes that arose from the literature included "fostering group ownership and individual agency, . . . promoting value-laden course content, . . . recognizing the interrelationship of critical reflection and affective learning and the need for time" (p. 10).

To summarize this section on some of the unresolved issues surrounding transformative learning, it is clear that questions of context, rationality and affect, the role of relationships in the transformative learning process, social action, and implementation are not as discrete as presented. To understand the biographical and sociocultural context of the individual learner is to consider other equally if not more powerful ways of knowing than pure rationality. It also means to consider what the appropriate action might be as a result of personal transformation; clearly such action may reside with the person or may be mobilized for some form of collective, social action. Ethical and professional considerations pervade the process, a process that most adult educators are little prepared to handle.

TRENDS IN THE TRANSFORMATIONAL LEARNING LITERATURE

Recently, scholars have looked more closely at the emotional and spiritual aspects of transformative learning (Amann, 2003; Davis, 2003; Lennox, 2005; Ludwig, 2005; Sawyer, 2003). For example, through in-depth interviews with twelve participants, Davis (2003) explored “the human experience of spirit and its relationship to the transformative learning process” (p. 130). Participants reported spiritual experiences, that is, “intrapersonal conversations with spirit” that were transformational (p. 132). This “dialogue with the soul” is unique to this form of transformative learning (p. 134). Sawyer (2003) detailed the role of cognition, emotion, and spirituality in cellular biologist Bruce Lipton’s transformation from holding a “materialist-reductionist-determinist worldview . . . to a quantum physics-based understanding of the universe, founded on energetics, holism and uncertainty” (p. 372). Sawyer concludes that Lipton’s experiences help us see the relationship between the “cognitive, emotional, spiritual, physical, and behavioral dimensions of experience and pave the way for more integrative perspectives on how human beings learn, adapt, and grow” (p. 373).

A second area of inquiry includes transformative learning and technology (Cranton & Dirkx, 2005; Cranton & Lin, 2005; Dirkx & Smith, 2005; Lewis, Adams, & Southern, 2005). For example, Cranton and Dirkx (2005) explore how their online dialogue with

each other led them toward a more inclusive perspective on transformative learning. Dirkx and Smith (2005) examined how people “worked through the problem of the relationship of the individual to the group, and the transformative processes and dynamics associated with this learning and development” (p. 114). Findings suggested that while individuals valued collaborative online learning, they also wanted to be evaluated individually. Participants noted that the online format did not lend itself as well to social connections as a face-to-face course would have; they did not feel as connected to each other as they would have in a face-to-face course. The authors concluded that the facilitating process in the online environment needs more development in order to facilitate transformative learning.

A third area of interest involves transformative learning in the workplace. Transformative learning in groups and organizations is a topic of interest (Baumgartner, 2001). For example, Yorks and Marsick (2000) utilized action learning in an organization. Action learning involves people working in teams toward a solution to a problem. Through dialogue and reflection, the teams solved the problem, and the organizational culture was transformed. Bierema (2005) examined the need for critical human resource development education. She maintained that much of the HRD literature is performance-based. Bierema encouraged HRD educators to teach critical HRD by “building awareness of the many dimensions and contradictions inherent in HRD” (p. 36) and by helping learners critique and analyze HRD readings and the language used in the text. These techniques will help transform the field and practice of human resource development.

SUMMARY

This chapter has presented a discussion of transformational learning theory. Probably more than any other approach, this theory has captured the attention of adult educators over the past fifteen years. Whether transformational learning will remain a centerpiece of adult learning theory is, of course, not predictable. It would seem, however, that the theoretical foundations presented by Taylor (2005a) are sufficiently robust to foster continued debate, discussion, and research.

In addition to reviewing seven “lenses” through which transformative learning can be seen, this chapter also offered a detailed discussion of three of its key components: the centrality of experience, the process of critical reflection, and transformative learning’s link to adult development. In the final section of the chapter, we explored unresolved issues surrounding transformational learning: the extent to which context has been neglected, the overreliance on rational forms of knowing at the expense of honoring feelings and other ways of knowing, the role of relationships in the transformative learning process, the nature of the relationship between individuals and social change, and questions regarding preparation for and implementation of this type of learning. In addition, we examined new trends in the transformative learning literature.

CHAPTER SEVEN

EXPERIENCE AND LEARNING

Aaron, a psychotherapist with twenty years of experience, attends a workshop concerning new treatments for depression. Aaron has treated many clients with this disorder and wants to remain abreast of new treatment modalities. The workshop instructor, Dr. K., asks participants to introduce themselves, explain their reasons for being at the workshop, and tell what they want to learn. Dr. K. indicates that he wants to know participants' experiences treating people with depression and provides activities and opportunities for workshop attendees to interact and learn from each other. Dr. K. tailors the workshop to the needs of the participants. On the workshop evaluation, Aaron writes, "The interaction with peers was the most beneficial part of the workshop. Dr. K.'s willingness to value our experiences made this a successful workshop." Aaron's colleague Gloria attends a different workshop on the same subject. Participants listen to lectures and briefly interact with the presenter in a question-and-answer session at the end of the workshop. Gloria's experiences are never solicited. Her workshop evaluation reads, "I could have read this information in a book. The workshop was a waste of time." The difference between the two workshops was Dr. K.'s recognition that learners have a vast array of experiences that can be used for learning.

We learn from experience in a variety of ways. As in the vignette, Aaron learned as the result of a direct embodied experience that engaged him mentally, physically, and emotionally in the moment. Other dimensions of experience include learning from a simulated experience or reliving a past experience. In addition, people may make sense of their experience through collaboration with others in a community (sometimes referred to as a community of practice)

or through introspective experiences such as meditation or dreaming (Fenwick, 2003).

In addition to there being different dimensions to experiential learning, there are different theoretical conceptualizations of this type of learning. Fenwick (2003) proposes five perspectives that “raise important questions about the nature of experience” (p. 38): (1) reflecting on concrete experience (constructivist theory of learning); (2) participating in a community of practice (situative theory of learning); (3) getting in touch with unconscious desires and fears (psychoanalytic theory of learning); (4) resisting dominant social norms of experience (critical cultural theories); and (5) exploring ecological relationships between cognition and environment (complexity theories applied to learning). The constructivist approach focuses on “reflection on experience” (Fenwick, 2003, p. 22). People have concrete experiences; they reflect on them and construct new knowledge as a result of these reflections. In this view, the focus is on the learners’ meaning-making processes as the result of an experience.

Unlike the constructivist paradigm, which emphasizes reflection on experience, the situative theory posits that knowing is intertwined with doing. Fenwick (2003) states, “Learning is rooted in the situation in which the person participates, not in the head of that person as intellectual concepts produced by reflection” (p. 25). Participation in a community of practice is the goal of this perspective. Fenwick continues, “The outcome of experiential learning as participation is that the *community* refines its practices, develops new ones, or discards and changes practices that are harmful or dysfunctional” (p. 27; italics in original).

The psychoanalytic perspective sees our unconscious as interfering with our conscious experiences. As a result, we must work through psychic conflicts to learn (Fenwick, 2003). This approach recognizes the complex role of desire in our learning. We may have conflicting desires in a learning situation that affect our learning experience (Fenwick, 2001). The fourth lens through which experiential learning is viewed, the critical cultural perspective, “seeks to transform existing social orders, by critically questioning and resisting dominant norms of experience” (Fenwick, 2003, p. 38). Last, the complexity theory says learning is produced through interaction “among consciousness, identity, action and

interaction, objects and structural dynamics of complex systems” (p. 37). In this view, the focus is not on the experience itself but on the “*relationships* binding them [the dynamics] together in complex systems” (Fenwick, 2003, p. 37; italics in original).

Numerous adult educators have underscored the fundamental role that experience plays in learning in adulthood. For example, Lindeman (1961, p. 6) states that “the resource of highest value in adult education is the learner’s experience.” Experience then becomes “the adult learner’s living textbook . . . already there waiting to be appropriated” (p. 7). Similarly, one of the primary assumptions underlying Knowles’s (1989, p. 58) work on andragogy is that “[a]dults come into an educational activity with both a greater volume and a different quality of experience from youths.” As adults live longer they accumulate both a greater volume and range of experiences. Knowles also observes that adults tend to define themselves by their experiences, describing themselves as parents, spouses, workers, volunteers, community activists, and so on. Kolb (1984) states, “Learning is a continuous process grounded in experience. Knowledge is continuously derived and tested out in the experiences of the learner” (p. 27). Kolb notes that these experiences can be personal (for example, the experience of happiness) or objective/environmental (for example, years of experience at a place of employment).

Although adult educators have accepted the connection between experience and learning, we are still learning about this connection and how to use it most effectively in both formal and nonformal learning situations. A number of questions puzzle us: What leads to learning from experience? Is the context in which the experience happens important? Are there ways we can design learning episodes to capture this experiential component best? In this chapter we explore responses to these and other important questions related to experience and learning. First, we briefly discuss John Dewey’s view of experience and learning. Next, we delineate several models of experiential learning. Third, we explore educators’ purposes, roles, and learning designs for experiential learning and delve into four methods associated with experiential learning: reflective practice, situated cognition, cognitive apprenticeships, and anchored instruction. Last, we detail criticisms and pedagogical debates in the experiential learning literature.

LEARNING FROM LIFE EXPERIENCES

John Dewey (1938), in his classic volume *Experience and Education*, made some of the most thoughtful observations about the connections between life experiences and learning. More specifically, Dewey postulated that “all genuine education comes about through experience” (p. 13). However, this “does not mean that all experiences are genuinely or equally educative” (p. 13). In fact, some experiences “mis-educate,” in that they actually “distort growth . . . narrow the field of further experiences . . . [and place people] in a groove or rut” (p. 13). Judging whether experiences actually produce learning can be difficult because “every experience is a moving force. Its value can be judged only on the ground of what it moves toward and into” (p. 31). For example, being diagnosed as HIV-positive may make some people so bitter and angry that any positive or growth-enhancing learning from that life change is almost impossible. In contrast, others become highly active inquirers and participants in maintaining their health as well as become involved in caring for those with full-blown AIDS.

For learning to happen through experience, Dewey (1938, p. 27) argued that the experience must exhibit the two major principles of continuity and interaction: “The principle of the continuity of experience means that every experience both takes up something from those which have gone before and modifies in some way the quality of those which come after.” In other words, experiences that provide learning are never just isolated events in time. Rather, learners must connect what they have learned from current experiences to those in the past as well as see possible future implications. For example, we can assume that people who are enjoying their retirement have been able to connect their past experiences to those of the present. Glennie, a retired salesperson, who may have always traveled vicariously through the Sunday paper’s travel section, has bought a small travel trailer and now spends six months of the year exploring new places.

The second principle, that of interaction, posits that “an experience is always what it is because of a transaction taking place between an individual and what, at the time, constitutes his environment” (Dewey, 1938, p. 41). Going back to the example of Glennie, she is learning about new places firsthand because she now has the time and means to visit them. Through her travels,

she has developed an interest in Native American culture and so seeks out new tribal groups to explore. As illustrated through Glennie's interest in Native American culture, the two principles of continuity and interaction are always interconnected and work together to provide the basis for experiential learning. What Glennie has learned in visiting one reservation "becomes an instrument of understanding" for attending the next tribal celebration with a different group of Native Americans. In translating Dewey's ideas into educational practice, what is key is how important the situation becomes in promoting learning. Developing a welcoming and comfortable atmosphere, providing the right materials, and linking these materials to learners' past and future experiences are critical in assisting adults to learn from their experiences.

While Dewey (1938) explored how people learned from life experiences, Kolb and Kolb (2005) went one step further. They examined the works of John Dewey, Jean Piaget, Carl Jung, and Carl Rogers, among others, and they compiled six general propositions of experiential learning theory. First, "learning is best conceived as a process, not in terms of outcomes" (p. 194). Second, "learning is relearning" (p. 194). Students' ideas must be drawn out, discussed, and refined. Next, learning requires a resolution of "dialectically opposed modes of adaptation to the world"; that is, learners must move between "opposing modes of reflection and action and feeling and thinking" (p. 194). Fourth, learning is holistic. Fifth, learning involves interactions between the learner and the environment. Last, learning is constructivist in nature. These propositions are evident in some of the models of experiential learning that are discussed in the next section.

MODELS OF EXPERIENTIAL LEARNING

Clearly, people learn from experience. However, scholars' perceptions of *how* people learn differ depending upon their theoretical orientation. Kolb's (1984) and Jarvis's (1987) models arise from the constructivist paradigm, while Boud and Walker (1991) and Usher, Bryant, and Johnson's (1997) models are situative in nature. Although the psychoanalytic, critical, and complexity approaches to experiential learning proposed by Fenwick (2003) do not have models per se, their theoretical underpinnings show us how people learn.

Kolb (1984), building primarily on the work of Dewey, Piaget, and Lewin, conceptualized that learning from experience requires four different kinds of abilities: (1) an openness and willingness to involve oneself in new experiences (concrete experience); (2) observational and reflective skills so these new experiences can be viewed from a variety of perspectives (reflective observation); (3) analytical abilities so integrative ideas and concepts can be created from their observations (abstract conceptualization); and (4) decision-making and problem-solving skills so these new ideas and concepts can be used in actual practice (active experimentation). Kolb pictured these capabilities as interrelated phases within a cyclical process, starting with the concrete experience and then moving through reflective observation and abstract conceptualization to active experimentation. Whatever action is taken in the final phase becomes another set of concrete experiences, which in turn can begin the experiential learning cycle again. (See Miettinen, 2000, for a critique of Kolb's conceptualization of Dewey's work.) For Kolb, the ultimate goal of this experiential learning process is to obtain "a fully integrated personality" (Malinen, 2000, p. 89).

A critique of Kolb's model is that the learner's context is not taken into consideration (Fenwick, 2003). Experience and reflection seem to exist in a vacuum. Kolb does not account for issues of power in his model. Jarvis's (1987, 2001) model addresses some of Kolb's (1984) shortcomings. Jarvis's model shows that the person brings his or her biography into the situation. Our construction of our experiences is affected by our "psychological history" (Jarvis, 2001, p. 52). There are two main types of learning from experiences. We may engage in *nonreflective learning*, which includes remembering an experience and repeating it or just doing what we are told to do. In contrast, we may engage in *reflective learning* when we "plan, monitor, and reflect upon our experiences" (p. 52). Jarvis includes both experimental learning (the result of a person experimenting on the environment) and reflective practice (thinking about and monitoring one's practice as it is happening) with what he conceives as the highest forms of learning. Jarvis notes that, ironically, often the more experiences we have, the less likely we are to learn from them. Instead, we tend to choose what is familiar and deny ourselves new learning (Jarvis, 2001; see also Chapter Four for Jarvis's model, 2006. For a critique

of Jarvis's model, see Le Cornu, 2005. Le Cornu critiques three dimensions of Jarvis's model including "its time-centered base, its weak process of internalization, and the notion of non-learning" (p. 166). She suggests several modifications of the model.)

Boud and Walker (1991) take a situated approach to experiential learning. These scholars augmented Kolb's model in two ways. First, they recognized that "specific contexts shape an individual's experience in different ways" (Fenwick, 2001, p. 11). Second, they were "interested in how differences among individuals—particularly past histories, learning strategies, and emotion influence the sort of learning developed through reflection on experience" (p. 11). Boud, Keogh, and Walker's (1985, 1996) original model consisted of three stages: (1) returning to and replaying the experience, (2) attending to the feelings that the experience provoked, and (3) reevaluating the experience. The authors state that people need to work through any negative feelings that have arisen and eventually set those aside while retaining and enhancing the positive feelings. If the negative feelings are not addressed, what commonly happens is that learning becomes blocked. In the reevaluation stage, our aim is to use this experience as a way of getting us ready for new experiences, and thus new learning. Four processes may contribute to this reevaluation stage: "association, that is, relating of new data to that which is already known; integration, which is seeking relationships among the data; validation to determine the authenticity of the ideas and feelings which have resulted; and appropriation, that is, making knowledge one's own" (Boud, Keogh, & Walker, 1996, pp. 45–46).

In addition to Boud, Keogh, and Walker (1996), other authors also recognize the importance of emotion in experiential learning (Beard & Wilson, 2002; Dirkx, 2001a, 2001b). Beard and Wilson (2002) note, "The affective domain can be seen to provide the underlying foundation for all learning" (p. 119). In order for people to interpret experiences positively and to learn effectively they need to have confidence in their abilities, good self-esteem, support from others, and trust in others. In contrast, distorted learning can occur if a person is told he or she is not talented, or distressed learning can occur when we are forced to learn something (Beard & Wilson, 2002).

Beard and Wilson (2002) discuss several methods for working with emotions in the classroom. They suggest that fear can block

learning and can manifest itself through perfectionism, anger, and aggression. By reflecting and mapping our fears via journaling or writing down “inner rules” and reflecting on them, we can address our fears (p. 119). The authors suggest writing down the rule, then writing down what this rule *really* means, and then revising the rule. For example, perhaps a person’s inner rule is: “I must never cry in public.” This rule may really mean that the person would be embarrassed if he or she cried in public. The revised rule may read: “I would rather not cry in public, but if I do, it wouldn’t be the worst thing in the world. I could handle it.” This new rule takes some of the fear away from crying in public. Techniques for creating positive emotion in the classroom include using various aromas to help the learning process. For example, they suggest that the scent of lemon increases mental clarity and they have specific instructions for dealing with anger, promoting calm, disputing the internal critic in all of us, and being assertive.

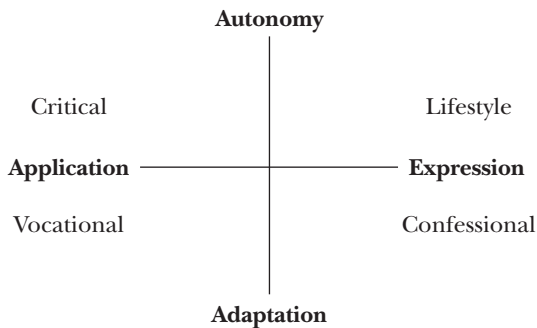
Usher, Bryant, and Johnston (1997) approach the situated or contextual nature of experience in a very different way from most other scholars who discuss experience as foundational to learning. Although they acknowledge that Jarvis (1987) and Boud and Walker (1991), among others, use a contextual or sociological frame for learning from experience, they still view the work of these authors as centered on an individualized self who uses experiences as the material to be acted upon by the mind through observations and reflection. Grounded in the assumption that “the self is a culturally and historically variable category,” Usher, Bryant, and Johnston (1997, p. 102) view experience instead as a text to be used in learning—as “something to be ‘read’ or interpreted, possibly with great effort, and certainly with no final, definitive meaning” (p. 104). These authors assert that “the meaning of experience is never permanently fixed; thus, the text of experience is always open to reinterpretation” (p. 105). Usher, Bryant, and Johnston have proposed a “map” of experiential learning within the framework of postmodern thought. With this model, “learning does not simplistically derive from experience; rather, experience and learning are mutually positioned in an interactive dynamic” (p. 107). In posing this model, these authors view the use of experience as part of the learning process as “inherently neither emancipatory nor oppressive, neither domesticating nor transformative.

Rather . . . it is perhaps most usefully seen as having a potential for emancipation and oppression, domestication and transformation, where at any one time and according to context both tendencies can be present and in conflict with one another” (p. 105).

Usher, Bryant, and Johnston’s model, shown in Figure 7.1, is structured around two intersecting continua—autonomy-adaptation (empowerment of individuals to act independently to being able to adapt one’s actions in relation to the context) and expression-application (being able to apply what one knows in real-world contexts)—and four quadrants, referred to as lifestyle, vocational, confessional, and critical. Learning from experience happens both between and within the quadrants, which represent different types of learning venues.

Lifestyle practices center on the achievement of autonomy through individuality and self-expression, particularly in taste and style (for example, ways of speaking, clothes, leisure pursuits, vacations). Experience is used as a means of defining a lifestyle that is actively sought by people but also influenced by socially and culturally defined norms.

FIGURE 7.1. MAP OF EXPERIENTIAL LEARNING IN THE SOCIAL PRACTICES OF MODERNITY.



Source: Usher, Bryant, & Johnston, 1997, p. 106.

Vocational practices are conveyed through the market. Learners need to be highly motivated in the direction of a personal change linked to the needs of the socioeconomic environment. Vocationalism then is designed to produce flexible competencies and a predisposition to change. As a result of learning adaptive skills through experiential means, learners become more empowered to respond to their changing vocational environments.

In *confessional practices* our private, self-regulating capacities become public. In other words, realizing oneself, finding out the truth about oneself, and accepting responsibility for oneself become both personally desirable and economically functional. The emphasis in this process is on self-improvement, self-development, and regulation. Experience is used as enabling access to knowledge and the innermost truths about self, which in turn creates productive and empowered people in a number of roles (for example, as active citizen, ardent consumer, enthusiastic employee).

Finally, in Usher, Bryant, and Johnston's (1997) fourth quadrant, *critical practices*, there is a recognition that experience is never a basic given. The focus is on changing particular contexts rather than adapting to them, and therefore working with learners becomes a political practice. Experiential learning becomes a strategy designed to find and exercise one's voice in the service of self and social empowerment and transformation and is not regarded as something that leads to knowledge, but rather as knowledge itself.

Although no particular model exists to represent the psychoanalytic perspective that focuses on the issue of desire and the unconscious in experiential learning, Jacques Lacan's work exemplifies this approach. Lacan's idea that a person's "identity is split between conscious and unconscious desires" may help explain why people are conflicted in some experiential learning situations (Fenwick, 2001, p. 30).

Experiential learning from the critical cultural perspective looks at "power as a core issue in experience" (Fenwick, 2001, p. 39). Emancipatory learning exemplifies this perspective on experiential learning. People critically examine how power works in society, and they rise from their oppression and take action that makes a difference in their lives and others' lives. This perspective concentrates on the community, not the individual. The community recognizes that it needs to act, takes collective action, and understands that

learning arises from conflict. For example, a group of HIV-positive individuals realize that many HIV-positive individuals could die without access to affordable medication. They unite to lobby the state for free or low-cost medications for HIV/AIDS. They learn how to lobby their legislature and as a result the state passes a bill that helps supply low-cost HIV/AIDS medications to state residents.

Clearly the role of experience in learning is highly complex. Perhaps equally complex are the roles of the adult educator in the experiential learning process. In the next section we explore educators' roles and purposes in the classroom.

EDUCATORS' ROLES AND PURPOSES

As we have seen, experiential learning models focus on different aspects of the process, depending on their theoretical orientation. Likewise, educators' purposes, roles, and learning designs for experiential learning differ depending on the lens through which they view experiential learning.

Those who see experiential learning through a constructivist lens want to foster critical reflection on experience and challenge learners' assumptions while validating personally constructed knowledge (Fenwick, 2003). Educators serve as facilitators of reflection and encourage learners to discuss and reflect on concrete experiences in a trusting, open environment. For example, they challenge students' assumptions by having them reflect on specific work situations. A second role the teacher plays is that of catalyst. Instructors involve students in role-plays or problem-based learning exercises where learners must solve a dilemma. This activity reveals learners' assumptions and creates ample opportunities for reflection. Third, the adult educator may become the student's coach or mentor. Coaching is generally associated with "specific skill learning" while mentors serve as life guides (Fenwick, 2003, p. 117). Last, the teacher becomes the assessor of the learners' prior experiential learning. Typical assessment tools that emphasize reflection are portfolios, learners' analyses of their life or work experience, and interviews in which learners explain their "learning outcomes of their past experience" (p. 118).

The educator's role from the situative framework is to get learners involved in a community of practice (Fenwick, 2003). The

educator arranges real situations in which the learners participate. Fenwick states, “The educator’s role . . . is in providing just-in-time assistance to enable confident action in situations where confident competence is lacking” (p. 121). Fenwick adds that the instructor may also help those who become stuck or immobilized in situations to move ahead. The situative orientation can be found in service-learning activities. These experiences “are often community-based volunteer work with different non-profit organizations . . . and are typically organized for a short-term period of a few weeks” (p. 149). Cognitive apprenticeships (discussed later in the chapter) exemplify the type of experiential learning promoted by this theoretical orientation.

Facilitators who view experiential learning through the psychoanalytic lens want to facilitate analysis of learners’ psychic conflicts that may impede learning (Fenwick, 2003). Educators can do this by encouraging students to pay attention to their dreams, behavior, and odd images that may arise in their minds. Activities that may facilitate these goals include finding materials such as images, film clips, or texts that elicit emotion. These emotions may lead us to uncover aspects of our unconscious that block our learning (Dirkx, 2001a, 2001b). Students are encouraged to respond as educators listen and compassionately help them examine resistance and bring to light unconscious feelings associated with the material. Another technique used to help learners analyze their desires and anxieties in their workplace is to ask employees a series of questions about their most pleasant, frustrating, or anxious moments at work. In addition, Dirkx (2001a) suggests having learners “name an emotion or feeling they experienced during an assignment or classroom meeting” (p. 16). Next, they should describe the emotion in their journal and also write anything they associate with the emotion. They may also want to draw or paint any images that come to mind.

For those educators looking at experiential learning through the critical cultural lens, the educator’s purpose includes helping learners see the influence of power relationships on their lives. Teachers support and encourage resistance against oppression and help learners see beyond the immediate struggle to solutions (Fenwick, 2003). Educators engage in what Freire (1970) called *problem-posing*. The issues of concern come from the people, and

educators help “identify general causes and outcomes of these issues” (Fenwick, 2003, p. 162). Instructors encourage people to critically analyze their situations and work toward a solution. For example, workers in a factory may be concerned about the working conditions and wages. The teachers ask questions to allow the workers to see they are oppressed and help workers find an empowering solution to their problems. The learners then may, for example, engage in social action through forming a union or fighting as a group for better working conditions.

Individuals who view experiential learning through the complexity theory lens do not instigate change through organization but “seek to open spaces for the system to experiment with change itself” (Fenwick, 2003, p. 132). The emphasis is on seeking change within complex systems. One of the teacher’s roles in this environment is to be an interpreter in order to help students understand the changes in the complex systems in which they find themselves. In addition, instructors “attune the learner and the learning community to the disturbances: drawing attention to the new possibilities created, while helping to divert patterns that may start to create unsafe spaces or power inequities” (p. 134). The teacher helps learners explore changes by having them dialogue about issues in order to develop insights. Unlike the educators from the critical cultural perspective, these teachers are not expected to help the community “link its experiences to larger forces perpetuating exploitation and inequity” (p. 169).

In sum, educators’ roles and purposes differ according to their theoretical orientation. Constructivists foster critical reflection on students’ assumptions and assess learners’ prior experiential learning. Teachers from the situative framework engage students in a community of practice through service activities and cognitive apprenticeships. Those from the psychoanalytic framework want to help learners bring to light unconscious conflicts that may impede learning; they can assist learners by providing activities that elicit emotion and listening to learners. Instructors who take a critical cultural approach help learners see the influence of power in their lives; they encourage resistance against oppression and help learners find solutions. Last, those utilizing the complexity theory help students understand change within complex systems and work toward solutions.

METHODS ASSOCIATED WITH REFLECTIVE AND SITUATIVE PARADIGMS

In the previous section, we explored how educators' purposes, roles, and learning designs for experiential learning differ depending on their theoretical orientation. Since much of the experiential learning literature focuses on procedures used by practitioners from the constructivist and situative paradigms, we choose to investigate four methods in detail. Namely, we will discuss reflective practice, situated cognition, cognitive apprenticeships, and anchored instruction.

REFLECTIVE PRACTICE

Reflective practice allows one to make judgments in complex and murky situations—judgments based on experience and prior knowledge. Although reflective practice is most often associated with professional practice, this process can be applied to other types of learning situations, both formal and informal. Practice knowledge, the cornerstone of reflective practice, consists of much more than abstract theoretical or technical knowledge (Cervero, 1988; Schön, 1983). The knowledge we gain through experience and the way we practice our craft are just as important. The initiation of reflective practice involves using data in some form, which almost always includes our past and current experiences. Our tacit knowledge about practice—that is, knowledge that we use every day, almost without thinking about it—is an important part of these data.

Researchers define reflective practice in a number of ways. Perhaps one of the most inclusive, useful definitions comes from scholars interested in using reflective practice to improve schools. They write: “Reflective practice is a deliberate pause to assume an open perspective, to allow for higher-level thinking processes. Practitioners use these processes for examining beliefs, goals, and practices, to gain new or deeper understandings that lead to actions that improve learning for students. Actions may involve changes in behavior, skills, attitudes, or perspectives within an individual, partner, small group, or school” (York-Barr, Sommers, Ghere, & Montie, 2001, p. 6.).

The authors focus on several elements of reflective practice. First, reflective practice requires a deliberate slowing down to

consider multiple perspectives. Second, maintaining an open perspective is also necessary. The purpose of reflective practice in a group is not in needing to be right or in winning but in openness to a variety of perspectives, for it is only in openness that new understandings can occur (York-Barr et al., 2001). Third, reflective practice requires “active and conscious *processing of thoughts*,” which may include analysis, synthesis, and metacognition (thinking about thinking) in order to achieve a “broader context for understanding” (p. 7; italics in original). Fourth, beliefs, goals, and practices must be examined. Beliefs are formed from experiences and influence behavior, while goals include “desired aims, outcomes, or intentions,” which may be general or specific (p. 7). Practices include one’s “dispositions, behaviors, and skills in specific areas of performance, such as designing instruction and assessment strategies, interacting with students, developing relationships with families” (pp. 7–8). The outcome of reflection is to gain deeper insights that lead to action.

Although reflective practice theoretically should result in the most thoughtful and useful solutions to practice problems, this may not be the case depending on the beliefs educators have about this practice. Wellington and Austin (1996) have argued that depending on their beliefs and values, practitioners have very different orientations toward reflective practice. These differing orientations influence how reflective practice is used, and therefore the possible outcomes of this practice. For example, do those involved believe that education should be a liberating or “domesticating” form of practice? And what is more important to them: system or human concerns? Wellington and Austin have depicted a way of thinking about reflective practice that acknowledges how it could be filtered through the belief and value systems of practitioners, which in their view results in five orientations toward reflective practice: the immediate, the technical, the deliberative, the dialectic, and the transpersonal.

Practitioners who use the immediate orientation, focusing basically on survival, rarely use any form of reflective practice. Those who view practice as more of a domesticating activity—that is, who see societal needs as taking precedence over individual needs—lean toward the technical and deliberative orientations. The technical mode “uses reflection as an instrument to direct practice”

(Wellington & Austin, 1996, p. 308), usually within predetermined guidelines and standards. The deliberative orientation “places emphasis on the discovery, assignment and assessment of personal meaning within an educational setting” (p. 310). Those operating from this orientation are typically humanistic, stress communication, and believe that the attitudes and values of learners are important. Although people whose orientation is deliberative sometimes are uncomfortable with the organization in which they work, they nevertheless tend to work within that system. And finally, those who view educational practice as liberating primarily have the dialectic and transpersonal orientations. Practitioners whose orientation toward reflective practice is dialectical “reject the limitations of authorized organizational structures and parameters and are uncomfortable working within them. . . . They tend to . . . focus on political and social issues . . . [and] advocate political awareness and activism” (p. 310). In contrast, the transpersonal orientation “centers on universal personal liberation. . . . They question educational ends, content and means from a personal, inner perspective” (p. 311). This orientation, applied to groups, is the basis for what is called *organized reflection*. This is a type of reflection that occurs “within and as a collaborative entity,” where groups critically question the status quo (Welsh & Dehler, 2004, p. 20). It examines power relationships in groups and emancipation is its aim.

Wellington and Austin (1996) cast these orientations not as competing views of what reflective practice should encompass but as different ways of going about reflective practice. They believe that practitioners need to recognize their own predominant modes, as well as respect the preferred orientations of others. “When practitioners become aware of their own preferences and prejudices across models, they can begin to reflect upon a wider range of questions and develop a wider range of responses” (p. 314). No matter what orientation people have, two basic processes have been identified as central to reflective practice: reflection-on-action and reflection-in-action.

Reflection-on-Action

Reflection-on-action involves thinking through a situation after it has happened. This mode of reflection is presented by most authors as primarily an analytical exercise, which results in new perspectives

on experiences, changes in behavior, and commitments to action. In reflection-on-action, we consciously return to the experiences we have had, reevaluate these experiences, decide what we could do differently, and then try out whatever we decided to do differently. Different authors have offered various models of carrying out this reflective cycle. Kolb's (1984) model, or adaptations of his model, is the one most often used in practice. The cyclical nature of the model allows for a process of continued change and growth. Boud, Keogh, and Walker (1985, 1996) have added to Kolb's work on reflection-on-action by stressing that we must attend to the feelings created by our experiences in order for the reflective process to be truly effective. In addition, they have added more in-depth descriptions of four cognitive processes (association, integration, validation, and appropriation) that can contribute to the reflective process.

Osterman and Kottkamp (2004), borrowing from the work of Argyris and Schön (1978), set reflective practice within the framework of espoused theories (beliefs) and theories-in-use (actions). Within this framework, they view the reflective practice cycle as helping practitioners become aware of, and act on, the discrepancies between their beliefs (their espoused theories) and what they actually do. In contrasting espoused theories with action, people may ask themselves, "Was our action consistent with our intent? Did we act as we wanted to act, in a way consistent with our values?" (Osterman & Kottkamp, 2004, p. 34). For example, a teacher may espouse the theory that she is responsible for helping students who are disruptive in class. She knows that their anger is a cry for help. However, instead of directly addressing the disruptive students, she glares at them. Osterman and Kottkamp (2004, p. 35) state, "[The teacher] consciously knows that student misbehavior is frequently a cry for help (espoused theory) but her gut reaction is an angry one. The response may reflect a deeper assumption (theory-in-use)"—for example, that angry students are intentionally disrespectful students.

Critical examination of discrepancies between espoused theories and theories-in-use often begin with a feeling that something could be improved upon in one's practice (Osterman & Kottkamp, 2004). In the process of improving their practice, people think about their espoused beliefs, examine what they actually do and the results of their actions, and contrast their espoused beliefs with their practice to unearth their theories-in-use.

Descriptions are plentiful on how to put reflection-on-action into practice (for example, Osterman & Kottkamp, 2004; York-Barr et al., 2001). Some of the most popular methods used in education and other fields are portfolio development, journal writing, mapping (a form of journal writing that can be more fluid and visual than a journal), and critical reflection. Key to all of these methods is the framing of critical observations and questions as part of the reflection-on-action process. For example, York-Barr et al. (2001, p. 47), delineate a four-step process that can guide reflection. First, individuals must pick an event and ask themselves what happened. Second, they need to analyze and interpret the event by asking themselves questions such as, “Why did things happen this way? Why did I act the way I did? How did the context affect the experience? Did past experiences affect the way I reacted?” Third, people have to make sense of the event by asking themselves, “What have I learned from this event? How can I improve? How might this change my future thinking, behaving, interactions?” Last, people must think about implications for action by querying, “What am I going to remember to think about the next time this situation comes up? How could I set up conditions to increase the likelihood of productive interactions and learning?”

Reflection-in-Action

In contrast, reflection-in-action reshapes “what we are doing while we are doing it” (Schön, 1987, p. 26). “Thinking on your feet” and “keeping your wits about you” are commonly used phrases that describe reflection-in-action. Schön (1983, 1987, 1991, 1996) is perhaps the best-known author who has challenged professionals to incorporate this form of reflective process as an integral part of professional development. In Schön’s view, reflection-in-action is triggered by surprise. What we have been thinking and doing all along as professionals no longer works. “We think critically about the thinking that got us into this fix or this opportunity; and we may, in the process, restructure strategies of action, understanding of phenomena, or ways of framing problems. . . . Reflection gives rise to on-the-spot experiment” (Schön, 1987, p. 28).

For example, in running an institute for professionals, the institute staff sense that the sessions on a particular day have not gone well. Over coffee, they ask for feedback from participants, and the

general observation is that they are finding the material too esoteric and are tired of being “talked at.” The next presenter, who is listening to these conversations, has also planned to lecture. Although Ron knows he is an excellent lecturer, he decides that unless he changes the way he presents the material, he will totally lose the audience. Knowing that many of the people in the audience have experience related to his content area, he asks for volunteers to join him in a panel discussion on the topic, explaining that he is changing his format to respond to their needs as learners. While Ron works with the panel members on their roles, he asks the rest of the participants to generate questions they would like to ask panel members. Although he has never used this format in quite this way before, he believes it might work and is willing to take a chance to recapture the interest of the participants. In this way, Ron is using his expertise as an instructor to change on the spot what he is doing as a presenter as he goes along. Schön goes on to observe that competent and experienced professionals use reflection-in-action as a regular part of their practice, although they may not verbalize they are doing this. This form of reflective practice allows professionals to go beyond the routine application of rules, facts, and procedures and gives them the freedom to practice their craft more as professional artistry where they create new ways of thinking and acting about problems of practice.

There have been both validation of and criticisms to Schön’s model of reflection-in-action. Ferry and Ross-Gordon (1998), for example, in exploring the links between experience and practice, support Schön’s theory that “reflection-in-action goes beyond ‘stable rules’ by devising new methods of reasoning” (p. 107) and fostering new ways of framing and responding to problems. Educators who were reflective in their practice used both reflection-on-action and reflection-in-action to build their expertise. They did not find, however, that the amount of experience a person possessed necessarily had anything to do with that person using reflective practice.

In contrast, Usher, Bryant, and Johnston (1997) assert that although Schön adequately describes the reflection-in-action process, in his own work he did not use “his own practice as a producer of text . . . [and they view that as] a problem of the absence of reflexivity in his own work” (p. 143). By this, Usher, Bryant, and

Johnston meant that Schön did not question how the context of his work, being academic in nature, could get in the way of the message. Overall, Usher, Bryant, and Johnston believe that despite Schön's clear message that reflection-in-action should be implemented in a critical manner, the way in which he conveyed that message makes it easy for practitioners to co-opt the process into a technical and rationalistic dialogue.

SITUATED COGNITION

Although reflective practice and situated cognition both involve learning from real-world experiences, how these experiences are interpreted is often vastly different. In most models of reflective practice, learning from experience is still viewed as something that goes on in someone's head. Individuals, whether by themselves or in groups, think through problems presented to them and then act on those problems by changing their practice on the spot or as they encounter similar situations at a later date. Experience provides the catalyst for learning in reflective practice, but most often it is seen as separate from the learning process itself.

In situated cognition, one cannot separate the learning process from the situation in which the learning is presented. Knowledge is not received and later transferred to another situation "but part of the very process of *participation* in the immediate situation" (Fenwick, 2003, p. 25; italics in the original). The proponents of the situated view of learning argue that learning for everyday living (which includes our practice as professionals) happens only when people interact with the community (including its history and cultural values and assumptions), "the tools at hand" (such as technology, language, and images), and the activity at hand (Fenwick, 2003, p. 25). In other words, the physical and social experiences and situations in which learners find themselves and the tools they use in that experience are integral to the entire learning process.

Machles (2004), through his study of the situated learning of occupational safety by biotechnical employees, provides us with an example of how situated cognition translates into practice. In his study, participants interacted with each other in the workplace to learn occupational safety on the job. Steve, a study participant,

stated, “I think most everything I have learned, especially about safety . . . has been learned from other people. . . . It was learned from my co-workers and stuff. There was never a class” (p. 145). The tools for learning can be physical tools or concepts learned at the workplace. Machles (2004) observed that workers’ tools included physical equipment, such as the eye wash and shower used to treat chemical accidents, as well as concepts such as “don’t hesitate, respond quickly” (p. 154). A study respondent, James, spoke about how he used both the physical tools of the eye wash and shower and the concept of “respond quickly” to save a colleague’s sight after a chemical accident. James stated, “Another guy got something in his eye. . . . I got him in the safety shower. I kept him there 20 minutes. . . . It’s kind of an automatic reflex. Grab and go” (p. 113).

In viewing learning from a situated perspective, two other ideas are key. The first is that the emphasis in the learning process changes from being concerned about memory and how we process information internally to perception and the settings in which those perceptions are made (Hansman, 2001). In essence, according to Clancey (1997), “[E]very human thought and action is adapted to the environment, that is, situated, because what people perceive, and how they conceive of their activity, and what they physically do develop together” (pp. 1–2). According to proponents of the situative perspective, this situated nature of cognition makes the transfer process from using learning gained from one situation to the next more problematic, which has led some theorists to question whether knowledge, especially practical knowledge, can really transfer across situations (Anderson, Reder, & Simon, 1996). However, constructivists maintain that the transfer of learning from one situation to another is possible (Fenwick, 2003). Scholars who study organizational learning indicate that knowledge transfer of tacit knowledge (knowledge evident in our actions but that may not be explicitly articulated), occurs through socialization with others (Fenwick, 2003). They also recognize that explicit knowledge can be transferred.

Second, making the assumption that learning and knowing are primarily cultural phenomena moves the study of cognition (and therefore, learning from experience) into the social and political realm and raises the issue of knowledge and power as a legitimate

part of the study of cognition (Fenwick, 2003; Kirshner & Whitson, 1997). Although this issue of power and knowledge is fundamental to the theory of situated cognition, it has often been downplayed or overlooked in favor of how to apply the concept practically (Fenwick, 2003). In acknowledging cognition and learning from experience as a cultural phenomenon, the perspectives of critical, feminist, and postmodern thinkers become crucial. Among the major results of thinking about cognition from a cultural frame are the critiques that have been fostered about traditional educational theory and practice (Brown, Collins, & Duguid, 1989; Lave, 1988). Foremost among these critiques is a challenge to the fundamental notion that learning is something that occurs within the individual. Rather, learning encompasses the interaction of learners and the social environments in which they function.

In using experience in the framework of situated cognition, the emphasis is on “providing enabling experiences in authentic versus decontextualized contexts” (Choi & Hannafin, 1995, p. 53). As Greeno (1997) has thoughtfully observed, “When we recognize that all learning involves socially organized activity, the question is not whether to give instruction in a ‘complex, social environment’ but what kinds of complex, social activities to arrange, for which aspects of participation, and in what sequence to use them” (p. 10). From this perspective education and training by just abstraction is of little use. Rather, “to meet the test of ‘authenticity,’ situations must at least have some of the important attributes of real-life problem solving, including ill-structured complex goals, an opportunity for the detection of relevant versus irrelevant information, active/generative engagement in finding and defining problems as well as in solving them, involvement in the student’s beliefs and values, and an opportunity to engage in collaborative interpersonal activities” (Young, 1993, p. 45). Cognitive apprenticeships and anchored instruction are two ways in which the concept of authentic experiences has been put into practice by educators.

COGNITIVE APPRENTICESHIPS

Cognitive apprenticeships have received much attention in the literature. “Cognitive apprenticeship methods try to enculturate [learners] into authentic practices through activity and social interaction

in a way similar to that evident—and evidently successful—in craft apprenticeship” (Brown, Collins, & Duguid, 1989, p. 37). The cognitive nature of the apprenticeship places emphasis on teaching learners different ways of thinking about whatever they are learning, as well as any skills associated with the apprenticeship. Fenwick (2003) adds, “Cognitive apprenticeship moves away from the purely situative view of learning, treating learners as independent reflective constructors of knowledge” (p. 152).

Based on a study of different forms of cognitive apprenticeship used in several professions, such as engineering, medicine, and educational administration, Brandt, Farmer, and Buckmaster (1993) have created a five-phase model (see Table 7.1). The first phase, modeling, is where the model demonstrates the activity as he or she verbally describes the activity. Phase 2, approximating, consists of the learner doing the activity with the teacher providing support (scaffolding) and coaching the learner. In Phase 3, the coaching and scaffolding are gradually removed and the learner works in less defined situations individually and in groups. The student is self-directed in Phase 4 and assistance from the instructor is only provided when requested. In Phase 5, generalizing, the generalizability of the skill is discussed and students are encouraged to try the skill in new situations.

Several studies indicate that the cognitive apprenticeship model produces better results in the classroom than traditional instruction (Hockly, 2000; Mayer, Moutone, & Prothero, 2002; Snyder, 2000; Walker, 2003). Meyer, Mautone, and Prothero required college students to solve geology problems using a computer game. Those who were given instructional support and scaffolding outperformed those who received basic instruction. Cope, Cuthbertson, and Stoddart (2000) surveyed nurses who had completed their practice placements in nursing. Results demonstrated the benefits of scaffolding and mentoring for nurses in a practicum setting.

ANCHORED INSTRUCTION

The purpose of anchored instruction is to create situations in which learners, through sustained experiences, can grapple with the problems and opportunities that experts encounter (Cognition and Technology Group at Vanderbilt, 1990, 2000). To do this, the instructional

TABLE 7.1. COGNITIVE APPRENTICESHIP PHASES.

	<i>Role of Model</i>	<i>Role of Learner</i>	<i>Key Concepts</i>
Phase 1: Modeling	Model real-life activity that learner wants to perform satisfactorily. Model states aloud the essence of the activity. He or she can include tricks of the trade.	Observe performance of total activity, not merely the individual steps. Develop a mental model of what the real thing looks like.	Articulation, domain-specific heuristics
Phase 2: Approximating	Provide coaching to the learner. Provide support when needed.	Approximate doing the real thing and articulate its essence. Reflect on the model's performance. Use self-monitoring and self-correction.	Scaffolding, coaching
Phase 3: Fading	Decrease coaching and scaffolding.	Continue to approximate the real thing. Operate in increasingly complex, risky, or ill-defined situations. Work individually or in groups.	Fading
Phase 4: Self-directed learning	Provide assistance only when requested.	Practice doing the real thing alone. Do so within specified limits acceptable to profession and society.	Self-directed learning
Phase 5: Generalizing	Discuss the generalizability of what has been learned.	Discuss the generalizability of what has been learned.	Generalizability

Source: Brandt, Farmer, & Buckmaster, 1993, p. 71.

process is anchored in what the Cognition and Technology Group calls *macrocontexts*, which are complex problems explored over extended periods of time and through multiple lenses (Cognition and Technology Group at Vanderbilt, 2000). These macrocontexts, which in essence become the tools of learning, can take many forms. For example, instructors might provide videodisks containing the problems to be explored or they might ask learners to prepare problem-based case studies. The goal of anchored instruction is to have learners “experience what it is like to grow from novices who have only rudimentary knowledge . . . to relatively sophisticated experts who have explored an environment from multiple points of view” (Cognition and Technology Group at Vanderbilt, 1990, p. 9).

AN APPRAISAL OF EXPERIENTIAL LEARNING

Differing philosophical viewpoints provide several critiques of experiential learning. First, scholars debate whether people consist of one unified self or if they are a collection of multiple selves (Fenwick, 2003). The constructivist approach maintains that “[t]he learner is assumed to be a stable fixed identity, with transparent access to experience through rational reflection” (p. 77). However, the psychoanalytic perspective on experiential learning counters that the self is split between “conscious and unconscious desires” (Fenwick, 2003, p. 77). The conflict between these desires can affect our learning and reflection processes.

Those professing the psychoanalytic viewpoint also take issue with the prominence of cognitive reflection in experiential learning. They maintain that the focus on cognitive reflection in the experiential learning literature is limited (Fenwick, 2003). In the constructivist view of learning, the impact of desire and resistance is not taken into account in the learning process.

A third critique of experiential learning involves the separation of the learner from the context of the experience. The learner’s context includes “the social relations and political cultural dimensions of the community, . . . the nature of the task, . . . the vocabulary and cultural beliefs through which the individual makes meaning of the whole situation, and the historical, temporal, and spatial location of the situation” (Fenwick, 2003, p. 79). Kolb’s (1984) model, in particular, is criticized for its inattention to context, and although Boud and Walker (1991) mention context, it is presented as a “static

space” (p. 79) that the learner experiences. However, notes Fenwick (2003, p. 80), “Social relations of power exercised through language or cultural practices are not theorized as part of knowledge construction” in Boud and Walker’s (1991) model.

Last, say critics, experiential learning needs to be bounded (Fenwick, 2003). Experiential learning can occur in a variety of contexts. How does experiential learning differ from experiences in classrooms such as class discussions and reflection? If all of life’s activities are considered experiential learning, what does this mean for the educator?

In addition to critiques of experiential learning, there are debates about the content, design, and role of the educator in experiential learning. For example, critics maintain that educators’ management of learners’ experiential learning interferes with the basic tenet that experiential learning should liberate and not oppress learners. Scholars argue that management of experiential learning in the workplace may worsen social problems. In the workplace, “workers’ experiential learning becomes human capital with great potential economic benefits for the organization” with no attention given to the workers’ dignity and freedom (Fenwick, 2003, p. 90).

A second, related criticism is that the assessment of learning by organizations “becomes a tool to control lives” (Fenwick, 2003, p. 91). In North America, institutions of higher learning assess learners’ experiences to “help adults gain credits in postsecondary education” (p. 91). However, the interests and biases of the institution color what *counts* as experience worthy of credit. Fenwick states, “People’s knowing is colonized by being squeezed into . . . categories and identities” (p. 92).

Some critics counter that although interference in adult learners’ experiential learning can be oppressive, it is necessary so that bad practices do not continue. Fenwick (2003) states, “Unsupervised people may make do, finding ways to participate that actually reinforce negative practices that a community is trying to eliminate” (p. 93). Educators can intervene and help create positive practices and reaffirm the adult learner.

SUMMARY

The experiences of adults have always been viewed as a critical component of learning in adulthood. Various theoretical perspectives

emphasize different aspects of experiential learning. The constructivist perspective highlights reflecting on the concrete experience and making meaning of it. The situative approach focuses on getting learners involved in a community of practice because in this view learning is intertwined with doing. The psychoanalytic lens emphasizes the learner's need to get in touch with his or her unconscious desires and fears. The critical approach focuses on the need to resist dominant social norms. Last, the complexity theory of experiential learning emphasizes the relationships among experiences.

Although exploring the role of experience in learning has a long history, we continue to discover more about the connections between learning and experience and how to assist adults in formal and nonformal settings to capture the richness of learning from experience. Discussed in this chapter were the theories of Dewey (1938), Kolb (1984), Jarvis (1987), Boud and Walker (1991), and Usher, Bryant, and Johnston (1997), which offer varying conceptual views of the process of learning from experience. Central to all of these writers is the notion that learning from experience involves adults' connecting what they have learned from current experiences to those in the past as well to possible future situations.

We investigated common methods employed in experiential learning, including reflective practice, situated cognition, cognitive apprenticeships, and anchored instruction. Reflective practice, one of the main ways in which educators have structured learning from experience, focuses on helping learners make judgments based on experience related to primarily complex and murky problems. Situated cognition acknowledges the importance of the social and cultural context of learning. In other words, the physical and social experiences and situations in which learners find themselves and the tools they use are integral to the learning process. The importance of the authenticity of the experience in which adults learn is stressed in the situated framework. Two ways educators have put this concept of authentic experiences into formal practice are cognitive apprenticeships and anchored instruction.

Last, there are several criticisms of experiential learning. For example, some critics assert that the focus on cognitive reflection in the experiential learning literature is a limited perspective and

that the learner is separated from the context of the experience in experiential learning (Fenwick, 2003). Finally, current debates in the experiential learning literature center on the role of the educator in the process. Critics assert that the educator's control over the experiential learning situation may be viewed as oppressive.

PART THREE

NEWER APPROACHES TO ADULT LEARNING

In the more than seven years between the last edition of *Learning in Adulthood* and this third edition, there has been a burgeoning of interest both in other ways of knowing and learning, and in applying the tools of critique and postmodernism to our more traditional understandings of adult learning. Thus in this Part Three we have added two totally new chapters. The first attempts to capture the noncognitive dimensions of learning, learning that is embodied, spiritual, and narrative or “storied.” The second new chapter takes us to other cultures and systems of knowing and learning, for insights with which we can augment our Western orientation to learning. Although certainly noncognitive and non-Western understandings of learning are not at all “new” in the world, their emergence in our adult learning literature and practice is relatively new. The third chapter in Part Three updates critical, feminist, and postmodern perspectives on adult learning.

Most of our knowledge of adult learning is centered on the mind—that is, cognitive processes related to acquiring, storing, and making meaning of new information. But the whole person is always involved in learning, even when we think it is just our brain. First discussed in Chapter Eight is learning through the body, or what is called *somatic* or *embodied* learning. This type of learning is learning *in* an experience as it occurs, rather than from reflecting *on* the experience after it occurs. The body actually has receptors throughout that take in sensory information. At times we attend to this information better than at others, as when we have a physical, emotional, or “gut” reaction to what is transpiring around us. In

this chapter we also explore the notion of spirituality, by its nature difficult to define and grasp. Nevertheless, the notion of spirituality and its place in our lives and our learning has captured the attention of not only the popular press but also adult educators. What is being acknowledged is that our spiritual selves help define who we are, whether we are at work, at home, or in a classroom. Finally, whether our learning is through our mind, our body, our spirit, or some combination of these, we often make sense of this learning through narrative, through putting it into a story format. We learn from “storying” our experience.

Chapter Nine explores non-Western approaches to learning. Immersed as we are in our own Western orientation to learning and knowing, an orientation that privileges cognition, individuality, autonomy, and independence of thought, we know little about other cultures and systems of knowing and learning. In this chapter we discuss the value of learning from others and some key concepts for understanding this approach. Then we provide a sampling of five non-Western perspectives on learning: Confucian, Hindu, Maori, Islamic, and African indigenous knowledge. We conclude the chapter by identifying some themes common to non-Western and indigenous perspectives. Emphasized are the notions that learning is interdependent, communal, holistic, and informal.

The last chapter in Part Three is titled “Critical Theory, Postmodern, and Feminist Perspectives.” While some of the work from these perspectives has been available for decades, it has only been since the early 1990s that adult educators have thought about how these ideas might apply to adult learning and the practice of adult education today. Underlying all three of these approaches is questioning the way things are. Each approach, to varying degrees, has directed attention to how race, class, and gender shape the learning transaction, how power and oppression are inherent in the process, and how knowledge and truth are construed depending on the theoretical framework. In addition to these general concepts, which cut across several perspectives, we look specifically at the contributions made by each of the three schools of thought: critical theory, postmodernism, and feminist pedagogy.

CHAPTER EIGHT

EMBODIED, SPIRITUAL, AND NARRATIVE LEARNING

The whole person is made up of mind, body, and spirit. Rarely, however, are the body and spirit taken into account when we talk about learning. Our Western heritage has defined learning as a mental process that takes place in the mind—never mind that we cannot locate the “mind.” The brain, which we can locate, becomes the place of learning, severed from something as concrete as the body and as ephemeral as the spirit. This focus on the mind is partly due to Western science’s investigation of learning as a mechanistic process—one designed to produce responses to stimuli, or to process information, or more recently, to construct knowledge largely through reflection on experience (see Chapter Eleven for a review of these traditional learning theories).

This emphasis on the mind goes back even before twentieth-century learning theory to Descartes, a seventeenth-century French philosopher who declared that “I [that is, my mind, by which I am what I am] is entirely and truly distinct from my body” and that “body, figure, extension, motion, and place are merely fictions of my mind” (Descartes, 1637/1960, pp. 165, 118, cited in Michelson, 1998, p. 218). This separation of the mind and body was reinforced by eighteenth-century Enlightenment philosophers who believed that knowledge could be obtained through reason alone; other sources of knowledge at that time, such as faith, tradition, and authority, were rejected by many.

As a result of Cartesian and Enlightenment thinking, learning has come to be equated with mental processes, with knowing through thinking or cognition. Not until the last few decades of the twentieth century has the role of the body and the spirit in

adult learning theory been considered. Feminist theorists and multicultural theorists in particular have significantly shaped this discussion, along with a number of adult educators.

This chapter will first discuss the nature of what is being labeled *somatic* or *embodied* learning—that is, learning through the body. An even larger set of writing and some research is on spirituality and its role in learning. This will be reviewed in the second section of the chapter. Finally, whether our learning is located in the mind, the body, or the spirit, or some combination of these, we often make sense of this learning through storytelling. How we learn through narrative is explored in the last section of the chapter.

EMBODIED OR SOMATIC LEARNING

Everyone can name times when the body communicates to us, whether it be a panic attack brought on by stress, a “gut” reaction to a racist comment, an upset stomach as we contemplate complaining to a teacher or boss, or being drained and exhausted from an intense encounter. So why have we tended to ignore the body as a site for learning? The main reason seems to be the Western privileging of mind over body. The focus of learning and education is “a change in a mental state, from one of ignorance, to one of knowledge. . . . In Western education, the highest status is reserved for the most abstract and immaterial learning, irrespective of its utility, and the lowest status is accorded to concrete, material learning, much of which we learn in daily embodied action” (Beckett & Morris, 2001, p. 36). Michelson (1996) observes how absurd this separation can be when an institution of higher education engages in awarding credit for prior experiential learning: “To be accredited, knowledge must be detached from the site of its production. . . . Knowledge is credited only to the degree that experience has been transcended, so that both the site of its production and the particularities of the self have been excised” (p. 190).

REJECTION OF THE BODY

But the rejection of the body may be even more basic than privileging cognitive knowledge. Goldenberg, Pyszczynski, Greenberg, and Solomon (2000) advance an interesting hypothesis that the body is problematic because it is a perpetual reminder of the

inevitability of death. The dilemma is that, on the one hand, “we are animals with a deeply rooted instinct for self-preservation; on the other, we are intelligent beings with sophisticated cognitive abilities that are immensely adaptive but also render us aware of the inevitability of our own death” (p. 201). To deal with this dilemma, we engage in cognitive distancing, “strip[ping] the body of its creatureliness” and replacing it with cultural symbols and standards of beauty, sex, and so on. They conclude that “our flight from our physical nature causes us to lose a bit of what it means to be human” (p. 215).

Fleeing from the “creatureliness” of the body extends to ignoring, covering up, or satirizing our physical characteristics, bodily functions, and sexuality. But we live in our bodies, and we learn about ourselves, about who we are, through what our bodies can and cannot do and how we experience sexuality and other bodily functions. Chapman (2002) for example, analyzes the interrelationship of power and her identity through examination of bodily functions. In attending an English boarding school, eating constructed her identity: “We ate at school, every day, the food of Empire . . . seated in the dining room under the gaze of John Smith, our famous ‘old boy,’ sternly subduing the female colonial body of waif-like Pocahontas. We learned/ate to be future wives of the Empire. In food and eating, we position bodies in relation to others in terms of class and ethnicity, as well as morally, as in good food and bad food” (pp. 75–76).

Popular culture reflects a growing interest in reconnecting the mind and body. Both *Time* (January 17, 2005) and *Newsweek* (September 27, 2004) devoted entire issues to this topic. As the lead story in the *Newsweek* issue titled “The New Science of Mind & Body” states:

So why is *Newsweek* devoting this Health for Life report to the mind-body connection? Because the relationship between emotion and health is turning out to be more interesting, and more important, than most of us could have imagined. Viewed through the lens of 21st-century science, anxiety, alienation and hopelessness are not just feelings. Neither are love, serenity and optimism. All are physiological states that affect our health just as clearly as obesity or physical fitness. And the brain, as the source of such states, offers a potential gateway to countless other tissues and organs—from the heart and blood vessels to the gut and the immune system. The challenge is to map the pathways linking mental states to medical ones, and learn how to travel them at will. [Benson, Corliss, & Cowley, 2004, p. 46]

The mind-body connection is not only made in terms of health and medicine. Take, for example, the Academy Award-winning movie *Ray*, depicting the life and music of Ray Charles. Clearly, this blind musician navigated the world through his body just as the genius of his music flowed through his body.

But while we can find that attention is being paid to uniting the mind and the body in popular culture, and we can even come up with personal examples of times when we have learned through our bodies, embodied or somatic knowing and learning are only now being sporadically researched and theorized about in education and other social sciences (Kerka, 2002). We now turn to definitions, examples, and theorizing related to embodied learning.

RECLAIMING THE BODY IN LEARNING

Embodied learning is most often linked to experiential learning in the sense that we learn *in* an experience. Somatic knowing, as is also true of spiritual and narrative knowing, is connected to adult learning through meaning-making. Attending to these noncognitive dimensions of knowing can bring greater understanding to our lives; they enable us to make meaning of our everyday experiences.

Learning *in* the experience is immediate, physical, emotional. It is, as Siegesmund (2004, p. 80) writes, “a felt reaction of rightness within an experience.” This is not to deny that the body has a social and material location; as Michelson (1998) points out, “[L]earning is an active, world-creating process inscribed on the body and at the same time subject to particular material and discursive conditions that constrain the body within culture and in history” (p. 225). For example, a woman who physically registers a sexist comment may in the moment understand something about sexism or patriarchy. At the same time, however, this learning would be “a function of a gendered subjectivity, or a social existence lived within a woman’s body in which the traces of past angers and hurt feelings, of personal and collective memories reside” (p. 226). The body, in fact, has long been a central point of analysis in feminist research and theory (Somerville, 2004).

Other examples of embodied learning are offered by Matthews (1998) and Crowdes (2000). Matthews recalls his early schooling days where by and large he had to sit still and endure, rather than be actively engaged in learning. One exception was a fifth-grade

teacher who understood “the power of embodied action even at the level of ritual, [when] she provided white lab coats for us to wear, which we kept in the cloak room. She explained that when we put on these coats we would *become* scientists” (p. 238).

Crowdes (2000) noticed the irony of critical social analysis courses taught at her university in which students became quite sophisticated in analyzing issues of power and social inequity but were “detached from their bodies and agency in matters of conflict resolution and change” (p. 25). She redesigned the course and called it “Power, Conflict, and Change in Social Interaction: What’s a Body to Do?” Incorporated into the course are embodied exercises to convey what is really meant by these terms and how the body can be employed, along with the intellect, to negotiate change. In one exercise called *bowing*, partners in dyads are assigned roles, with one being superior and all-powerful to whom the other must bow. The roles are reversed in the second step. After each phase students are asked to reflect on how they *felt* in either role. The third step was for each partner to bow to the other in a mutually loving and respectful way. The three phases of the exercise allow students to experience the multifaceted nature of power and power relations. It is in the experience that power relations become *meaningful*.

It is, of course, easier to see how embodied learning takes place in a physical activity such as basketball or dance. But even in the realm of dance, “dance educators often seem embarrassed to speak too much about the body, thinking that to note the physical labor of dance demeans it in the eyes of intellectuals, and to call attention to the sensory, bodily pleasure of dancing makes us seem mere hedonists” (Stinson, 1995, p. 46). Stinson goes on to say that for her to really know something involves “thought as something that occurs throughout my body, not just above my neck” (p. 46). Dance choreography is that effort to convey lived experience through artistic form.

In the same way, conducting research is an embodied process beginning with a *passionate* connection to the topic one is going to research. Data gathering, Stinson (1995) points out, is very embodied, whether interviewing or observing. Sorting through the data gathered is also an embodied activity “in [an] effort to find the form and content of the work” being constructed (p. 49). So too, insights with regard to important theoretical considerations and

the final form of the project “could not have arisen without attention to embodied knowledge. . . . We can think only with what we know ‘in our bones,’ and . . . attending to the sensory, followed by reflection, is essential in research” (p. 52).

In yet another example of embodied knowing, Yoshida (2005) describes how writing Japanese calligraphy, at first cognitive, became an embodied experience. He recounts writing the Japanese character for river (*Kawa*), which requires three strokes:

When I finished the third stroke, I recognized a strong feeling that remained in my body. I stopped and put the brush down, and went into that feeling. It was similar to a feeling in my palm which I remembered from canoeing in the wildness. . . . The beautiful scene came back. I closed my eyes with this image. And again I wrote *Kawa* with a brush as if I was paddling with the flow of the river. In the left sidestroke the water flows with a paddle (brush). In the middle stroke, I hold the water and stop the brush. For the third, I sink the paddle deep down, holding the heavy water for the longest stroke. I push it all the way down.

I felt the *Kawa* character written in this way came alive, as if flowing in front of me. I encountered the vital life of the *Kawa* character in this way. . . . The character is no longer an object outside myself, it is something living within. [p. 133]

Although the aforementioned examples of embodied learning involve the body in learning, there are also subtle differences. Amann (2003) teases out these differences in her four-part model of somatic knowing. She feels there are four dimensions to this type of knowing—kinesthetic, sensory, affective, and spiritual. Athletes, artists, dancers are all concerned with the movement of the body, or *kinesthetic learning*. This “movement and action . . . often yields lessons about discipline, diligence, dealing with stress, or solving problems” (p. 28). *Sensory learning*, she maintains, is “inherently somatic” because by definition it is how we access information through our senses; we then “relate that information to our experience and extrapolate meanings significant to our lives” (p. 28).

Embodied learning has a strong emotional or feeling dimension, which Amman labels *affective learning*. Dirkx (2001b), for example, speaks to the power of emotions wherein “meaningful learning is fundamentally grounded in and is derived from the

adult's emotional, imaginative connection with the self and with the broader social world" (p. 64). Actually, science has known for some time that nerve endings extend throughout the body through which we receive impulses from outside the body (see Chapter Fifteen). Further, "emotions are enmeshed in neural networks involving reason. . . . Emotions increase the strength of memories and help to recall the context of an experience, rendering it meaningful" (Hill, 2001, p. 76). Mulvihill (2003, p. 322) is even more explicit about the neurological dimension of learning:

There is no such thing as a behaviour or thought, which is not impacted in some way by emotions. There are no neurotransmitters for "objectivity"; rather even the simplest responses to information signals are linked with possibly several "emotional neurotransmitters" (Haberlandt, 1998). Because the neurotransmitters, which carry messages of emotion, are integrally linked with the information, during both the initial processing and the linking with information from the different senses, it becomes clear that there is no thought, memory, or knowledge which is "objective," or "detached" from the personal experience of knowing.

In making the case for including dance and the arts in education, Ross (2000) underscores the interconnectedness of emotions with somatic knowing: "The arts are firmly rooted in these exchanges between the psyche (mind) and soma (body), and the senses and emotions are the conduits of these experiences" (p. 31). Emotions are embodied and thus are an integral component of this type of learning.

The fourth component of Amann's somatic learning model is *spiritual*. The spiritual aspect of somatic learning is meaning-making through music, art, imagery, symbols, and rituals and overlaps or intersects with the other three dimensions (see Chapter Nine). Interestingly, Yoshida presents his example of somatic knowing in writing the Japanese word for river as relating to his "spiritual" roots: "As soon as the characters unfold their life, they unfold the soul, not only in me, but also in all the souls of the people who lived and wrote this character throughout Japanese history" (2005, p. 133). Götz (2001) links the embodied with the spiritual in a number of ways, citing, for example, numerous athletes who through intense physical activity have experienced spiritual moments.

Other writers have conceptualized embodied or somatic learning as *embodied cognition* (Cheville, 2005), as *ontological performance* (Beckett & Morris, 2001), or as a *somatic epistemology for education* (Brockman, 2001). Cheville proposes “a theoretical frame that locates the human body at the intersection of culture and cognition”; that is, “the human body is at once an object of culture and a subject of cognition” (p. 86). To illustrate how the body is at the intersection of culture and cognition, Cheville conducted an ethnographic study of the athletic and academic learning of a women’s basketball team. Cultural expectations manifested themselves in the players having to assert their femininity off the court to counter their physicality (associated with males) on the court. Further, the African-American players fought against being seen solely as athletes, which, along with entertainers, were among the common culturally prescribed roles for Blacks. Court learning was a matter of negotiating one’s body both spatially and temporally; this learning was overlaid with asymmetrical power relations between coach and players and more experienced and less experienced players. Cheville summarizes: “Only by ‘being there’ together in body did players enter into reflexive consciousness. For Jenny [one of the players] and her teammates, the orchestration of bodily activity was the means to a collective mindset. Learning was necessarily a political process, demanding that coaches and players negotiate their understanding through social and bodily engagement” (p. 98).

The relationship between identity, learning, and the body is explored in Beckett and Morris’s (2001) article. To illustrate their thesis that identity is constructed through embodied actions in context, they studied two work settings, one an aged-care facility (ACF) and the other an English as a Second Language (ESL) classroom. In the ACF, most of the staff were female with little formal training or education. However, their physical experience in the facility, reading each situation as it occurred and finding “what works,” created a community of practice where their identities as health practitioners were secure. The authors characterize this workplace as a “site of powerful adult learning for the staff,” a place where “practical logic, aimed at what will work by drawing laterally on embodied experiences, prevails” (p. 41).

Beckett and Morris (2001) go on to cite two examples from the ESL classroom of what they call ontological performance. The first

had to do with a Muslim woman who at first wore the headscarf but later in the course came covered in a full veil and gloves. The teacher could not understand the change, which was explained by student as, “Well, I’m closer now to my religion. I’m more . . . I’m a better person now because I do this” (p. 42). The authors point out that while the teacher saw the body as a cultural representation, “the learner presents a very different version of culture, one that is lived, where knowledge, beliefs, and experiences are located in the body, where the body is the medium for having a world” (p. 42). In the second example from the ESL classroom, learners were preparing for a two-week work experience placement. The teacher’s version of the “good worker” was one who stays in his or her place, acts politely, and does not challenge the boss. The students, several of whom had many years of work experience in their home countries, continually questioned and resisted the teacher’s construction of them as docile workers. These learners were “‘active bodies’ constructing and reconstructing their sense of self and occasionally resisting others’ construction of them” (p. 43).

Brockman’s (2001) somatic epistemology for education is the final conception of somatic knowing. In today’s world of diversity, postmodernism, and multicultural education, he asks the important question of how we are to assess and deal with cultural “evils.” All cultures perpetuate certain beliefs, values, customs, practices, and ideologies that are oppressive and even physically abusive (sanctioned violence against women, for example). Yet cultural relativism mitigates against our making a moral judgment of these behaviors. As an example, he asks what a U.S. schoolteacher should do if the teacher observes a Turkish boy beating his sister who has flirted with boys at school. “In Turkish culture, a strong value is placed on a girl’s honor, so her brother is merely putting into effect the norms of their culture” (p. 328). Relying on cultural-linguistic knowledge does not provide a satisfactory basis for dealing with this moral dilemma.

What is needed, Brockman (2001) maintains, is an epistemology based on somatic knowing. Knowing through the body is more fundamental than what we know through culture. “In short, neither culture nor language are the *source* of somatic knowledge. Somatic knowledge is received from *within* the human being; cultural knowledge is received from *without* the human being” (p. 331). With regard to the Turkish schoolgirl, while she may

cognitively know that her brother's actions are culturally appropriate, she "knows somatically the abusive and harmful nature of her brother's behavior; it is a cultural evil" (p. 331). The teacher should "stop the beating, in the name of the body—her body" (p. 333). For those who worry that an outside standard of moral behavior is being placed on a particular cultural context, Brockman responds, "The body is a criterion of knowing inclusive within every cultural context, though not independent of context. Therefore, somatic knowing offers great promise in answering the problem of relativism, because it recognizes dimensions of knowing (and reality) common within all cultural contexts" (p. 332). A somatic epistemology also holds greater promise for "a broader theory of learning than would a strictly multicultural theory" (p. 332).

In summary, reclaiming the body in learning contributes to a broader theory of learning, one that recognizes the body as a source of knowledge. This recognition alone challenges the dominant culture's claims to knowledge based predominately on reason. Legitimizing somatic knowing can also lead to developing empathy, as Crowdes (2000) attempted to do with her course on critical social theory. It is also, as Matthews (1998, p. 237) points out, "a political argument for greater educational equity." Finally, embodied knowing is linked to adult learning through its power to contribute to making sense of, or making meaning of, our lives.

SPIRITUALITY AND LEARNING

One of us (Merriam) offers this insight:

As is true of most decade birthdays I was not looking forward to turning sixty. I basically ignored it and managed to schedule some workshops in South Korea at that time. On the exact date of my birth I and a Korean colleague were high in the mountains in the southeast part of the country engaging in an overnight Buddhist temple stay. We attended prayers, ate in silence with the monks, and spent an evening in seminar with a monk who explained the life of the monastery and basic Buddhist beliefs. During the visit I felt a sense of peace and of being "present" that I had not experienced before; the fact that I had just turned sixty seemed not to matter and my angst about it evaporated.

For the author, this was a spiritual learning experience in that the “flow” or “life force” that she felt in that mountain retreat enabled her to make meaning of her own aging. Like somatic-embodied knowing, spiritual knowing or learning is also about meaning-making, though perhaps more difficult to accommodate than embodied learning, which does have a tie to physical sensations. While most would acknowledge that human beings are spiritual beings as well as corporal and thinking beings, our image of the adult learner has been bereft of anything remotely “spiritual.” Rather, the learner is “merely an animal to be socialized, a computer to be programmed, a unit of production to be harnessed and utilized, a consumer to be won” (Sloan, 2005, p. 27). Further, the sense of wonder and awe characteristic of a spiritual stance has been “trivialized” in “the contemporary market-driven world” to the point that “we have ended up attempting to reinvent it in Disneyland or through virtual reality (Mander, 1991)” (O’Sullivan, 2005, p. 70).

These gloomy images of learners in a virtual world are being countered by an outburst of writing and discussion on the place of spirituality in our lives generally, and in adult and higher education and human resource development specifically. Popular culture vehicles of movies, books, television shows, and magazine articles are reflecting this interest, perhaps, as some writers have speculated, because of the aging baby boom generation. Developmental psychologists dating back to Carl Jung have asserted that as adults move into midlife and beyond, there is an inward turning to contemplate the meaning of life and spiritual aspects of oneself. Indeed, in a longitudinal study of spiritual development in adulthood, “all participants, irrespective of gender and cohort, increased significantly in spirituality between late middle (mid-50s/early 60s) and older adulthood” (Wink & Dillon, 2002, p. 79).

Interest in the topic is manifest in bookstore titles, continuing education courses, and solidly conservative agencies such as the National Institutes of Health and the American Medical Association, both of which are investigating how spiritual practices such as meditation, yoga, and prayer can affect physical health. Spirituality has become a popular topic in even as unlikely a site as America’s profit-driven corporate world. Dozens of articles and books

such as Mitroff and Denton's *A Spiritual Audit of Corporate America* (1999), Bolman and Deal's *Leading with Soul: An Uncommon Journey of Spirit* (1995), and Briskin's *The Stirring of Soul in the Workplace* (1996) are calling for management to integrate spirituality into workplace practices and allow for its expression in the workplace. Coming from another perspective, and perhaps influenced by Goleman's (1995) popular book on emotional intelligence (EQ), Zohar and Marshall (2000) are proposing a spiritual intelligence (SQ) to go along with EQ and IQ. This kind of intelligence helps us "solve problems of meaning and value" (p. 4).

It is a similar picture in higher and adult education. Books, conference presentations, journal articles, and student theses and dissertations are grappling with the topic and making visible what has long been ignored—that there is a spiritual side to our learning despite the domination of rationality in the classroom. Perhaps because of the nature of this topic, with only a few exceptions, the great majority of the writing has been philosophical in nature. Drawing from these many sources, we first grapple with defining spirituality and its place in adult and higher education. Next, we have distilled from the literature a number of practices and strategies that can cultivate the spiritual dimension of our learning.

DEFINING SPIRITUALITY

There are as many definitions of spirituality as there are people writing about it. Some use other words, such as grace, heart, flow, life force, and soul, perhaps partly to avoid the inevitable confusion of spirituality with religion. While for some people spirituality and religion might be related, writers on the topic of spirituality are emphatic about the difference between the two. As Tisdell (2003, p. 29) writes, "Religion is an organized community of faith that has written doctrine and codes of regulatory behavior. Spirituality, however, is more personal belief and experience of a divine spirit or higher purpose, about how we construct meaning, and what we individually and communally experience and attend to and honor as the sacred in our lives."

Tisdell's (2003) definition of spirituality is derived from a study of thirty-one higher and adult educators specifically engaged in anti-oppression pedagogy. She presents seven assumptions about the nature of spirituality, especially as they relate to an educational

setting. These assumptions are helpful in grasping what this dimension in learning is all about:

1. Spirituality and religion are not the same. . . .
2. Spirituality is about an awareness and honoring of wholeness and the interconnectedness of all things. . . .
3. Spirituality is fundamentally about meaning-making.
4. Spirituality is always present (though often unacknowledged) in the learning environment.
5. Spiritual development constitutes moving toward greater authenticity or to a more authentic self.
6. Spirituality is about how people construct knowledge through largely unconscious and symbolic processes, often made more concrete in art forms such as music, art, image, symbol, and ritual which are manifested culturally.
7. Spiritual experiences most often happen by surprise. [pp. 28–29]

Unlike most who write about spirituality from the individual's perspective, Tisdell embeds spirituality and learning in a cultural context. That is, one's spirituality is informed by and manifested in culturally defined experiences, symbols, myths, and rituals. While significant spiritual experiences are found in all cultures, "the meaning of those experiences is not only valued differently by different cultural communities, it is also manifested and given further expression symbolically differently in different cultures—in art, music, or ritual" (p. 86).

Tisdell's participants were also selected for their social justice orientation to practice. English (2005a) identifies this form of spirituality as "secular" or "public" in nature versus spirituality as purely private and individual in nature. English makes the case that this public form of spirituality goes hand in hand with adult education's social change agenda and that "accepting a strong twofold purpose—spirituality and social change—will move adult educators closer to reconciling the personal and collective divide in our field" (p. 1187).

In one of the few other empirical studies of spirituality, Courtenay and Milton's (2004) sample of adult educators and learners identified three components of spirituality: a sense of connectedness, a search for meaning, and an awareness of a transcendent force or energy beyond the self. And in an interesting angle on

spirituality, McDonald (2002) looked at the role of spirituality in the life and work of committed environmentalists. Ten of the eighteen participants expressed a pantheist view in which everything is an expression of the “vital force” (p. 270). All eighteen were engaged in “the making of spirit”—that is, “the actions and experiences that bring spirit into being” (p. 269).

Although they are not empirically based, there are some helpful discussions in the literature about the nature of spirituality. Lemkow (2005, p. 24) cites David Bohm, a physicist-philosopher: “What is spirit? The word is derived from a Latin word meaning ‘breath’ or ‘wind’—like respiration or inspiration. It is suggested by the trees moving with the invisible force of the wind. We may thus think of spirit as an invisible force—a life-giving essence that moves us deeply, or as a source that moves everything from within.”

A number of writers capture this notion of wind, energy, or movement as characteristic of spirituality. Foehr (1997) speaks of “*spiritually empowering forces or energies . . . having to do with creativity, imagination, inspiration, intuition, kinesthetic knowledge, felt sense, passion for knowing, the aha experience, archetypal energy, and the collective unconscious*” (pp. 46–47; italics in original).

Using the word *grace* instead of spirituality, and speaking of its place in pedagogy, Graves (1997) notes its transcendent nature as well as its more common understanding as “harmony of movement, coordination, poise under pressure” (p. 15). Graves’s notion of grace is not tied to a religious perspective; rather, grace, he writes, “moves to its own rhythm, follows its own agenda, and it is always beyond our power to control or manipulate” (p. 16). Grace happens “in the ordinary experiences of daily life . . . in everyday routines and habits . . . in the small joys and disappointments of life. Moreover, it shows up in the most unlikely places. Grace lurks among the vegetables in the supermarket. Grace sits on a bar stool and smokes a cigarette. Grace roams the corridors of a big city hospital. Grace is always there, everywhere; we don’t see it, but it changes our lives when we experience it” (p. 16).

He recounts several stories of how grace can transform human consciousness, such as one story of a teacher, widowed with small children, feeling depressed. Upon looking outside her classroom window she sees a rabbit on the lawn below: “Somehow I realized that if that rabbit, who seemed so full of peace and so much a part of nature, would be all right then I would be too” (p. 17). Graves

goes on to say that we do not find grace; rather, “*to be found by grace*—we must live not only in the immediate moment but let go of ego involvement in that moment, for grace comes in by the back door. . . . While the attention is elsewhere, grace is at work in the unconscious” (p. 16).

This notion of grace as serendipitous is echoed in Dirx’s (2001b) understanding of the soul being accessed through images. “Emotionally charged images,” he writes, “are not under the willful control of the ego.” Rather, they tend to appear spontaneously during the learning process. “They arrive as they so choose, as acts of grace” (p. 69). Drawing from Jungian psychology, these images reflect archetypes from the collective unconscious. “From an archetypal perspective, to teach in adult or higher education settings is to participate in a timeless story or myth” (Dirx, Pratt, & Taylor, 2002, p. 95). Such conscious participation “can help us connect in a more profound manner with the animating forces of our lives” (p. 95).

In relating grace to pedagogy, Graves (1997) delineates several characteristics of grace. First, it is *transforming*, as in the preceding story of the teacher. Second, it is *healing*; stress and anger, grief, the most impoverished, can find healing in moments of grace. Third, grace *transcends the ego*. “Grace provides the perspective to see ourselves in the larger context, not just as students and teachers but as individuals connected with each other and with the world beyond ourselves” (p. 18). *Opening the possible* is the fourth characteristic. “Grace cuts through the boundaries of culture, language, race, social class, economic level, age, handicaps, intelligence level, geography, and birth. Grace interrupts the expected and creates its own channel” (p. 19). *Pointing toward what is right* is the fifth characteristic. The moral and ethical tone of grace echoes others’ writings. English, Fenwick, and Parsons (2003, p. 3) for example, write that “the most straightforward way to promote a spiritual dimension in teaching and learning is to make a deliberate attempt to think and act ethically,” simply because “ethical choices implicitly include a basic recognition of the person as spiritual” (p. 4). Grace is also about *enhancing creativity*, Graves’s sixth characteristic. Finally, grace is *surprising*, it—“shows up in unexpected places, in coincidences that prove to be extraordinary, and in synchronistic events” (p. 19). It might be recalled that surprise is one of Tisdell’s (2003) seven assumptions.

Given the nature of spirituality as delineated by these and other writers and researchers, it is not surprising that strategies for enhancing or fostering spirituality, soul, or grace during the teaching-learning transaction are about making space for it to happen.

FOSTERING SPIRITUALITY IN ADULT LEARNING

To the extent that spirituality is about meaning-making, it can be argued that it has a place in adult learning. Unfortunately, formal programs of adult education, like any other institutionalized form of learning, suffer from “order, hierarchies, grades, tests, a gloried past, control, deprivation, remoteness of various kinds, and weighty seriousness” (Moore, 2005, p. 13). For spirituality or moments of grace to happen, “weighty seriousness” must be replaced with playfulness, openness, creativity, and imagination. If, as hooks (1994) writes, “we believe that our work is not merely to share information but to share in the intellectual and spiritual growth of our students,” then we must “teach in a manner that respects and cares for the souls of our students . . . [and] provide the necessary conditions where learning can most deeply and intimately begin” (p. 13).

One of the “necessary conditions” identified by several writers is that the instructor must examine her or his own biography, acknowledging and “perhaps reconcil[ing] the influence of our religious upbringing on our current spiritual preferences and resistances” (Fenwick, English, & Parsons, 2001, p. 6). That our own spiritual or religious biography has an impact is underscored in Tisdell’s study of thirty-one educators. She found that while only six practiced in their childhood religious traditions, all “continually spiraled back and reclaimed images, symbols, music that still had important meaning for them from their childhood religious traditions” and that these “often connected to their cultural backgrounds” (2005c, ¶ 12).

For moments of spiritual learning to occur there must be space in the learning environment. Such a space is safe, supportive, open, “sacred.” Vella (2000) outlines three aspects of a sacred space—dialogue, respect, and accountability. A sacred space allows for dialogue where one listens to others’ experiences without judgment. The teacher is accountable for designing a learning experience that both supports and challenges the learners. We are

accountable “to make the best plans possible,” but at the same time we must “be ready to abandon them” (Graves, 1997, p. 20). As Graves observes, “If grace ever comes into pedagogy, it will be there not because it was planned but because the conditions were right and because some sensitive soul had the wisdom not to thwart it” (p. 20). The spontaneous and fluid nature of spirituality requires space where it can happen. An overly programmed, information dissemination–driven classroom leaves no space for significant, indeed, spiritual, learning to occur.

A number of writers underscore the importance of allowing for dialogue. English (2000) defines dialogue as “the interpersonal connections and interchanges among people that encourage and promote their spiritual development. . . . Dialogue . . . recognize[s] the other as an extension of one’s self” (p. 34). It is also through dialogue that a sense of community can be effected. It might be recalled that “connection” is one of the components of spirituality. A community of learning is people-centered, and through dialogue, discussion, and sharing, learners have the opportunity to connect with others, with their inner, spiritual selves, and perhaps with a force or energy beyond the self. This is not to ignore the difficulties in creating community in the classroom, especially in one that is culturally diverse (Hart & Holton, 1993; Tisdell, 2003).

Mentoring is an activity that can promote spiritual development. Daloz’s (1999) concept of the mentor as a guide to the holistic development of the mentee speaks of the process as a journey. The relationship is also reciprocal and nurturing of both the mentor and mentee. English, Fenwick, and Parsons (2003) position mentoring and coaching in adult education and human resource development settings. They are careful to point out that this activity “is not about increasing the bottom line. It is about relationship, support, and increasing the human spirit” (p. 93). That is not to say that the power dynamics of such a relationship be ignored; rather, it is a stance or reverence in which “the spirituality of the relationship is the reciprocity that constitutes the relationship” (p. 95).

In addition to examining one’s own stance, creating space, and mentoring, one can foster spirituality through the use of creative and imaginative activities such as visualization, storytelling, and the use of literature, poetry, art, and music. These activities can assist us in looking for “connections in unlikely places,

between apparently unconnected and disparate ideas and experiences” (MacKeracher, 1996, p. 179). Dirkx (2001b) speaks of these techniques as the *imaginal method*:

Journal writing, literature, poetry, art, movies, story-telling, dance, and ritual are specific methods that can be used to help foster the life of the image in our relationships with adult learners. By approaching emotionally charged experiences imaginatively rather than merely conceptually, learners locate and construct, through enduring mythological motifs, themes, and images, deep meaning, value, and quality in the relationship between the text and their own life experiences. [p. 70]

Imagination, and more specifically cultural imagination, is the focus of Tisdell’s (2005c) work in linking spirituality with diversity and multicultural issues in today’s higher education classroom. Imagination is a meaning-making activity in that we put together insights, images, symbols, and ideas in new ways so that new meaning is revealed. Tisdell maintains that this imaginative activity cannot be separated from the person’s cultural context and history. When imagination, which “helps people to see from multiple perspectives, to visualize new possibilities, and potentially to create something new” involves “cultural stories, histories, and issues, it engages cultural imagination” (§ 50). Using teaching strategies that cross cultural borders such as “service learning opportunities, engaged dialogue about current issues, and problem-posing techniques” along with the cultural imagination (such as sharing personal cultural symbols with others) can bring about transformation. “Image, symbol, music, ritual, art, poetry, often touch off memory in conscious and unconscious ways, which sometimes connects to spirituality. . . . One can combine these ways of knowing that are part of cultural imagination, with the intellectual and critical analysis aspects of higher education to facilitate greater student learning and greater equity in society” (abstract).

Any summary of the role of spirituality in learning would be only a partial view given the array of understandings, definitions, and conceptualizations of the phenomenon. Spirituality is, by its very nature, difficult to capture in the rational prose of academia. However, given that this dimension of our experience deals with

meaning-making, it is an appropriate topic to consider because most significant adult learning is about meaning-making. Whatever label one prefers, spirituality and the creative and imaginative techniques for eliciting its presence have a role to play in a more complete understanding of adult learning. However, what exactly that role is is open to question. While we have definitions of spirituality and conditions that might elicit it in an instructional setting, what we do not yet have is an understanding of or theoretical models of *spiritual learning* as we do, for example, with self-directed learning or transformational learning. Courtenay (personal communication, June 13, 2005) speculates that if we assume spiritual learning is about meaning-making, then:

What does that mean? Am I able to make meaning better because I use spirituality in some way? Yes, OK, then in what way? Notice I didn't ask "use spiritual learning" in some way, because I don't know what spiritual learning means, nor have I seen an acceptable definition in the literature. Staying with meaning-making further, would it be easier to explain the link between spirituality and meaning-making if we provided the opportunity for instructors and learners to ask and discuss the fundamental questions that all of us have about the meaning of life? Why are we here? What are we to do while we are here? Is this all there is and what are the implications of my answer to this question? What do I value and why? What is non-negotiable in my life and why? . . . Further issues—when meaning making is facilitated by spirituality, how is it manifested? How might it occur in an adult education classroom?

These and other questions will, we hope, shape future research and theory building in this area.

NARRATIVE LEARNING

At the close of 2004, while people were vacationing in Thailand, fishing in a coastal village of India, or just relaxing in that lull between Christmas and New Year's, an earthquake-caused tidal wave of death and destruction engulfed southeast Asia. What was impossible to grasp was made human through the *stories* of individuals—stories of how they faced then ran from the tsunami, of a village leveled, of family members being separated, some never

found, of filming the wall of water from a hotel rooftop. Only through these stories could we make some sense of what had happened.

Narratives are stories, “the oldest and most natural form of sense making” (Jonassen & Hernandez-Serrano, 2002, p. 66), and they have a place in adult learning because stories enable us to make meaning of our lives. The vignette presented earlier in this chapter on turning sixty during a stay at a Buddhist temple was a *story* used to illustrate spiritual learning. And like embodied and spiritual learning, narrative learning is firmly lodged in what may be called the nonscientific. Drawing from Bruner (1986), Rossiter (2005) sums up the difference between scientific and narrative knowing: “Narrative knowing . . . is concerned more with human meaning than with discrete facts, more with coherence than with logic, more with sequences than with categories, and more with understanding than with predictability and control” (p. 419).

We not only view our own lives as narratives but are surrounded by and embedded in narratives. We watch news stories on television, tell stories of our day at school or work, perhaps write the story of our day in our diary. Rossiter and Clark (in press) organize these surrounding narratives into four types—*cultural*, *familial*, *individual* (Keen & Valley-Fox, 1989), and *organizational* (Neuhauser, 1993).

Cultural narratives or myths are those that define the socio-cultural milieu in which we live; they form the taken-for-granted assumptions on which we live our lives in the way that we do. The cultural narrative “is difficult to recognize—to notice and reflect upon—because we’re immersed in it. It is as invisible to us as the air we breathe” (Rossiter & Clark, in press, p. 24 of ms.). In the United States, the individual being responsible for his or her own success, the right to material wealth, the United States as superpower, and so on, are parts of our cultural narrative but so embedded that we rarely recognize them as such. Sometimes it takes a catastrophic event to expose these narratives. For example, the authorities’ lack of preparedness and Hurricane Katrina’s devastation of the city of New Orleans challenged the cultural narrative of the United States being all-powerful and in control. Family narratives embrace certain values and beliefs, customs, roles, and rituals. “Who are the heroes of the family, whose stories are told with pride across the years? And who are the villains, the black sheep,

whose crimes . . . [are] only suggested or whispered?" (p. 26 of ms.). Individual narratives are how we story our own lives.

Finally, "just as cultures, families and individuals have narratives, so do organizations, and organizational narratives express and create the lore of the organization as in cultures and families" (Rossiter & Clark, in press, p. 30 of ms.). In adult education, these narratives can be examined, reflected upon, challenged, and even revised. Interestingly, the field of adult education itself is involved in constructing a narrative of its identity: "Are we heroes engaged in the emancipation of the oppressed? . . . Are we tour guides in the business of actualizing the human potential of people who have leisure time? Are we entrepreneurs who sell job training in a competitive marketplace? Are we all of those characters?" (p. 33 of ms.).

LEARNING THROUGH NARRATIVE

The use of narratives is common in numerous disciplines, such as psychology and literature, and fields of practice, like medicine, law, social work, and more recently, education (Hopkins, 1994). Although it has only been since the 1990s that narrative learning has received some attention in adult education, the field's historical recognition of the importance of experience in learning, as well as learning as a meaning-making activity, have made for the ready acceptance of narrative as learning. Speaking of journals, a form of narrative, Kerka (2002, p. 1) writes that "a journal is a crucible for processing the raw material of experience in order to integrate it with existing knowledge and create new meaning."

Narratives can take a number of forms, each useful as a vehicle for learning. Rossiter (2005) and Rossiter and Clark (in press) identify three ways in which stories appear in practice: "storying" the curriculum, storytelling, and autobiography. In the first, the curriculum or the text of a course is treated as a story and students interact with these texts to come to some understanding or interpretation of the subject matter. For example, in a graduate research seminar on the development of the knowledge base of adult education, Merriam made use of research journals dating back to the 1930s, periodic reviews of research, and historical literature on the founding of professional associations and graduate programs in adult education. These materials were read and examined with the goal of telling a story (not necessarily *the* story) about

how the knowledge base of adult education has come to be constructed as it has. Each student was asked to interpret these materials and to write a paper (a story) about the development of the knowledge base.

This storying of the curriculum is in itself a learning process. Clark (personal communication, July 30, 2005) explains this learning: “When we are learning something new, we’re trying to make sense of it, to figure out its internal logic and how it’s related to what we already know. We do this by narrating it, or trying to—that is, we work to story it, to make this new idea coherent to ourselves. . . . The construction of that narrative is how we see our understanding come together and make sense. . . . The narrativizing of our understanding is how we make our learning visible to ourselves, if only in our heads.”

A second form of narrative, storytelling, in various forms—such as fiction (Baumgartner & Merriam, 1999), case studies, exemplars from practice, role-playing, or critical incidents—is a common means of engaging students in understanding concepts, principles, or theories. Jonassen and Hernandez-Serrano (2002) argue that stories in the form of cases are a good instructional technique to teach problem solving. They cite a number of studies with practitioners who understood their practice not from a technical or rational perspective but rather through stories and examples from experience. These stories of past experience were what guided future action. If practitioners in real-life situations solve ill-structured problems through narratives, stories, or cases, then “stories can function as a substitute for direct experience, which novice problem solvers do not possess. Supporting learning with stories can help students to gain experience vicariously” (p. 69).

Using stories to engage students in ideas that are part of course content may be the only way to allow understanding to occur. It is also a powerful means of making connections not only with ideas but with other learners, perhaps ultimately creating a learning community. Whether these stories are generated by students themselves, are case studies, or are fictional accounts, they draw us in, they allow us to see from another’s perspective. In today’s multicultural classrooms we cannot assume the rest of the world sees things the way we do. “The authenticity and immediacy of a story of lived experience takes us into the experience of another. In that

way it deepens and expands our capacity for taking the perspective of another. In short, life story sharing reduces resistance to new or different points of view and serves to broaden the perspectives of all participants” (Rossiter & Clark, in press, p. 107 of ms.).

The third form of narrative, autobiographies, are by the self and about the self and can include journaling, dream logs, therapy, blogs, and what Dominice (2000) calls “educational biography.” Human beings have kept records of their lives for centuries. Some of these self-authored stories have become famous, such as St. Augustine’s *Confessions*, or *The Diary of Anne Frank*. Others, though not by famous people, have proved enormously helpful to historians who want to tell the story of some past time or event. Slave narratives, immigrant journals, and memoirs of prisoners in Nazi concentration camps are examples of such historical narratives. Blogs are the most recent form. A blog is a Web site where “you write stuff on an ongoing basis.” A blog takes any number of forms; it can be “a personal diary. A daily pulpit. A collaborative space. A political soapbox. A breaking-news outlet. A collection of links. Your own private thoughts” (<http://www.blogger.com/start>).

An early approach to one form of autobiographical methods—journaling—began in the well-known intensive workshops of the 1970s by Progoff (1975). In these workshops, which are still held today, journaling is used to foster the participant’s potential for growth and development. Indeed, research suggests there are a number of benefits in writing to the self and about the self. Brady and Sky (2003) studied fifteen older learners who kept a journal currently and had done so for at least three years. Interestingly, participants kept journals not as a lifelong activity but rather as a sporadic activity, which would be reignited by some critical life event, such as illness, death, family problems, and so on. These participants spoke of three benefits to journal writing. First, they described it as a means of coping with their day-to-day lives, including with decisions, with relationship issues, and “as an antidote to failing memory” (p. 159). A second benefit the researchers termed “the joy of discovery,” meaning that journals were “a sort of milestone for measuring one’s own progress in the journey of human development” (p. 159). Finally, journaling allowed for the nurturing of one’s voice and spirit; that is, journaling confirmed that they had “something meaningful to say” (p. 160), and it allowed for

contemplation and sometimes the realization of a new level of spiritual consciousness.

Although the benefits of journaling for Brady and Sky's older adult learners might be partially explained by their life stage, their findings have similarities with those of other studies. Wiener and Rosenwald (1993) interviewed twelve people between eighteen and fifty years of age to identify the subjective utility of keeping a diary, a more structured form of journaling. One benefit was in establishing and maintaining boundaries among different senses of the self, and different emotions and experiences. Like Brady and Sky, the researchers in this study were surprised to learn that most participants kept multiple diaries. Participants kept separate journals for family matters, emotional writing, travel, daily events, and so on. While one benefit was maintaining boundaries of the self, another seemingly opposite benefit was dissolving boundaries. Participants reported using diaries "to allow repressed material to surface" (p. 42) and to bring to the fore varying aspects of the self.

Three other benefits uncovered by Wiener and Rosenwald (1993) are that diaries help manage emotions, manage time (a diarist can preserve the past, or condense past and present), and function as "the self in a mirror" (p. 43). By this last the authors mean that a diary can be like looking into a mirror—"defining the self by objectivating and then observing it" (p. 45).

Journal writing, whether it is about the self or about one's learning, has been advocated as a tool for adult learning, especially if the learner is asked to *reflect* on the day's (or class's) events and activities. Kerka (2000, p. 1) offers a set of assumptions about how this learning occurs:

- Articulating connections between new and existing knowledge improves learning.
- Writing about learning is a way of demonstrating what has been learned.
- Journal writing accentuates favorable learning conditions—it demands time and space for reflection, encourages independent thought and ownership, enables expression of feelings, and provides a place to work with ill-structured problems.
- Reflection encourages deep rather than surface learning.

Connections and reflection are two aspects of learning that are also present in the construction of autobiographical stories and educational biographies. Autobiographical writing requires a bit more distance from the self than does journal writing. “Because autobiography involves not only recounting memories and expressions but also finding their larger meaning, and to the extent that the activity expands the individual’s knowledge of self and the world, it constitutes learning” (Karpiak, 2000, p. 34). It is in autobiography that we can identify “patterns and meaning in our life, perhaps even building a theory of our life, or of life in general. Having stepped back and reflected, we know something now that we did not know before” (p. 34). Karpiak (2000) maintains that autobiographies are a particularly potent instructional activity, especially for courses in adult learning and adult development. As one student she interviewed said, “Autobiography helps an individual find how the course material fits into their life, as opposed to having the instructor do it for you” (p. 41). Another student said that in writing her autobiography, the concept of lifelong learning, which had previously been just a “buzz word,” now had meaning. She could “see that in one’s life each moment is a learning experience. . . . That actual living was learning” (p. 42).

Focusing on one’s educational history or how one has come to know what one knows is what Dominice (2000) calls *educational biography*. He has developed this technique into a two-semester student experience of oral and written narratives involving individual and collaborative learning. Through these biographies students see how family, schooling, and the sociocultural environment have helped them construct their identities as adult learners. “Looking at the past, checking roots, and giving names to experiential learning help adults clarify the future they want to build” (Dominice, 2000, p. 143).

NARRATIVE LEARNING, ADULT DEVELOPMENT, AND TRANSFORMATIONAL LEARNING

As is evident in the techniques already reviewed, narrative learning has very strong links to both adult development and transformational learning. As a means of understanding adult development, a narrative framework sees the life course as an unfolding story,

one constructed and interpreted by the individual. While the sociocultural-historical context interacts with and to some extent shapes the life course, the meaning of our life experiences constitutes our particular developmental trajectory.

In contrast to stage and phase theories of adult development, most of which have an end state (such as Erikson's [1963] final stage of ego integrity versus despair, for example), life narratives are retrospective, always in process, unfolding. And as Rossiter and Clark (in press) point out, development from a narrative perspective can be "empowering. While we do not have control over many of the events or circumstances of our lives, we do have some choice as to how we interpret them. If something unpleasant happens it is not imperative that we will see it as the end of all happiness forever and ever. This realization of choice in meaning-making is one of the most valuable aspects of the narrative orientation" (pp. 38–39 of ms.)

Adult development and transformational learning are closely intertwined (see Chapter Six). The chief architect of transformational learning theory, Jack Mezirow, unequivocally states that the process of perspective transformation is "the central process of adult development" (1991, p. 155). The process that he delineates, however, is quite cognitive and depends on the critical examination of assumptions, reflection, and rational discourse. Randall (1996) makes a convincing case for how narrative can be seen as transformational learning. Both methods are primarily cognitive dealing with the learner's lived experience through interpretation, through creating new meaning. While Mezirow's process most often begins with a "disorienting dilemma" that causes us to examine our underlying assumptions and values, Randall suggests that when we encounter a life experience that cannot be accommodated by our old story of ourselves and the world, we seek to *restory* our lives: "We seek restorying when our current lifestory (inside, at least) no longer coheres within itself, when it becomes incoherent, when the many are at war with the one. We seek it when our central self-story has either too little conflict and so fails to go anywhere, or too much and so threatens to fly apart. . . . We might seek restorying, for example, when a particular episode fails to fit with the dominant story we tell ourselves about who we are, where we have come from, and where we are going" (p. 238).

In Mezirow's framework, transformational learning results in a "more inclusive, discriminating, permeable, and integrative perspective," one that better accommodates the meaning one makes of one's experience (1990b, p. 14). Restorying one's life is quite similar: "Specifically, it is the question as to how I can compose a story *big* enough, with a horizon *broad* enough, to account for as much as possible of my actual life and render it available to me as a coherent, re-membered whole" (Glover, cited in Randall, 1996, p. 240).

But adult development and transformational learning also involve embodied and spiritual learning. How we story our lives includes not just cognitive but emotional, bodily, and spiritual dimensions. In a study of a culturally diverse sample of midlife men and their transformative spiritual development, Davis (2004) found that the men "cited their experiences of spirit as a time of challenge and opportunity to express emotion, connect with people, relinquish control, and move beyond the rational" (p. 122).

Life transitions and crises that trigger development, whether social, psychological, or spiritual, are often highly charged, physical, and sometimes spiritual (see Chapter Twelve). The birth of a child, a major health problem, the loss of a job, and so on are experiences that are holistic in nature. In a discussion of the role of somatic learning in transformational learning, Amann (2003) explores how kinesthetic, sensory, affective, and spiritual aspects "centraliz[e] the body so that it is integral to the learning experience. Combined with opportunities for reflection, somatic learning contributes a new perspective to the scope of transformative learning" (p. 31). Brooks and Clark (2001) point out that narratives of transformative learning are compelling *because of* their affective, somatic, and spiritual dimensions.

To summarize this section on narrative learning, it is clear that adult educators have a means of facilitating learning that all adults can relate to—stories that surround us, that define us, that we can construct, analyze, reflect upon, and learn from. Stories can be used to understand content, ourselves, and the world in which we live. Narratives are also windows into development and transformational learning. They enable us to make sense of our experience, which is what adult learning is all about.

SUMMARY

Embodied, spiritual, and narrative learning all have in common meaning-making that is embodied, constructed, and interpreted. These are not modes of learning that adhere to a way of thinking that elevates reason, logic, and theory over the body, the spirit, or the “story” of our experience.

Embodied or somatic knowing is knowing through the body. It is directly related to our physical being, our senses, and the experiences of the body. Examples of embodied learning were presented and discussed; these examples reflect Amann’s (2003) model of somatic knowing, which consists of the four overlapping dimensions of kinesthetic, sensory, affective, and spiritual. This section of the chapter concluded with a review of three conceptualizations of embodied learning: embodied cognition, ontological performance, and a somatic epistemology for education.

In the second section of the chapter on spirituality and learning, we first grappled with defining spirituality as something different from but perhaps related to religion. Most of the authors we reviewed link spirituality to meaning-making in our lives, and on that basis it is an appropriate topic for exploration in adult learning. A number of instructional techniques were reviewed that foster spirituality in adult learning, including self-examination by the instructor of her or his views and assumptions, creating a safe space for this kind of learning to occur, mentoring learners, and engaging in creative and imaginative instructional activities.

The final section of the chapter dealt with narrative learning. Narrative learning is the use of stories in the construction of meaning, whether the meaning-making has to do with the self, with the content of instruction, or with the world around us. Using Rossiter and Clark’s (in press) model, three uses of narrative in practice were reviewed: narrative as storying the curriculum, narrative as storytelling, and narrative as autobiography. A final section focused on a narrative perspective of adult development and transformational learning.

CHAPTER NINE

LEARNING AND KNOWING: NON-WESTERN PERSPECTIVES

The newborn infant only hours old is handed to the father who whispers into the newborn's ear, "God is Great. I bear witness there is no God but the one true God." So begins the Muslim's life journey. It is a journey of lifelong learning and discovery, a journey during which every Muslim discovers the greatness of God through the beauties and wonders of His creation.

—MAZALAN KAMIS

For those of the Islamic faith, learning is indeed lifelong. It is also considered a sacred obligation to learn not for personal benefit, but for sharing with the whole community. Unfortunately, we know little about this perspective and other epistemological systems as we are immersed in our own Western orientation to learning and knowing. Indeed, this edition of *Learning in Adulthood* is primarily lodged in Western values and culture.

Beginning with the 1928 publication of Thorndike et al.'s landmark study of adult learning (Thorndike, Bregman, Tilton, & Woodyard, 1928), the knowledge base that has developed around learning and adult learning has been shaped by what counts as knowledge in a Western paradigm. Research and theory in adult learning to a large extent assumes that the mind and body are split, thus leading to an emphasis on cognition, information processing, intelligence measures, cognitive development, and so on. Embedded in this focus are the cultural values of privileging the

individual learner over the collective, and promoting *autonomy and independence* of thought and action over community and interdependence. Andragogy, self-directed learning, and much of the literature on transformational learning position self-direction, independence, rational discourse, and reflective thought as pinnacles of adult learning theory.

That Western notions of adult learning dominate is evidenced by the use of Western textbooks, journals, and conference proceedings in academic adult education programs not only in North America but in Asia and Africa. In addition, the curriculum that international students study in graduate programs in North America is, of course, primarily Western. While there is some recent work by Western scholars on spirituality, embodied or somatic knowing, emotions, aesthetics, and the “nonrational,” these perspectives are still very much on the margins of the field (see Chapter Eight).

However, we need only look more closely inside our own borders, to Native Americans, for example, and beyond the borders of North America and Western Europe, to find major systems of thought and beliefs embedded in entirely different cultural values and epistemological systems that can be drawn upon to enlarge *our* understanding of adult learning. Some of these systems predate Thorndike by thousands of years and encompass the greater part of the world’s peoples. For example, in a study of self-directed learning in the Korean context, most of the Western values were rejected (Nah, 2000). Rather, “a person becoming independent of his or her parents, teachers or other people, tends to be considered threatening [to] the stability of a community he or she belongs to. . . . Becoming independent without being interdependent passes for immaturity or self-centeredness” (p. 18). Moreover, in a country that has faced numerous enemies, “collectivism and collaboration are taught from one’s childhood as one of the most important survival skills and moral virtues” (p. 18).

In yet another example, the notion of transformational learning from a Buddhist thought system involves “increased insight into the nature of reality result[ing] in an understanding of the interconnection of all living beings and a decrease in human suffering” (Brooks, 2000, p. 166). Brooks goes on to point out that “although Buddhism is a part of mainstream institutional culture in many

Asian nations, it stands as an alternative to the mainstream in the West” (p. 166).

This chapter has a number of purposes. First, we introduce readers to the value of learning about other perspectives. Second, we discuss some key concepts involved in this endeavor, concepts such as the Western/non-Western dichotomy itself, ethnocentrism, culture, and indigenous knowledge. At the center of the chapter are short introductions to five different perspectives on learning and knowing; these five perspectives were first presented as a symposium at the 2005 Adult Education Research Conference and are but examples of how much we have to learn from other systems of learning. Finally, we will close with some commonalities or themes found across non-Western perspectives that stand in contrast to our Western orientation to learning.

WHY STUDY OTHER WAYS OF LEARNING AND KNOWING?

Some readers of this book might argue that since a Western perspective dominates what is considered the legitimate knowledge of adult learning, we need not bother ourselves with considering yet other systems of learning. This view is quite ethnocentric; that is, “the tendency to view one’s own cultural group as superior to others” (Reagan, 2005, p. 4), and being ethnocentric, reinforces the marginalization and oppression of other systems of knowing. The purpose of examining other systems is not to replace the Western tradition but rather to *expand* our understanding of learning and knowing.

Such exposure can affect our practice as adult educators in a number of ways. First, we might rethink our purposes as educators from largely transmitters of “validated Western information” to “a more compelling form of analysis . . . engaging students in the interpretation of various knowledges and modes of knowledge production” (Semali & Kincheloe, 1999, p. 34). Closely aligned with this purpose is that considering other ways of knowing leads us to examine how knowledge is produced, whose interests are being served by this knowledge, and how knowledge comes to be validated or “official” (see Chapter Ten). “Such an awareness is too

often absent in Western education. In mainstream pedagogies we are taught to believe that the knowledge we consider official and valid has been produced in a neutral, noble, and altruistic manner. Such a view dismisses the cultural and power-related dimensions of knowledge production” (Semali & Kincheloe, 1999, p. 34).

Yet another purpose in becoming familiar with other knowledge systems is the benefit this knowledge will have in affecting our practice with learners having other than Western worldviews. Antone and Gamlin (2004) for example, argue that to be effective, literacy programs with Aboriginal people (a term they use to refer to First Nations, Inuit, and Métis persons and collectivities) must be more than “reading, numeracy and writing which is typically directed towards gaining access to mainstream employment” (p. 26). Rather, Aboriginal literacy

is about sustaining a particular worldview and about the survival of a distinct and vital culture. Being literate is about resymbolizing and reinterpreting past experience, while at the same time honouring traditional values. Being literate is about *living* these values in contemporary times. Being literate is about *visioning* a future in which an Aboriginal *way of being* will continue to thrive. Meaningful Aboriginal literacy will develop and find expression in everything that is done. Consequently Aboriginal literacy programs must reflect a broad approach that recognizes the unique ways that Aboriginal people represent their experience and knowledge. [p. 26; italics in original]

Another example of how having some familiarity with other worldviews can affect our practice as adult educators is in understanding how many Asian students view aspects of the teaching-learning transaction. Their reticence to question or speak out in our classes is due to years of training that speaking out might cause someone (the teacher in particular) to lose face; the accepted strategy is to personally approach the teacher outside class. Further, “silence is used by east Asian collectivists as an indication of strength, power, and disagreement, whereas individualists see it as an indication of weakness, shyness, or trouble” (Liu, 2001, p. 190). Finally, Wang (2006) points out that for a Chinese student, sharing something personal in our adult education classes is seen as a sign of weakness, a loss of manners, or an attempt to seek help.

A final value in expanding our understanding of learning to include perspectives outside of our traditional Western views is that we will be personally enriched. Such exposure leads to reflecting on our own ideas in new ways, and hearing others' stories about their learning contributes to our own meaning-making. While we can

acknowledge that no story perfectly evokes all that is true about our lives, . . . we must also acknowledge that the more stories we have available to us, the richer are our resources . . . the more voices and narratives to which we listen, the more abundantly we experience our lives. In fact, we often find that as different from ourselves as we may imagine the others who create those narratives to be, we can still find that the stories from their lives reflect something true about our own. In that case, for both their differences and their similarities, we can hardly afford to let some voices remain marginal and silenced and other voices dominate. [Brooks, 2000, p. 169]

For example, in one of our adult development classes an adult learner from India shared her story of living with her parents, as is the custom, until she was married at age thirty-two. She saw this as a great advantage in her learning to be a mature adult because she had her parents as constant role models. At the same time, she came to understand what aging meant for older adults and developed both compassion and admiration for the older generation.

THE WESTERN/NON-WESTERN DICHOTOMY, CULTURE, AND INDIGENOUS KNOWLEDGE

There are a number of concepts that are important to consider when stepping out of our Western-only perspective on learning. First to be considered is the dichotomy of Western versus non-Western. Culture and indigenous knowledge are two other concepts that inform this effort.

We have used “non-Western” in the title of this chapter to convey something different from the epistemology that many label “Western” that informs the rest of this book. This notion of dichotomies is itself a very Western concept, a fact not lost on us. Dichotomies such as *mind-body*, *nature-nurture*, *emotion-reason*, and *human-animal* are in fact an “obsession . . . that runs through Western intellectual history” (Nisbett, 2003, p. 154). And, of course,

there are a number of anomalies in using these terms—for example, many indigenous peoples of North America do not adhere to a “Western” perspective. Also problematic is the suggestion that “Western” is the gold standard against which we measure non-Western, thus depriving non-Westerners of having legitimate knowledge apart from Western norms. So why do we use these categories? As Reagan (2005, p. 11) notes, “The biases inherent in the terms are in fact a significant and telling component of the phenomenon that we are concerned with studying. . . . Thus, what begins as a false dichotomy can emerge as an effective way of challenging and reforming racist and ethnocentric assumptions and biases.”

A Western perspective is often traced to classical Greek culture where “personal freedom, individuality, and objective thought” (Nisbett, 2003, p. 30) were developed, brought to Europe, and extended to other parts of the world through European colonization. Still going on today is the intellectual “colonization” of the world, largely through Western science. “A key to comprehending the power of Western science involves its ability to depict its findings as universal knowledge. Modernist science produces universal histories, defines civilization, and determines reality: such capabilities legitimate particular ways of seeing and, concurrently, delegitimize others” (Semali & Kincheloe, 1999, p. 31).

The separation of knowledge from its context and its codification according to Western science has had an impact on educational thought and practice. We collapse education into “schooling,” for example, so that in adult education learners have a difficult time thinking of their learning as anything but participation in formal classes. Informal learning, which adults engage in on a daily basis, hardly counts as “real” learning. “Western epistemological tyranny and the oppressive educational practices that follow it” (Semali & Kincheloe, 1999, p. 31) have resulted in our overlooking rich sources of knowledge. For example,

Western epistemological exports to Africa . . . tend to limit reality to appearances with which they [Westerners] seek to justify, mostly without explanation, the so-called absolute and irrefutable truth. For Africans, the search for truth goes beyond appearances into some deep understanding of why the truth is truth. Sometimes the search for truth may be mystified as [when] recourse may be made to traditional religious performances. Among the Yoruba in

Nigeria, the *ifa* oracle of divination may be used to determine what the truth is. Magical understanding and interpretation of the truth is accepted in Africa and this is connected to the way in which people know. [Fasokun, Katahoire, & Oduaran, 2005, pp. 63–64]

The Western/non-Western dichotomy is one means of considering alternative perspectives to our understanding of learning and knowing. *Culture* is another, which is of course part of defining Western and non-Western perspectives. There are as many definitions of culture as there are individuals who write about it. Basically, culture consists of the shared behavior and symbolic meaning systems of a group of people. It is, as Hofstede (1984, p. 51) writes, “the collective programming of the mind which distinguishes the members of one category of people from another.” Banks and Banks (1997, p. 8) have more recently defined it as follows:

The essence of a culture is not its artifacts, tools, or other tangible cultural elements but how the members of the group interpret, use, and perceive them. It is the values, symbols, interpretations, and perspectives that distinguish one people from another in modernized societies; it is not material objects and other tangible aspects of human societies.

While we often link “Western” and “culture” together, “there is no single ‘Western’ culture in any really meaningful sense; rather, there are many different and distinct cultures that share certain elements of a common historical background that are manifested in different ways in the present” (Reagan, 2005, p. 37). What linking “Western” and “non-Western” to culture does is to provide a kind of shorthand for comparing two epistemological systems. For example, Jegede (1999) presents a table comparing African and Western systems of thought. In African culture “orality predominates,” whereas in Western thought knowledge is “documented.” Similarly, in Africa, “learning is communal,” but in the West, “learning is an individual enterprise” (p. 125).

Abdullah (1996), a management consultant in Malaysia, compares what she calls “individualistic” or “more Western” with “collectivistic” or “more Eastern” cultural interpretations of values. With regard to group versus individual preference, for example,

“Westerners” value freedom and independence whereas “Easterners” value belonging, harmony, family, security, and guidance; success in the West is materialistic but in the East it is relationship- or friendship-based. The communication style in a more Western cultural orientation is direct, to the point, and emphasizes clarity; in a more Eastern culture communication is subtle, indirect, and often employs a third party. Understanding these and other differences in values, Abdullah points out, is crucial to managing a multinational and multicultural workplace.

What are presented as “Western” or “African” or “Eastern” values and systems of thought capture, imperfectly of course, some of the differences that in turn affect not only how we see the world but how learning experiences are interpreted. For example, in a study of the role of cultural values in shaping older adult learning in Malaysia, participants spoke of learning as a spiritual or philosophical quest, and as “a responsibility and a means of giving back to their communities” (Merriam & Muhamad, 2000, p. 60).

A third concept important for understanding learning and knowing from non-Western perspectives is that of *indigenous knowledge*. Like culture, indigenous knowledge has been defined in numerous ways. Most definitions consider it “local or community knowledge that is commonly generated and transmitted over a period of time in geographic and historic space” (Fasokun, Katahoire, & Oduaran, 2005, p. 61). It is knowledge generated to deal with local problems and issues “related to health, farming, warfare, education, culture and the environment” (p. 61). This is knowledge produced by people, who, according to the World Council of Indigenous Peoples, “occupied lands prior to populations who now share or claim such territories”; indigenous peoples may also “possess a distinct language and culture” (Semali & Kincheloe, 1999, p. 40). Dei, Hall, and Rosenberg (2000) point out that many indigenous cultures value the following: “seeing the individual as part of nature; respecting and reviving the wisdom of elders; giving consideration to the living, the dead, and future generations; sharing responsibility, wealth, and resources within the community; and embracing spiritual values, traditions and practices [with] reflection [on] connections to a higher order, to the culture, and to the earth” (p. 6).

Indigenous knowledge differs from official, academic knowledge in several ways. First, it is organic in the sense that it is generated during the daily lives of people in a local context rather than “by planned procedures and rules” (George, 1999, p. 80). This knowledge is typically passed on from one generation to the next in oral, rather than written form. Finally, “indigenous knowledge is not to be found in the school curriculum” (p. 80). So, too, the “pedagogy” of indigenous knowledge differs from traditional schooling or education. Knowledge is conveyed through “story-telling, poetry, metaphor, myth, ceremony, dreams and art; and honoring indigenous elders as ‘cultural professor’” (Graveline, 2005, p. 308).

As many writers have pointed out, we have much to learn from indigenous knowledge systems throughout the world. What has until recently prevented us from accessing and learning from these systems is

“Western” knowledge production—it is self-contained, self-sustaining, handy, convenient, and even tinged with a sense of righteousness. . . . Hermetically sealed, the closed system of “Western” knowledge production has been institutionalized, in a matter of several hundred years, to such a degree as to dismiss indigenous knowledges based on thousands of years of experience, analysis, and reflection as primitive (Allen, 1989; Deloria, 1997; Harjo & Bird, 1997). It is . . . intellectual apartheid. [Rains, 1999, p. 317]

By way of summarizing, it is our thinking that non-Western perspectives on learning and knowing include, for example, indigenous knowledge systems such as found in Africa, in Native American and First Nations peoples of North America, and in Maori people of New Zealand and Aboriginal people of Australia. Typically, however, major philosophical or religious systems of thought such as Buddhism, Islam, Hinduism, Confucianism, and so on are labeled “non-Western” rather than indigenous. Of course, how we group or label these systems is not what is important. What is important is that by becoming acquainted with other ways of learning and knowing we enrich our understanding of learning, and ultimately our practice with adults.

AN INTRODUCTION TO FIVE NON-WESTERN PERSPECTIVES ON LEARNING

Following is a sampling of five non-Western perspectives on learning. There are, of course, book-length descriptions of each of these, and there are many other non-Western and indigenous educational traditions that could be explored; however, it is not the intention of this chapter to be comprehensive with regard to these perspectives. Rather, we wish to introduce readers to the *possibilities* in learning about other ways of knowing. The perspectives included here were presented by their authors in a symposium held at the Forty-Sixth Annual Adult Education Research Conference at the University of Georgia, Athens, on June 4, 2005 (Merriam et al., 2005).

ADULT LEARNING FROM A CONFUCIAN WAY OF THINKING: YOUNGWAH KEE

The Confucian notions and perspectives on adult learning that I present here are based on four basic books about Confucianism: *Confucian Analects* (Sung, 1991a), *Mencius* (Sung, 1991d), *The Great Learning* (Sung, 1991c), and *The Doctrine of the Mean* (Sung, 1991b). Although *The Great Learning* focuses mainly on the Confucian way of learning, the other three books based on Confucian philosophy and ideas also contribute to our understanding of learning as proposed by Confucius (551–479 BC), who is also called Kung-tzu.

According to Chu Hsi, a twelfth-century scholar of Confucianism, the philosophy behind this conception of adult learning is to imitate the virtues of another person. According to Chu Hsi, a person who does not know how to act in a situation will follow the example of one who does know. Imitation of the conduct of the sages is true learning.

Confucius also expressed the concept of true learning with two characters *Hak* and *Seb*, which can be translated into the one word *learning* in English. Kung-tzu taught the principle of learning as *Hak-Yi-Shi-Seub*, which refers to the enjoyment of learning through daily experience. *Seub*, especially, has the literary meaning of a bird that is learning to fly by the continuous practice of flapping its wings in imitation of an example. *Hak-Yi-Shi-Seub* expresses a constant symbolic relationship with the world around us to feed

off of—that is, learn from—the myriad situations we encounter as we go through our lives.

According to *The Great Learning*, the adult learning process is a highly complex process, involving commitment, continuous effort, and a holistic approach. This continuous learning process is constructed by learners through the inner self interacting with nature. It is a project that cannot be completed in a limited time frame. It emphasizes meditation to control oneself and internal integration between self and nature. And it is extended through continuous dialogues with others within the parameters of human relationships. It is a holistic approach to learning: to become fully human through self-rectification and spiritual study.

The purpose of adult learning is to enlighten the people, to love the people, and to rest in “the highest excellence.” According to *The Great Learning*, eight steps should be followed to reach the highest excellence: investigation of things, extension of knowledge, sincerity of will, rectification of the mind, cultivation of one’s personal life, regulation of the family, national order, and world peace. Adult learning is a guide to becoming fully human. Adult learning, according to Confucianism, cannot be used as a tool for achieving specific goals in a specific situation. For example, the contents of learning are not related to vocational or skill acquirement. Instead, adult learning is focused on spiritual development.

According to *The Great Learning* (Sung 1991c), adult learning highlights both learning on one’s own and peer learning. *Confucian Analects* (Sung, 1991a, p. 139) mentions that “there must be a role model even when a few people take off on the road together.” It emphasizes peer learning among adult learners. Moreover, *Confucian Analects* says that teachers must wait until adult learners understand by themselves; then, at this time, teachers must again help learners’ understand through individual learning.

Finally, the relationship between teacher and students is not equal as it is in Western society. The teacher is respected by members of society, and learners are asked to obey their teachers. This comes from the Confucian idea expressed as *gun* (king), *sa* (teacher), *bu* (parent), *ilche* (the same body) in Chinese characters. This means: teacher, parent, and king are treated equally and have the same importance in one’s lives. This idea is still prevalent in Confucian educational systems in Korea, Taiwan, and China.

THE HINDU PERSPECTIVE: SWATHI NATH THAKER

Imagine, for a moment, that you are interviewing people for a position and your next candidate is Indian. What characteristics come to mind? What types of knowledge do you think this particular individual possesses? Often when one thinks of an individual of Indian origin, one imagines a person with a strong aptitude for math, science, and technology. However, when one visits India, it is not technology that is readily apparent but rather a spiritual atmosphere that emanates from the people of this country. It is not simply religion but rather a holistic view of life. This view of life combines both cognition and spirituality to create individuals who view learning and the development of knowledge not merely as the acquisition of skills and facts but rather as a means to becoming unified beings. As Dr. Merriam has noted, Western notions of learning have dominated, and still dominate, the field of adult education, with issues such as somatic learning and spirituality emerging only recently. While much of the research and theory suggests that the mind and body are split, a number of cultures around the world do not believe in this dichotomy, and Hinduism is no exception.

Hinduism, which is said to be over four thousand years old, defines itself according to the Vedas, the most ancient body of religious literature. Although much of this content has long been unknown to most Hindus, it is still regarded as an absolute authority, revealing the fundamental truth. While the connection between mind and body is evident in these scriptures, the Vedas also chronicle the relationship between guru, or teacher, and student, which is believed to be sacred and revered. This connection between instructor and pupil is prevalent in early writings, such as the Mahabharat, an epic in itself, which contains a code of life, a philosophy of social and ethical relations that offers spiritual strength. The following story, contained within this literature, highlights the sacred relationship of guru and student:

Ekalavya witnesses the archery skill of Drona and wishes him to be his guru. However, Drona refuses, for a number of reasons, chief among them because he already has a pupil, Arjuna, to whom he has promised the title of greatest archer in the world. Disappointed, Ekalavya takes it upon himself to secretly watch Drona

during his instruction. Through his absolute devotion to the art and ceaseless practice, Ekalavya's skills surpass those of Arjuna. Arjuna's dream is shattered and Drona inquires how the youth has learned such an art. Though it can be argued that it was Ekalavya's devotion and determination that developed his success, he honors Drona by kneeling before him. Drona becomes upset when he realizes that Ekalavya has been watching him, as he has a loyalty to Arjuna. Thus, Drona asks Ekalavya for his right thumb as payment for this "teaching," which he immediately offers out of gratitude, even though he knows he will no longer be able to practice archery.

This story illustrates both sides of the connection between student and master. Drona felt a strong bond to his disciple, Arjuna, and helping him fulfill his dream of becoming the world's greatest archer. Thus, he asks Ekalavya for his thumb, knowing full well that this will make it impossible for the youth to be an archer. In turn, Ekalavya feels a deep reverence for Drona because he views him as his master and guide. It is because of this respect that Ekalavya freely offers his thumb. While this tale does represent the notion of apprenticeship, because both Arjuna and Ekalavya were seeking to master a specific skill, it also highlights how, in Hindu philosophy, the guru-student relationship extends much further than that. Though Hinduism does allow for individuation, its focus is on spiritual growth, thus helping individuals to connect the mind and body.

The values and beliefs of Hinduism, such as karma (the law of cause and effect), are often learned not through readings but through oratory. While religious scriptures such as the Mahabharat, Ramayana, and the Bhagavad Gita are now in written form, much of their contents are taught through storytelling. Children grow up hearing tales, such as the one told earlier, from their parents and grandparents, that highlight the philosophical values of Hinduism. In this culture, items do not necessarily need to be written down in order to carry significance. Instead, the core underpinnings of Hinduism are passed from generation to generation through an oral tradition. This is especially true in relation to the Vedas, which are considered to be the heart of Hindu culture. Though many can no longer read these scriptures (the language

of Sanskrit is a dying art), their message lives on in the stories that families share. It is the recounting of these generational tales, and not the written word, that keeps Hinduism alive. In addition, dance and music are used to share the lessons that are contained in the ancient texts. The use of these various art forms also helps keep Hindu traditions alive.

Throughout life, Hindus strive to become learned in multiple ways. It is not simply about developing cognitive skills, but rather to discover oneself, because this is the only means and path to liberation and wisdom. However, this self-discovery is not the end of the spiritual journey but rather a stepping-stone to gaining a more holistic understanding of the universe. Whereas Western belief teaches that an individual is empowered through himself or herself, Hinduism argues that true empowerment emerges through an understanding of the sources of knowledge, not just its components, thus leading to unity with the universe, which at times requires a renouncing of the self and worldly possessions. This is particularly poignant during the last stage of life, when individuals abandon their home and belongings and set forth on a pilgrimage or seek sanctuary in an ashram, which is a spiritual hostel. This type of journey still takes place today, because it is believed that this passage leads to true enlightenment through unification of the mind and body. Thus, life for a Hindu is not about the acquisition of knowledge but rather about developing wisdom through gaining an understanding of oneself in a holistic manner.

This notion of foregoing identity in order to reach a state of higher understanding is powerful, and often neglected in Western thought. There is a strong emphasis on individuation in the West that is not readily apparent in Hinduism. The Hindu learner continually strives to understand the larger picture and his or her connection to the universe as a whole. It can be argued that this mentality allows learners to open themselves to varying sources of knowledge. By allowing a variety of forms of knowledge, such as through meditation and stories, and not relying solely on the printed word, Hindu learners are able to obtain a level of spiritual being that is often difficult for Western students. As the Western educational system begins to value other ways of knowing, its learners will have an opportunity to focus less on the self and increasingly on forming a unity with the world at large.

MAORI CONCEPTS OF LEARNING AND KNOWLEDGE: BRIAN FINDSEN

He aha te mea nui o te ao? He tangata, he tangata, he tangata. (What is the most important thing in life? It's people, it's people, it's people.)

This proverb from Maori traditions stresses the centrality of people to any activity of living. Learning is no exception. Maori learning has always been lifelong and lifewide, long before these concepts became fashionable in adult education circles and beyond. *Ako*, the Maori word for learning, necessarily entails historical and cultural dimensions and is also the word for teaching. Before Freire (1970) explained the concepts of teacher-student and student-teacher, the term *ako* did not differentiate between those who dispense knowledge and those who acquire it. Knowledge is always a collective entity.

In this situation I need to state my positionality in relation to the construction of Maori knowledge. As a New Zealander and student of *Maoritanga* (things Maori), I offer an “insider” perspective; as a *Pakeha* (European), I offer an “outsider” viewpoint, unavoidably Eurocentric to a degree. I can never be bicultural in the same way as a Maori person who is immersed in the dominant culture and subject to its oppressive power relations; I choose as a member of the dominant colonizing group to better understand Maori concepts and perspectives.

The Treaty of Waitangi provides much of the policy context for Maori self-determination and what counts as knowledge in officially bicultural *Aotearoa* (the Maori word for New Zealand) today. In this contemporary society, the treaty, signed in 1840 by 512 chiefs of the Maori people and Governor Hobson, on behalf of the British Crown, functions as a blueprint for relations between *tangata whenua* (people of the land) and *tauivi* (non-Maori), including relationships in the educational realm. Importantly, three principles derived from the treaty are prominent in current government social policy: protection (of *taonga*, or cherished possessions, such as language), partnership (moving forward on an equal power basis), and participation (the rights of Maori to active citizenry, including equality of educational opportunity and outcomes).

When discussing Maori concepts, traditional tribal structures need to be analyzed to provide the basis for the social construction

of knowledge. Maori trace their *whakapapa* (genealogy) back to the Great Migration of the seven *waka* (canoes). Each *waka* claimed geographically different parts of Aotearoa for *iwi* (tribes). Within each *iwi* are *hapu* (subtribes) and within each *hapu* are *whanau* (extended families). Hence, the *whanau* serves as a fundamental unit for living and learning. Although *iwi* were originally concentrated in particular geographical areas, the reality now, after massive urbanization, is that Maori people are scattered through the country though usually still anchored to their tribal identity. Knowledge is a *taonga*, unevenly distributed, though highly valued; some of it is *tapu* (sacred) and controlled traditionally by *tohunga* (experts). While there is much in common among *iwi*, there are also significant differences, related to *marae* (community sites for *hapu* or *iwi*) protocol. Much knowledge is constructed and reinforced via *hui* (meetings) held on *marae* where local customs are emphasized and *whanau* socialization occurs. However, especially in urban settings, some of the traditional aspects of learning have been diminished and new social practices established.

One of the prominent features of New Zealand life is the increasing autonomy claimed by Maori in accord with *tino rangatiratanga* (self-determination). This bid by Maori for greater control over their lives is mirrored in other parts of the world where indigenous peoples are making serious efforts to reclaim political, economic, and educational sovereignty. As Maori have been disenfranchised from much of government-funded education (as evidenced by historical national statistics of underachievement), their solution has been to rebuild Maori collective consciousness by establishing their own sites of learning, where control is in their own hands. Knowledge is defined and constructed by Maori for Maori and learned in culturally appropriate ways. *Kohanga reo* (language nests) began in 1981; here, preschoolers are taught according to Maori customs in *te reo* (Maori language). Currently, over six hundred *kohanga reo* exist. Following this initiative are sixty *kura kaupapa Maori* (Maori elementary-secondary schools) and new *whare wananga* (houses of learning for adults). Hence, a lifelong education system, consisting of Maori education institutions, has been established by Maori, assisted to a modest extent by the public purse. The struggle has been hard but the rewards great.

In Maori education institutions, consistent with overarching principles derived from the treaty, there are six subprinciples

adopted by prominent Maori educators (see Bishop & Glynn, 2003). They are as follows:

1. *Tino rangatiratanga* (relative autonomy). Organizers of the schools make all the required administrative, staffing, and pedagogical decisions.
2. *Taonga tuku iho* (cultural aspirations). To be Maori is to be normal. Maori language and knowledge are valued and legitimated.
3. *Ako* (reciprocal learning). Teaching and learning are connected to the real lives of Maori, cognizant of their life circumstances.
4. *Kia piki ake I nga raruraru o te kainga* (mediation of difficulties). Participation in kura reaches into the homes of Maori, and families are expected to participate in kura activities.
5. *Whanau* (extended families). Collectives of people work toward a common goal.
6. *Kaupapa* (collective vision or philosophy). There is a collective vision of what constitutes excellence in Maori education.

The fundamental essence of the kura kaupapa Maori is to assist Maori families to problem-solve in a culturally suitable fashion and to work alongside children in education and enhance their own lifelong learning aspirations.

ADULT LEARNING FROM AN ISLAMIC PERSPECTIVE: MAZANAH MUHAMAD AND MAZALAN KAMIS

The word *Islam* originates from three Arabic letters (Sim, Lam, Mim), making the root word which means to be in peaceful submission, to obey, to surrender, and peace. In the religious context it means “total submission to the will of Allah and obedience to His law.” Muslims draw upon the Qur’an as a primary learning source and supplement it with the *hadith*, a collection of the recorded sayings of Prophet Muhammad.

Islam is a comprehensive way of life and it pays special attention to education and knowledge seeking. In some aspects, the Islamic perspective on learning differs from that of the West. Differences include the purpose of knowledge, communal obligation, responsibility to share knowledge, and the teacher-student relationship.

Learning is considered sacred and obligatory for an individual as well as for the community. It is a form of *jihad*, which means *struggle*. In the very first verse of the Qur'an, the Prophet was instructed to read: "Read! In the name of your Lord, Who has created (all that exists). Read! And your Lord is the most generous. Who has taught (the writing) by the pen. Has taught man that which he knew not" (Qur'an 96:1-5).

In Islam, the purpose of education is to bring humankind closer to God and His creation. Since God is "the source of knowledge, by knowing more they felt they were drawing near to God" (Husain & Ashraf, 1979, p. 11). The Qur'an also guides humans to investigate the phenomena of nature, so that they will recognize, worship, and serve Allah. The Islamic notion of education integrates the rational, spiritual, and social dimensions of a person (Cook, 1999). This notion is grounded in sincerity, where knowledge gained is meant to guide practice and espouse humility. The Prophet said: "Actions are but by intention and every man shall have only which he intended."

The emphasis on a communal learning obligation is unique because it stresses the believers' responsibility to society. Education and the acquisition of knowledge are good only if "they serve to engender virtue in the individual and elevate the whole community" (Cook, 1999, p. 349). Learners and society benefit from knowledge acquisition, "Are those who know equal to those who do not know?" (Qur'an, 39:9).

Islam recognizes that both learning and teaching are equally important. In his last sermon the Prophet said, "Let those who are present inform those who are not." In another hadith the Prophet calls for a person to "be a scholar/teacher, . . . or be a student who studies, or be a listener who listens to people who teach. Do not fall into the fourth category: hater of the above."

A teacher is a learned person who is a keeper of God's treasure—that is, knowledge. A teacher is like the sun, which being itself luminous, sheds light: "The passing away of a whole tribe is more tolerable than the death of one learned man" (Faris & Ashraf, 2003). The student-teacher relationship is, therefore, sacred. Thus, *adab* (discipline of body, mind, and spirit) must be observed when one interacts with one's teacher.

Finally, learning is lifelong. The Prophet said, “Seek knowledge from the cradle to the grave.” The Prophet was forty years old and illiterate when the Qur’an was first revealed to him. A well-known Islamic scholar, Al-Imam Shaffie, described a person who ceases to learn as dead. Like a drop of water in the sea, one can never complete acquiring knowledge, a notion supported by the Qur’an (18:109). It is clear that age, gender, or ethnicity should not be a barrier or a prerequisite for learning. Seeking, reflecting, and sharing knowledge is noblest of all in Islam.

AFRICAN INDIGENOUS EDUCATION: GABO NTSEANE

Research on African traditional education (Morolong, 1996; Mautle, 2001; Magagula & Maziboku, 2004) reveals that education and learning are not recent interventions in traditional societies. They had specific principles, methods, and social institutions to foster learning. The literature also shows that a major principle of African indigenous knowledge systems is that to learn is to live usefully and happily with one’s family, with one’s community, one’s society, and the spirits of one’s ancestors—hence, the importance of the words *botho* in Setswana or *ubuntu* in Zulu, whose literal translation is “humanism of human beings collectively.”

Informality, collective learning, oral modes of instruction, and acquisition of revealed knowledge through dreams and visions are also important. Unfortunately, current adult education practices have overlooked some of these important principles of African pedagogy. It is argued that a creative adult education practice that modernizes tradition but at the same time traditionalizes modernity is required.

In the African context, education is supposed to help groups of people reach the highest level of important societal values, such as *botho*, or humanism. By being *botho* the individual then becomes part of an empowered group of people who are honest, accommodating, sharing, committed to saving lives at all costs, and respecting of the young and the old. The opposite of *botho* is selfishness, greediness, and self-centeredness—characteristics not good for humanism because they do not promote cooperation between individuals, cultures, and nations.

However, the values of *ubuntu* have been marginalized in education because of the historical process of colonialism and a materialistic economy. The result is an education lacking in the ability to respond to the needs and interests of indigenous communities. Adult education has been accused of elevating technical rationality over other forms of knowledge, human thought, and discourse.

Locally based knowledge is generated through a systematic process of observing the local environment, experimenting with solutions, and readopting previously identified solutions to changing environmental factors. It is acquired and shared through empirically based observation, imitation, and continuous practice through a phased childhood and adolescence. It encourages *participatory education* through ceremonies and rituals, spiritual work, recreation work, and intellectual training such as storytelling and poetry. Knowledge is stored in cultural and religious beliefs, taboos, folklore, or myths and an individual's practical experience. The lack of hierarchy and theoretical concepts allow easy sharing of knowledge.

In oral societies such as in Africa, every normal person, besides being required to be a productive worker, also plays the double role of learner and teacher. A unique form of formal instruction is the acquisition of revealed knowledge through the processes of dreams and visions. For example, many herbalists in Botswana claim that the secrets of their medicine and how it should be administered were communicated to them mainly through dreams.

In the absence of literacy, Mautle (2001) observed that assessment in Botswana included performing group tasks and judging an individual's character in relation to the overall group's performance. Real graduation occurred only after a group had successfully initiated the cohort that followed it. Accreditation was not in the form of a certificate to an individual but rather the graduates were given a name for their cohort and assigned a community-based activity. The activity had to be relevant to the current needs of the society, such as building a corral for stray cattle.

Although I advocate for the recognition of African indigenous knowledge, I by no means advocate for a complete uprooting of the other cultural aspects of the current adult education curriculum. Only good aspects of African indigenous knowledge systems should be adapted.

COMMON THEMES ACROSS NON-WESTERN AND INDIGENOUS PERSPECTIVES

From this small sampling of non-Western and indigenous perspectives we can see a number of themes about learning that stand in contrast with Western views. The four themes of interdependent, communal, holistic, and informal learning highlight different *emphases* in learning, rather than suggesting an either/or stance.

First, there is an emphasis on *interdependence* instead of independence in learning. Western models of development and learning promote a movement toward being more independent; to be in control of one's life and learning, to be a productive member of society, is, in fact, what it means to be "mature" in our society (see Chapter Twelve). Andragogy, self-directed learning, and Mezirow's theory of transformational learning all focus on the individual becoming an independent learner who relies mostly on himself or herself in the process.

This notion is in stark contrast to non-Western learning traditions as is obvious in all five of the preceding vignettes. Identity, self-concept, and self-esteem are developed and enhanced only in relation to others. Recall Nah's (2000) research into self-directed learning in Korea mentioned earlier in this chapter wherein independence is considered immature and self-centered. Commenting on the African context, Fasokun, Katahoire, and Oduaran (2005, p. 10) note that while of course "no one is exclusively independent or interdependent" and some balance "is struck by each society, in most African cultures the individual gains significance from and through relationships with others."

Second, the notion of interdependence is linked to the *communal* nature of learning in non-Western systems, rather than the more isolated Western teaching-learning transaction. It is the responsibility of all in the community to teach and to learn. In commenting on seven traditions (African indigenous, Aztec, Native American, Confucian, Hindu and Buddhist, Rom, and Islamic) presented in his book, Reagan (2005) observes:

The concept of some adults being *teachers* and others (presumably) being *non-teachers* is a somewhat alien one to many traditions. Furthermore, it is interesting to note that in none of the cases examined

here—even those with the most fully articulated formal educational systems—was there any explicit, formal training for those who would play teaching roles. The idea of teachers engaging in a profession, with specialized knowledge and expertise not held by others, appears to be a Western, and indeed relatively recent, innovation. [p. 249; italics in original]

Third, a *holistic* approach that includes the spirit, mind, body, and emotional components of learning, or some combination of these, is emphasized over the Western focus on the cognitive. In non-Western traditions, education and learning are in the service of developing more than just the mind. They are also to develop a good person, a moral person, a spiritual person, one who not only contributes to but also uplifts the community. Benally (1997) speaks of learning in the Navajo tradition: “Western tradition separates secular and sacred knowledge and thus fragments knowledge. Consequently, some learning is forgotten soon after academic program requirements are met because it was never grounded or connected to life processes” (p. 84). In contrast, “for the Navajo, knowledge, learning, and life itself are *sacred, inseparable, and interwoven parts of a whole*. The quality of each determines the quality of the other” (p. 84; italics in original). Because development of the whole person is imperative, instruction can take many forms to access these different dimensions, such as storytelling, poetry, ceremonies, dreams, meditation, and so on.

A fourth theme that cuts across non-Western perspectives is that learning is primarily *informal*, is embedded in everyday life, and is lifelong. While we in adult education might recognize the prevalence and power of learning that is integral to our daily lives, most Westerners think of learning as that which occurs in a formal teacher-led classroom dependent on books and curriculum materials. Formal assessment that often leads to some sort of certification or credit is part of this structure.

In contrast, learning in non-Western settings is structured by the community problem or issue needing attention, by accessing resources, including people and materials that can assist in the problem solving, and by “evaluating” the learning according to the effectiveness of its application to the situation. This is not to say that formal education has no place in non-Western systems; in

today's world formal education has become a necessity. Rather, "the common tendency in our own society to conflate and confuse 'formal schooling' with 'education'—a tendency reflected in our concern with formal certification and degrees rather than with competence per se—has been far less common in non-Western traditions" (Reagan, 2005, p. 248). There appears to be more recognition of and value placed on learning that is what we would call informal in these non-Western traditions. In reference to Africa, Fasokun, Katahoire, and Oduaran (2005) sum up this emphasis on informal learning: "As in other parts of the world, informal learning by African adults involves learning through experience under enabling conditions that facilitate the development of knowledge, skills, attitudes, aptitudes, values and interests. This is done to enhance performance, bring about change or solve practical problems" (p. 36).

In summary, we have presented four themes or emphases in non-Western learning systems that contrast with our Western perspective. Non-Western systems appear to place a greater emphasis on interdependence as a value to be developed versus independence; to link communal or community concerns with learning; to see learning as a holistic activity with a spiritual aspect, in contrast to the cognitive emphasis of the West; and finally, to value and recognize informal learning as legitimate.

SUMMARY

This chapter on non-Western perspectives of learning and knowing has introduced the reader to other ways of thinking about learning than is found in the rest of this book. The value of engaging with other frameworks is that we are challenged to think about the purpose of education and learning as well as question the nature of knowledge production itself. Further, knowing something about other systems of learning can both lead to applications in our practice and contribute to our own personal meaning-making.

As part of this chapter we also briefly discussed some important concepts, including problematizing the Western/non-Western dichotomy itself, defining culture, and considering the nature of indigenous knowledge. These concepts and others frame our brief foray into traditions of learning and knowing unfamiliar to most

of us. In light of this unfamiliarity, we offered short introductions to five non-Western perspectives: Confucianism, Hinduism, Maori, Islam, and African indigenous knowledge.

The final section of the chapter presented four themes that seem to span many systems of non-Western thought, themes that contrast with Western perspectives. First, non-Western systems emphasize interdependence versus independence. Second, and related to the first, is that learning in these frameworks is communal and in community, rather than an isolated activity. Third, a holistic perspective that includes spiritual, embodied, and emotional components of learning are given at least as much emphasis as purely cognitive approaches. Finally, informal learning is recognized and valued as much as, if not more than formal learning.

CHAPTER TEN

CRITICAL THEORY, POSTMODERN, AND FEMINIST PERSPECTIVES

Adult learning in North America has been most influenced by psychology, with its focus on individual learners, their growth and development, and their learning in and out of formal settings. In this chapter, where we approach adult learning from a critical, power relations framework, the camera moves from the individual learner to an analysis of the context where learning takes place. Considered are the larger systems in society, the culture and institutions that shape learning, and the structural and historical conditions framing, indeed defining, the learning event.

The learning process itself is less of a focus than the economic, historical, and sociocultural context in which that learning takes place. Questioning and critiquing taken-for-granted worldviews, structures, and institutions of society are the first steps in changing oppressive and nonemancipatory practices. Further, our assumptions about the nature of knowledge—including what counts as knowledge, where it is located (in the individual or in society), and how it is acquired—are also challenged. These questions about knowledge are particularly important for adult educators because presumably the construction and acquisition of knowledge are inherent in the teaching-learning transaction. Because this approach critiques and raises questions about the assumptions we make about the world around us, including those underlying the practice of adult education, this stance is often called *critical*, as in *critical adult education*.

A number of specific philosophical and theoretical orientations inform this approach to adult education and adult learning, including Marxism, critical theory, critical multiculturalism, critical race theory, postcolonialism, queer theory, postmodernism, and feminist theory. Although some adult educators are clearly identified with a specific orientation, a number of others draw from several theoretical perspectives. Hart's (1992) analysis of work and learning, for example, is anchored in Marxism, critical theory, and feminist theory. Tisdell (1998) draws from multiculturalism, feminist theory, and poststructuralism in proposing a model of feminist pedagogy for adult education classrooms. Hill (2004) combines critical theory and postmodernism in his analysis of activism around sexual orientation and gender identity. Grace (1996a, 1997) maintains that critical theory, feminism, and postmodernism inform one another to the extent that common themes or assumptions can be derived to guide adult learning practices. Further, many educators writing from several of these perspectives claim indebtedness to Paulo Freire's (1970) work. The noted Black feminist scholar bell hooks (1994, p. 46), for example, speaks of coming to Freire's work "just at that moment in my life when I was beginning to question deeply and profoundly the politics of domination, the impact of racism, sexism, class exploitation, and the kind of domestic colonization that takes place in the United States. . . . Paulo was one of the thinkers whose work gave me a language. He made me think deeply about the construction of an identity in resistance."

This chapter first provides a brief overview of some of the major themes, concepts, and terms that characterize perspectives derived from Marxist theory, critical theory, multiculturalism, critical race theory, postmodernism, and feminist theory. The chapter then focuses on three perspectives where contributions to adult learning have been most visible—critical theory, postmodernism, and feminist theory/pedagogy.

COMMON THEMES

An understanding of adult learning and adult education from the perspective of critique and empowerment mandates some familiarity with basic concepts and terminology. In this section, we

discuss three themes that characterize this perspective: race, class, and gender, which figure prominently in a critical analysis of adult learning; power and oppression, both key concepts; and knowledge and truth, which are construed in different ways depending on the school of thought. These themes are, of course, highly interrelated; it is not possible to talk about racism, classism, sexism, and other “isms” without reference to power and oppression, nor can power be considered apart from issues surrounding knowledge construction. These themes are brought together later in the chapter in the discussions of critical theory, postmodernism, and feminist theory’s contributions to adult learning.

RACE, CLASS, AND GENDER

Among the characteristics of people that provoke prejudice and oppression in American society, race, class, and gender are three of the most powerful and pervasive. The theoretical orientations discussed in this chapter place race, class, and gender and their interactions at center stage in analyzing the power dynamics and the distribution of resources in a particular context. The context can be defined as broadly as society, as an institution in society, or even as a specific adult education setting. The purpose in moving these issues to the foreground and analyzing systems of power and oppression, especially as they manifest themselves in adult education, is to bring about a more informed and democratic practice.

Race

While discussions of race focus primarily on African Americans, it should be noted that people other than White European Americans are also marginalized in our society. Native Americans, Hispanics, and Asian Americans all must grapple with discrimination and oppression based solely on their not being part of the White mainstream (Lee & Johnson-Bailey, 2004). Colin and Preciphs (1991, p. 62) define racism as “conscious or unconscious, and expressed in actions or attitudes initiated by individuals, groups, or institutions that treat human beings unjustly because of their skin pigmentation. . . . Racism is expressed in attitudes, behaviors, and institutions.” The social impact of racism (and sexism) in America in economic terms is disturbing. The median income of

White workers in 2003 was \$24,318 compared to \$19,794 for Blacks and \$17,974 for Hispanics (U.S. Bureau of the Census, 2004a). It is also common knowledge that women of color are overrepresented in low-skill, low-paid jobs, such as health aide and private household worker.

That these disparities based on race also exist in the practice of adult education is no surprise. Participation patterns alone have consistently borne out the fact that Blacks and other people of color are underrepresented in all types of adult education. Amstutz (1994) has suggested three reasons why racism (and sexism) persist in adult education despite well-intentioned efforts. First, she sees a discrepancy between the rhetoric of adult education that speaks of empowerment and equal access, and actual behaviors that more often than not are “unempowering” and “traditional.” Second, most adult educators are themselves White and middle-class, have had little interaction with minorities of any kind, and have failed to examine their own beliefs, assumptions, prejudices, and biases. Third, she believes that most adult educators have an unwarranted faith in institutions, believing “that institutional practices are well meaning and that the policies under which their institutions operate are not biased” (p. 43).

The literature on multiculturalism has helped bring the issues of race and cultural diversity to the attention of educators at all levels. Even more recently, *critical multiculturalism* has emerged as “a term used to distinguish forms of multicultural education that specifically focus on challenging power relations based on *social structures* of race or culture, gender, class, etc. and on challenging the ‘isms’ that result from those power relations, as in *racism*, or *sexism*” (Tisdell, 2005a, p. 163; italics in original).

Multiculturalism appears to be synonymous with what Guy (2005) calls “culturally relevant adult education.” This educational approach attempts to “incorporate learners’ cultural practices and values in the teaching-learning process” (Guy, 2005, p. 180). Culturally relevant adult education sees the micro social level of educational practice as it relates to “broader socio-cultural and societal issues of power and difference” (p. 183).

For some, multiculturalism and even critical multiculturalism do not go far enough in addressing the racism that permeates our society. Critical race theory (CRT) takes a more radical perspective

in that it tries not only “to understand the relationships among race, racism, power, privilege, and oppression, but to challenge and transform these relationships” (Ilaninska, Wright, & Rocco, 2003, p. 176). Drawing from a number of disciplines, CRT acknowledges that race, a socially constructed category, is “a fundamental organizing principle in U.S. society,” that racism is systemic, and that “people of color have a unique voice in racial matters because of their social position and experiences with oppression” (Jeris & McDowell, 2003, pp. 188–189).

Ross-Gordon (1994) focuses on the intersections of race, class, and gender in reviewing the multicultural and critical pedagogy literature in order to extract elements of a multicultural pedagogy for adults. What this wide range of literature has in common, Ross-Gordon believes, is “an emphasis on deconstruction of hegemonic knowledge and structures, goals for emancipation of learners, and denial of claims to political neutrality for . . . any form of education” (p. 315). Finally, she develops a composite of ten principles for teaching and learning, including sharing power with learners, fostering collaboration, challenging all forms of oppression, and placing the culture of the student in a central rather than a marginal position. With regard to racism in particular, she finds the “Afrocentric/anti-racist discourse . . . unique in its concern with two concepts. One is the notion of centrality, that the student must find his or her culture to be central (not marginal) within the knowledge shared. Second is the emphasis on learning by teachers (or un-learning) through . . . programs that educate them to recognize and challenge racism, including their own” (p. 316).

In an approach similar to Ross-Gordon’s, McDowell (2003) identified eleven themes from the literature on antiracist praxis that adult educators can use to inform their own antiracist orientation. Some of her suggestions are as follows: becoming knowledgeable about race and racism, attending to racial awareness, interrogating White power, integrating racially diverse voices into curricula, and acquiring skills to challenge racism.

As race and ethnicity shape learning transactions in educational settings, so too in the workplace. Ross-Gordon et al. (2005) reviewed the work-related learning literature from the three domains of continuing professional education, human resource development, and workforce development with regard to concerns

about race in each domain. While their findings varied somewhat across domains, they were able to draw the following conclusions:

1. Institutionalized discrimination affects individual careers and program directions; (p. 379)
2. Personal determination and resourcefulness, peer and family support, mentors, and social networks are especially important to the career advancement of racialized minorities . . . ; (p. 380)
3. Whites are generally less aware of manifestations of racism and benefits of White privilege (HRD and CPE) and in some cases demonstrate resistance to examining these (CPE). . . . (p. 380)
4. A point of interconnection between HRD and CPE is seen in the degree to which literature focused on “cultural competence” was focused on the “helping” professions and organizations—those that require sensitivity to client perspectives in order to accomplish their “helping” goals/missions (p. 380).

Thus race not only permeates the workplace but all other aspects of our society as well, including adult education practice. Intertwined with race is socioeconomic class.

Class

When social class is the focus, the aim of the analysis and subsequent action is to bring about a change from a capitalist political economy to a classless socialist form of government. Drawing largely from Marxism, a class-based analysis emphasizes class struggle, alienation, and revolutionary activity. Workers find no connection or fulfillment through work; rather, the individual worker is but a cog in the production of goods and services, alienated from the self as well as others and society in general. It will be only through a revolutionary movement that this relationship between the person and his or her world can be changed. Freire (1970, p. 61) points out that those who are alienated are considered “marginal,” “a pathology of the healthy society. . . . The truth is, however, that the oppressed are not ‘marginals,’ are not men [sic] living ‘outside’ society. They have always been ‘inside’—inside the structure which made them ‘beings for others.’ The solution is not to ‘integrate’ them into the structure of oppression, but to transform that structure so that they can become ‘beings for themselves.’” Thus

a socialist Marxist framework for adult education would have, Youngman (1986, p. 197) suggests, the dual aims of challenging “the ideology and culture of capitalism” and developing “the general knowledge and technical expertise necessary to reorganise production and society in a fully democratic way.”

Perhaps due in part to the collapse of Eastern European communist and socialist states, strict Marxist analysis is no longer in fashion. Nevertheless, some adult educators argue for its continued relevance (Collins & Collard, 1995; Schied, 1993, 1994; Youngman, 1996, 2000). Schied (1994) acknowledges that feminist and postmodern thought have questioned making the working class “the privileged agent of change” (p. 445); indeed, “the primacy of social class has been strongly challenged by notions of gender, race, and colonialism.” In spite of this, “the economic dislocation and the exploitation of working people by international corporations is a reality. It is not merely constructed or read or produced by our theoretical perspective. This exploitation is real” (p. 446). Marxist analysis, if “conceived as a moral stance . . . provides adult educators a way to place their practice in some kind of social context” (p. 446). Collins and Collard (1995) concur with Schied. A class-based economic analysis is particularly relevant in today’s world, they say, with the “re-emergence of what amounts to class warfare in connection with global economic restructuring” (p. 75). It is time “to make connections between the home, the workplace, and the community—between class and concerns around culture, gender and race” (p. 75). This is in fact what Hart (1992, 1995) does in her Marxist-feminist analysis of work, gender, and class. Youngman (1996, p. 7) agrees, calling for a robust political-economic analysis: “The central issue for a transformative political economy of adult education is how to adequately conceptualize the interconnections between the four main systems of domination in society, namely, those deriving from imperialism, class, gender, and race-ethnicity. It is clear that while none of these systems is reducible to another (for example, the basis of women’s oppression is different from that of class oppression), they do affect each other (so that, for example, women’s oppression has a class dimension).” Holst (2002), who also argues for a reassessment of the Marxist tradition, is concerned that new social movements around feminism, antiracism, and sexual and environmental issues might eclipse the working-class struggle against capitalism.

Gender

While multiculturalists, Marxists, and critical theorists have brought inequities based on economics and class to adult educators' attention, feminist scholars have placed gender, and gender as it intersects with race and class, at the forefront of a critical analysis. Although all versions of feminist theory are concerned with the status of women worldwide, theorists differ among themselves on two counts: how the problem is framed and what needs to be done to change the status of women. Tisdell's (1995, 2005b) categorization of feminist theories into individually focused theories, structural theories, and postmodern theories offers a useful framework for reviewing these theories.

As the category suggests, individually focused feminist theories are concerned with women as individuals, how they have come to internalize patriarchy as the norm, and what needs to be done to obtain equal access, rights, and opportunities. Psychoanalytic feminists, for example, maintain that the male domination of women (patriarchy) is deeply rooted in men's and women's subconscious and is perpetuated through gender socialization. Change cannot come about unless people "deal with the patriarchy in their unconscious" (Tisdell, 2005b, p. 254).

In contrast to an individual focus, structural feminist theories frame the problem in terms of societal structures and institutions that oppress women. Marxist feminists argue that the two systems of capitalism and patriarchy, in conjunction with each other, oppress women. "Socialist feminists," Tisdell (2005b, p. 255) explains, "would agree that two significant and interrelated systems of oppression to women are capitalism and patriarchy, but they also discuss the importance of examining other systems of oppression such as racial oppression and the intersections of gender, race, class, and sexual orientation in women's lives." Cultural feminists extend this analysis to the experience of women of color who also represent a particular cultural group, such as Latina, Black, and Asian or Asian Americans (Tisdell, 2005b).

Postmodern theorists take issue with the unit of analysis, or how the problem is framed by structuralists. One or even two systems of power and oppression do not adequately capture the reality of women's experience and oppression because "some groups are more privileged than others within the particular structural

unit or units of analysis. Thus Marxism does not account for the fact that men are more privileged than women; Marxist feminism does not account for the fact that white women have more privilege than women of color” (Tisdell, 1995, p. 61). Postmodernists also take issue with the structuralists’ overemphasis on locating power outside the individual. In a postmodern perspective, individuals have some power also—power to affect or resist the status quo. Postmodern feminist theories thus “tend to account for multiple systems of privilege and oppression and their intersections, along with people’s capacity for agency or resistance” (p. 61). In this perspective, the “*connections between* individuals and social structures” (Tisdell, 2005b, p. 256; italics in original) and where one is positioned vis-à-vis multiple structures are the focus of analysis.

POWER AND OPPRESSION

In addition to the intersections of race, class, and gender, a second theme underlying these contemporary approaches is that social inequities, including those found in education, stem from power-based relationships: “Those wielding power can control others in varying ways, getting them to engage in activities not in the powerless’s best interest” (Hansen, 1993, p. 2). And “because power is constructed in and through social interactions, it is always alterable and disruptable, hence the importance of understanding and using power in adult education” (Wilson & Nesbit, 2005, p. 454). One of the major tasks of a critical analysis is to uncover and expose these power relationships wherein the domination of one group’s interests results in the oppression of other groups. Power and oppression are concepts that permeate the thinking and writing of radical adult educators. As Nesbit (1998, p. 174) explains, “Radical educators regard the world and its constituent societies as full of contradictions and marked by imbalances of power and privilege. Hence, they regard such problems as poverty or illiteracy neither as isolated incidents nor as manifestations of individual inadequacy, but as results of larger social issues. Furthermore, individuals, as social actors, both create and are created by their social worlds.” Freire, for example, concluded that the Third World was “characterized by social, political, and economic oppression. . . . The various forms of oppression constitute the concrete problems or contradictions

that are the task of [a] revolutionary pedagogy” (Elias & Merriam, 2005, p. 155).

The identification of systems of power and oppression as a lens through which to analyze society is a key component of critical theory. Critical theory originated in the 1940s with the German philosopher Jürgen Habermas and the Frankfurt School. With the advent of World War II, Habermas became disillusioned with Marxism, offering instead a view of society that is more optimistic, one that puts faith in the rationality of human beings to engage in critique and action to bring about a more just, free, and equitable society. The aim of critical theory, Welton (1995a, p. 37) writes, is “to help people to stop being passive victims who collude, at least partly, in their domination by external forces. Critical theory’s liberating project is to name the enemies of human freedom, and to point to the possibility of freedom’s enlargement.” Inglis (1997, p. 4) goes a step further in suggesting that an analysis of power leads to empowerment or emancipation: “Empowerment involves people developing capacities to act successfully within the existing system and structures of power, while emancipation concerns critically analyzing, resisting and challenging structures of power.”

Of concern to those writing from this perspective is the appropriation of the “lifeworld”—our everyday personal interactions in home, family, and community—by the “system.” The system is conceived of as structures of power (institutions and organizations such as government) or the means to power (such as money in a capitalist economy, or knowledge in the information age). These systems have not only “colonized” the lifeworld but are oppressive: “Human beings as childrearers, partners, workers, clients, citizens, and consumers struggle against the process of being turned into objects of corporate and state management. Systemic imperatives, then, threaten to disempower men and women who have the capacity to be empowered, reflective actors” (Welton, 1993, p. 88). To fight the hegemony of the system (which includes corporate, government, legal, and media dimensions), citizens must engage in rational discourse about sources of power, knowledge, and oppression in the hope of redressing the current imbalance between the power of the lifeworld versus the system. Adult education can be a site for addressing power and oppression (Baptiste, 1998; Brookfield, 2005b; Rocco & West, 1998; Welton, 1995b).

KNOWLEDGE AND TRUTH

The various schools of thought that make up what in this chapter we call a power relations perspective all address, to some extent, the nature of truth and the construction of knowledge. Each of the three major orientations discussed in the next section—critical theory, postmodernism, and feminist pedagogy—has a somewhat different notion of knowledge and truth.

The primary spokesperson for critical theory, Jürgen Habermas, proposed that there are three types of knowledge: technical, practical, and emancipatory. Technical knowledge has to do with the world of facts, of material things that structure our world. This knowledge can be easily verified through checking with documents, authorities, and so on. A statement such as “an adult can obtain a high school diploma through making an acceptable score on the GED” is technical knowledge. To say, however, that “a GED diploma is just as good as a high school diploma” moves us into the practical realm of knowledge, where communication with others—dialogue—is necessary to establish validity. The validity or truth of the claim is arrived at through dialogical consensus; interpretation, judgment, and sincerity are important here. Finally, a question such as “Why doesn’t the GED diploma have the same status in our society as a high school diploma?” is emancipatory in nature because it addresses the forces of society that empower or disempower some individuals over others; that is, one would ask *who* has determined that a GED diploma has less status? *Whose interests* does it serve to maintain this status differential? Not all knowledge, then, serves the same interests, nor does all knowledge construction hold the same potential for challenging the status quo or emancipating the individual. Clearly, emancipatory knowledge has the most power to address the oppressive forces in society.

From postmodernism comes the notion that there is no single truth or reality independent of the knower. Postmodernism criticizes the modern conception of knowledge as a set of underlying principles that can explain behavior or phenomena across individuals or settings. In the modern world, what constitutes and what is accepted as knowledge is determined by power: “Modernism privileges some ideas and people(s); it marginalizes others” (Cunningham & Fitzgerald, 1996, p. 49). Since “the goal

of postmodernism is diversity/pluralism and its ethic is tolerance,” knowledge “is either nonexistent or relative, and contradictory notions can all be considered equally true if locally held” (p. 49). Knowledge, then, is something that is part of the social and cultural context in which it occurs; how an individual or a community constructs knowledge and the type of knowledge constructed are socio-culturally dependent. This view of knowledge goes hand in hand with how postmodernists view truth. There is no single, agreed-upon truth; there are many truths. This view leads to one of postmodernism’s major strategies: deconstruction. As Hemphill (2001, p. 23) explains, if all truths are constructions, to deconstruct is “to uncover its [the term or concept’s] evolution, unpacking the interests it serves and marginalizes.” Further, postmodernism “encourages us to be critical of how knowledge is organized—whether in terms of broad disciplines or specific course curricula. All forms of organizing knowledge . . . are contingent, occurring due to existing organizations and constellations of power in a given moment—and not given in some cosmic hierarchy” (Hemphill, 2001, pp. 26–27).

Feminists who write from a poststructuralist or postmodern perspective hold the same view about knowledge and truth. That is, they assume there is no one Truth, and each woman’s truth or knowledge is relative to the sociocultural context of which she is part. Feminist theory encompasses two other views of knowledge construction, however. The psychologically oriented feminist literature has been heavily influenced by Belenky, Clinchy, Goldberger, and Tarule’s *Women’s Ways of Knowing* (1986). From their interviews of 135 women, they identified five different ways women construct knowledge, ranging from silence to constructed knowing (see Chapter Thirteen). Their work suggests that knowledge is something that each individual constructs; the result of this process is a sense of individual empowerment, of gaining a voice along with the ability to effect change in their personal lives. In emancipatory feminist models, in contrast, knowledge is less personal. Drawing more from critical theory than psychology, these models “examine the political and social mechanisms that have controlled the knowledge production process and marginalized (or left out) the contributions of women and people of color” (Tisdell, 1995, p. 70).

In summary, assumptions underlying a power relations perspective on adult learning draw from a wide range of literature such as Marxist and feminist theory, critical race theory, multiculturalism,

critical theory, and postmodernism. Any number of concepts and assumptions inform this perspective, but we chose three interlocking themes to set the stage for a discussion of contributions to adult learning from critical theory, postmodernism, and feminist theory/pedagogy. At the heart of all of these orientations is a critical assessment of the forces of economics, class, race, and gender that lead to systems of power and oppression. All also consider how knowledge is constructed and how the nature of its construction can liberate or dominate. We now turn to a more detailed discussion of critical theory, postmodernism, and feminist pedagogy, three of the contemporary perspectives that have had the greatest impact to date on adult learning.

CRITICAL THEORY AND ADULT LEARNING

In contrast to andragogy and even transformational learning, most practitioners in adult education are unaware of critical theory's potential for examining practice or illuminating the nature of adult learning. This is in part because the writing in this area is dense and obtuse, and operationalizing the concepts involved is difficult. Critical theory itself has been criticized for "asserting domination and reproducing a culture of silence in educational settings" due to its "technical jargon, obscure references, and ambiguous phrasing" (Pietrykowski, 1996, p. 84). In fact, we found only one article on critical theory in a practice-oriented publication. In "John's Story: An Exploration into Critical Theory in Education," deMarrais (1991) demonstrates how John's failure to learn to read can be understood as a systemic social problem rather than one individual's failure. The "system" in a critical theory analysis is an institution (such as government or education) that functions to reproduce the status quo, in particular the existing social class structure. Awareness of this oppression can lead to resistance and possibly change. Critical theory's strength, as noted earlier, lies in its critique of existing economic and social structures and resultant power dynamics. However, "it is a discourse that often leaves practitioners frustrated" (Finger, 2005a, p. 168) in suggesting workable strategies for effecting change.

A number of adult education intellectuals have brought critical theory, and in particular Habermas's version, to adult education. Welton (1993, 1995b) has articulated the ways in which

critical theory can inform adult education theory and practice. He identifies several concepts from critical theory that have affected and can continue to affect adult education: three types of knowledge, ideal conditions for reflective discourse, institutions as learning communities, and the interplay of the system and the lifeworld.

The three types of knowledge discussed earlier in this chapter—technical, practical, and emancipatory—present a framework for understanding and critiquing adult education as a discipline and as a field of practice. Collins (1991, 1995a, 1995b), for example, finds the field of adult education to be overly concerned with technical knowledge (with the least attention to emancipatory) at the expense of social action designed to bring about a more just and equal society. According to Collins, the field is too preoccupied with “professionalizing,” with “the cult of efficiency,” and with “an eagerness to serve the conventional professions” (1995a, p. 79). This preoccupation with the technical has both distorted learning and diverted adult educators from providing a “context where shared commitments [practical knowledge] towards a socially more free, just, and rational society will coalesce” (1991, p. 119). By this, Collins means that adult educators are too concerned with how to plan programs or arrange a classroom at the expense of considering why some adults do not have access to education, for example.

In a similar approach, Wilson (1993) and Wilson and Hayes (2000b) use the tools of critical theory to trace the rise of technical rationality and professionalism represented in the field’s handbooks. These handbooks, which are published approximately every ten years, are encyclopedic compilations of essays describing the field of adult education. For the field to become professionalized, a body of knowledge needed to be compiled with which to train adult educators. “This is what the discourse in the handbooks represents. Without this basis in a scientifically derived body of knowledge, there would be no professional activity to transact in a service economy” (Wilson, 1993, p. 14). It was not until the 2000 handbook (Wilson & Hayes, 2000a) that a more critical stance was taken in assessing the body of knowledge in the field. Both Collins and Wilson fear that the grip of professionalism and technical rationality prevents the field of adult education from attending to social action and emancipatory interests.

Closely related to forms of knowledge is Habermas’s ideal conditions for reflective discourse. Habermas has identified four

criteria or conditions that, if applied to interactions among adults, should result in mature, rational, candid, “authentic” discussions: comprehensibility, sincerity, truth, and legitimacy. Mezirow (1995, pp. 52–53), who has adopted these conditions as central to his transformative learning theory, explains how these conditions work in discussions:

When we communicate or have doubts about the truth or authenticity of the assertion, the truthfulness of the speaker, or the appropriateness of what is asserted in light of relevant norms, we often seek the best judgment of the most informed, objective, and rational persons we can find. We engage them in a special form of dialogue which Habermas refers to as “discourse.” Discourse involves an effort to set aside bias, prejudice, and personal concerns and to do our best to be open and objective in presenting and assessing reasons and reviewing the evidence and arguments for and against the problematic assertion to arrive at a consensus.

These criteria can form a basis for identifying the skills that learners need to possess in order to engage in more authentic discussions. Mezirow and others realize that these are ideal conditions; nevertheless, they give us a standard to work toward in adult learning transactions.

Critical theory has also contributed to adult education in considering how institutions themselves can become learning communities. According to Welton (1993, p. 89), “Habermas believes that while all institutions are educative, not all are true learning communities. An institution, whether family, corporation, or state agency, may be organized to block free and noncoerced learning processes. Habermas encourages us to ask whether our institutions, large and small, truly enable human beings to unfold their potentials (cognitive, oral, technical, aesthetic) in their daily routine interactions.” Strategies to build learning organizations are efforts in this direction, as is the literature on classroom and planning practices that engage an emancipatory agenda (see Ellsworth, 1989; Fenwick, 2005a; Gouthro, 2003; Schied, Carter, Preston, & Howell, 1997; Tisdell & Perry, 1997; Wilson & Cervero, 2001). In view of this thinking, Welton (1995b, p. 151) even argues that the workplace has potential “as a site for emancipatory learning.” Critical adult educators have a “mandate . . . to argue and struggle for

workplaces that open up space for non-coerced, free communication pertaining to the organization, control and purposes of work” (p. 152).

Another contribution of critical theory to adult education, identified by Welton (1993), is the notion of the interplay between the lifeworld and the system. As already noted, the lifeworld is the informal, everyday interactions of daily life, and the system consists of those structures based on money and power (corporations, government, education, and so on) that have an impact on the lifeworld. These systems do more than intrude into the lifeworld; they oppress. Collins (1991, 1995a) is particularly articulate about how forces from the system, such as expertise, competency-based curricula, and much of workplace learning, have disempowered adults in their lifeworlds. In his opinion, spaces in our everyday world where discussions of social and political issues and what can be done about them could occur have been taken over by systems that promote technical learning. Self-directed learning, for example, has been touted for its value in creating “professionals.” But

the idea of “facilitating” self-directed learning, which Knowles recognized ordinary wide-awake adults already possess (“to be adult means to be self-directing”), makes no more sense than comfortable pedagogical chatter about empowering people. For a critical perspective on adult education the initial task is to identify social structures and practices which (mis)shape social learning processes and undermine capacities adults already possess to control their own education. [Collins, 1994, p. 100]

For Collins (1991, p. 119), critical practice means being engaged in “definable concrete projects for social change without which talk of justice, emancipation, and equality becomes hollow rhetoric.”

Since the lifeworld and the system are interrelated, there is some merit in focusing on the interaction of the two, from a popular movement standpoint or a systems perspective. “The juxtaposition of lifeworld and system concepts is clearly significant in enabling us to ‘think deeply and realistically about the systemic blockages to the achievement of a more fully democratized society’” (Collins, 1995b, p. 198). Hart’s (1995) analysis of the workplace and the lifeworld of the family does just this, as does Hill’s

(1995, 1998) study of Pennsylvania citizens' groups engaged in environmental conflicts. The citizens' groups and the government regulatory agency "were both instrumental in community learning" and community conflict (1995, p. 163).

The most recent work in critical theory by an adult educator is by Brookfield (2001, 2002, 2005a, 2005b). He proposes a critical theory framework for a theory of adult learning and education. At the center of this theory of adult learning is ideological critique: "A critical theory of adult learning should have at its core an understanding of how adults learn to recognize the predominance of ideology in their everyday thoughts and actions and in the institutions of civil society" (2001, pp. 20–21). More specifically, there are seven "learning tasks" embedded in critical learning theory:

1. Challenging ideology. This is "the basic tool for helping adults learn to penetrate the givens of everyday reality to reveal the inequity and oppression that lurk beneath" (Brookfield, 2005b, p. 42).
2. Contesting hegemony. Hegemony is the notion that "people learn to accept as natural and in their own best interest an unjust social order" (Brookfield, 2005b, p. 43).
3. Unmasking power. "Part of becoming adult is learning to recognize the play of power in our lives and ways it is used and abused" (Brookfield, 2005b, p. 47).
4. Overcoming alienation. "The removal of alienation allows for the possibility of freedom, for the unmanipulated exercise of one's creative powers. As such, claiming freedom and overcoming alienation are inextricably intertwined" (Brookfield, 2005b, p. 50).
5. Learning liberation. Adults need to learn to liberate themselves, individually and collectively, from the dominant ideology.
6. Reclaiming reason. "A major concern of critical theory is to reclaim reason as something to be applied in all spheres of life, particularly in deciding values by which we should live, not just in areas where technical decisions are called for" (Brookfield, 2005b, p. 56).
7. Practicing democracy. Adults must learn to live with the contradictions of democracy, "learning to accept that democracy is always a partially functioning ideal" (Brookfield, 2005b, p. 65).

We have illustrated how critical theory can inform both adult education theory and practice. However, as with any other theory, there are points of debate and critique. The notion that critical theory is a useful framework for better understanding adult learning has itself been critiqued. Ellsworth (1989), in her now classic article on problems with applying an emancipatory, dialogic approach to the classroom, found that “key assumptions, goals, and pedagogical practices fundamental to the literature on critical pedagogy—namely, ‘empowerment,’ ‘student voice,’ ‘dialogue,’ and even the term ‘critical’—are repressive myths that perpetuate relations of domination” (p. 298). In experimenting with a college class on racism, Ellsworth discovered that she and the students were ill equipped to handle the unequal power relations in their own classroom. She writes:

Our classroom was not in fact a safe space for students to speak out or talk back about their experiences of oppression both inside and outside of the classroom. . . . Things were not being said for a number of reasons. These included fear of being misunderstood and/or disclosing too much and becoming too vulnerable; . . . resentment that other oppressions (sexism, heterosexism, fat oppression, classism, anti-Semitism) were being marginalized in the name of addressing racism; . . . [and] confusion about levels of trust and commitment surrounding those who were allies to another group’s struggles. [1989, pp. 315–316]

Collard (1995) concurs with Ellsworth, arguing that discourse (the conditions of ideal speech) “merely reintroduces an old elitism under the guise of a communicative ethic” (p. 68). Further, the ideal speech situation “tends to disregard difference and exclude those who have no voice—i.e., it is implicitly hierarchical” (p. 65). We also feel that while critical theory allows us to uncover the use and abuse of power, it is a particularly challenging perspective to put into practice. How do we as adult educators actually go about promoting rational discourse, or help adults “learn to liberate themselves” (Brookfield, 2005b, p. 65), for example?

Despite these criticisms, critical theory remains a particularly important underpinning to theory building in adult learning. For example, Mezirow’s theory of perspective transformation, discussed in Chapter Six, draws heavily from Habermas. Critical theory has

also informed analyses of professionalization, power and oppression, and the dynamics of the teaching and learning transaction.

POSTMODERNISM AND ADULT LEARNING

Uncertainty characterizes today's postmodern world. As Giroux (1992, p. 39) observes, "We have entered an age that is marked by a crisis of power, patriarchy, authority, identity, and ethics. This new age has been described, for better or worse, by many theorists in a variety of disciplines as the age of postmodernism." Unlike the modern world, which is characterized by "the scientific, industrial, and social programs, institutions, actions, and artifacts generated by the humanistic and Enlightenment search for the universal foundations of truth, morality, and aesthetics" (Bagnall, 1995, p. 81), in the postmodern era, things are much more diverse, fluid, illusory, and contested, including the reality of the world itself. Identifying oppression, "defining the enemy" (Newman, 1994), and taking right forms of action are not so easy in a postmodern world. As Plumb (1995b, p. 188) observes, adult education from a "modern" world perspective "is poorly equipped to articulate how it can persist as a meaningful emancipatory practice without reinscribing itself as an institution that suppresses heterogeneity and difference." Newman (2006) however, is one writer who takes up this challenge, offering numerous strategies for social activists to channel their frustration, dismay, and anger into defiant action.

In a postmodern world, everything is "contested," up for grabs. What has been or is considered true, real, or right can be questioned; there are multiple interpretations depending on where one is standing and what factors are in juxtaposition with one another. There are no absolutes, no single theoretical framework for examining social and political issues. Hence, critical theory's goal of emancipation and overcoming oppression can itself be questioned because it represents a "logic" that "does not tolerate difference" (Pietrykowski, 1996, p. 90). At the same time, as Collins (1994, pp. 99–100) points out, postmodernism, in contrast to Habermasian critical theory, leaves us with no means of choosing "sensibly between one course of action and another. There is no truth to be found, only a plurality of signs, styles, interpretations, and meaningless process." Therefore, postmodernism can leave us with two almost diametrically opposed views. It can be seen as "offering a

pessimistic, negative, gloomy assessment . . . of fragmentation, disintegration, malaise, meaninglessness” (Rosenau, 1992, p. 15). Or it can be seen as hopeful—a world that is “nondogmatic, tentative, and nonideological” (p. 16), one in which adult education can play a major role.

Exactly how postmodernism can play a “major role” in adult education is only recently being articulated. Kilgore (2004), for example, begins by analyzing the nature of postmodern knowing, including the notion of multiple truths, that meaning lies not in text but in its interpretation, and that power, inextricably linked to knowledge, is “something that we exercise rather than possess” (p. 48). She goes on to point out that at the heart of a postmodern pedagogy is a “shaking up [of] the social positions of teacher and student and the power relationship between them. Such aspirations will require us to consider the death of the teacher, the subversion of the student, and the diffusion of power” (p. 48).

Others have focused on the postmodern notion of the self and its importance in adult learning. The self in postmodern thought is not the unified, integrated, authentic self of modern times. Rather, the self is multiple, ever changing, and some say, fragmented. As Gergen (1991, p. 7) argues, “Under postmodern conditions, persons exist in a state of continuous construction and reconstruction. . . . Each reality of the self gives way to reflexive questioning, irony, and ultimately the playful probing of yet another reality.”

Such a notion of self has implications for adult learning and development. In an exploration of this question, Clark and Dirkx (2000, p. 112) find the notion of a unitary self “a little like trying to understand the universe by using a telescope with a fixed lens and position.” Clark (1997, p. 111) argues that “learning from the assumption of a unified self privileges the rational, agenic self and thereby fails to recognize and to give voice to other dimensions of the self.” A postmodern perspective of the self allows for “understanding, honoring, and fostering diversity” within the lives of our adult learners (Clark & Dirkx, 2000, p. 112). By extension, adult educators can be sensitive to “the noncognitive, emotive interests, inclination, and preferences of . . . participants (Bagnall, 1999, p. 135). That is, aesthetic, spiritual, affective, and experiential aspects of the self become as important as the rational. McLaren (1997, p. 25) writes that educators need to assist students in dealing with the following questions of identity:

How has the social order fashioned me in ways with which I no longer desire to identify? In what directions do I desire and why? To what extent are my dreams and my desires my own? What will likely be the consequences for me and others both like me and different from me? To what extent is society inventing me and by what moral, epistemological, political, or transcendental authority is this taking place? How am I to judge the world that made me and on what basis can I unmake myself in order to remake the world?

In the face of such a fragmented world, relationships, connectedness, and interdependence are the constants that hold us together. Finger (1995, p. 116) is explicit about moving to a collective action agenda to respond to

the new challenges. . . . Experts must join groups of learners working collectively with real people on concrete problems. . . . Teaching and preaching ready-made solutions to individuals must be replaced with collaborative, vertical, horizontal, and cross-disciplinary learning. Such learning must be recognized as probably the only “resource” still available to us to get through and out of the ever accelerating vicious circle. This, of course, must be a collective and collaborative effort, because there is no individual way out.

Postmodernists celebrate diversity among people, ideas, and institutions. By accepting the diversity and plurality of the world, no one element is privileged or more powerful than another. Usher, Bryant, and Johnston (1997, p. 22) speak of the advantages of this perspective:

Postmodernity has provided spaces for rising social groups such as the new middle classes, for new postmodern social movements and for hitherto oppressed and marginalised groups such as women, blacks, gays, and ethnic minorities to find a voice, to articulate their own “subjugated” knowledges and to empower themselves in a variety of different ways and according to their own specific agendas. In this situation, education stops being a univocal, predictable reality and consequently it makes no sense to speak of it simply as either functioning to reproduce the social order or as implicit social engineering, whether this be for domestication or liberation. . . . Linked with this is the impact of a reconfiguration of education away from its institutional and provider-led location.

Plumb (1995a, p. 246) observes that although so much fragmentation and diversity can be disempowering, it is also what is needed to challenge the equally disparate forces of oppression: “No longer is it sufficient to foster the emergence of a particular kind of identity sufficiently strong to overcome the inequitable norms of capitalism”; rather, “critical adult education must investigate new ways that identity can still productively be mobilized in the fragmenting environment of postmodernity.”

Postmodernism has been criticized for its pessimism, its extreme relativism, its lack of a moral center. Furthermore, with few exceptions (see Clark & Dirks, 2000; Kegan, 1994; Kilgore, 2004; Tisdell, 1995), it comes up lacking on specific techniques or strategies for dealing with the postmodern classroom or adult education program. What postmodernism does offer adult education is a respect for diversity, a moving of previously marginalized groups into a position of equal value to other groups, and a critique (or deconstruction, some would say) of the categories by which we have labeled aspects of our practice. What does it mean to be categorized as illiterate in our society, for example? The marginalized groups identified by Usher, Bryant, and Johnston (1997)—women, blacks, gays, and ethnic minorities—have not found an advocate until very recently in critical theory, which is focused primarily on rationality, economics, class, and power. From postmodernity’s challenges to modern, rational thought and society comes a valuing of diversity and opportunities inherent in uncertainty and nondogmatic practices. Postmodern discourses “offer a path—albeit a frustrating and convoluted one—to understand present and future phenomena that are no longer well suited to modernist, rational explanations” (Hemphill, 2001, p. 27).

FEMINIST PEDAGOGY AND ADULT LEARNING

As the name implies, feminist pedagogy focuses on the concerns of women in the teaching-learning transaction. Feminist pedagogy is derived from feminist theory, or more accurately, feminist theories. There are, for example, liberal, radical, psychoanalytic, Black, Marxist, and postmodern versions of feminist theory. Based in feminist theory, feminist pedagogy is “a method of teaching

and learning employing a political framework that involves consciousness-raising, activism, and a caring and safe environment” (Lee & Johnson-Bailey, 2004, p. 57).

However, just as there are many feminisms, there are also numerous strands of feminist pedagogy that have been categorized in various ways. Maher (1987), for example, has placed the various perspectives into one of two categories: liberatory models and gender models. Liberatory models draw from postmodernism and Marxist and critical theory. From this perspective, the structures of society, the systems that intrude on our lifeworlds, oppress through their power and control. The structured nature of power relations and interlocking systems of oppression based on gender, race, and class are seen as being reinforced through education; that is, institutions of learning and the classroom itself reproduce the power structures found in society at large. Liberatory pedagogy examines how these systems of oppression are reproduced and resisted in education. We ask, for example, why White males tend to dominate a classroom discussion (reproduction), or why Black working-class women shun formal education (resistance). Liberatory feminist educators attempt to recover women’s voices, experiences, and viewpoints and use these to make systems of privilege, power, and oppression visible. Although influenced by Freire’s emancipatory praxis and Marxist theory, liberatory feminists are critical of the lack of attention in these approaches to gender and to interlocking systems of oppression based on gender, race, and class (Gouthro, 2003).

In the gender model of feminist pedagogy, the focus is on how female identity has been socially constructed to be one of nurturer and how the individual woman can find her voice, becoming emancipated in the personal psychological sense. Drawing from psychoanalytic and humanistic psychology, educators from this stance look to how the educational environment and the learning transaction can be constructed so as to foster women’s learning. In this model, a connected approach to learning is advocated, where life experiences are valued, where a woman can come to have a voice, and hence, an identity. “If a woman is to consider herself a real knower, she must find acceptance for her ideas in the public world” (Belenky, Clinchy, Goldberger, & Tarule, 1986, p. 220). The

public world begins with a safe classroom where members can support and nurture each other. This connected environment will help women develop their own voices and see themselves as capable of being constructors of knowledge rather than just recipients. In their book *Knowledge, Difference, and Power: Essays Inspired by Women's Ways of Knowing* (1996), Goldberger, Tarule, Clinchy, and Belenky consider how to wed connected and separate knowing, what collaborative knowing might look like, and how color, class, and diversity affect women's learning.

Tisdell (1995, 1996, 1998, 2000) has moved feminist pedagogy forward by forging a synthesis of the liberatory and gender models that promotes both personal emancipation and public action. Tisdell first identifies four recurring themes in feminist pedagogy: how knowledge is constructed, the development of voice, the authority of the teacher and students, and dealing with differences. She finds the liberatory model particularly strong on recognizing differences based on race, class, and gender; nevertheless, such theories "focus too much on structures, and do not account for the individual's capacity for agency, the capacity to have some control outside of these social structures" (1996, p. 310). The gender or psychological model, in contrast, because it tends to emphasize similarities among women, does not much account for differences among women or differences in power relations based on race, class, sexual orientation, and so on. The way to take into account all four themes, Tisdell proposes, is through a poststructural feminist pedagogy, which weds the psychological orientation of the gender model with the structural factors of the liberatory perspective. Tisdell (1996, p. 311) explains:

A synthesis of these models in the form of poststructural feminist pedagogies would take into account both the intellectual and emotional components of learning, the individual's capacity for agency, as well as the psychological and social and political factors that affect learning. It would emphasize the importance of relationship and connection to learning, but also account for the fact that power relations based on a multitude of factors including gender, race, and class are always present in the learning environment and affect both how knowledge is constructed on the individual level as well as the social and political factors that affect what counts as "official" knowledge and how it is disseminated.

Tisdell's poststructural feminist pedagogy model has several implications for the teaching and learning transaction. First, it speaks to differences among learners themselves: "Most women and some men may have different learning needs from men who represent the dominant culture" (1995, p. 73). Second, there is attention given to the role of power in the construction of knowledge itself—power's role in how knowledge is shaped and disseminated in the classroom, and in society at large. Third, a poststructural pedagogy, or what Tisdell (1995) also calls positional pedagogy, examines how "various positionalities—the gender, race, class, sexual orientation—of both the participants and the instructor matter and have an effect on the learning environment" (p. 75). Finally, this perspective problematizes the power and authority of the teacher and considers the ramifications of redistributing this power.

Tisdell's poststructuralist feminist pedagogy model highlights connections: connections between "the individual and the intersecting structural systems of privilege and oppression" and connections between "one's individual (constantly shifting) identity and social structures" (1998, p. 146). She suggests how these connections might lead to change in an adult learning setting:

As learners examine how social systems of privilege and oppression have affected their own identity, including their beliefs and values, the "discourse" is disrupted, thus shifting their identity, as well as increasing their capacity for agency. For example, if one has embraced societal prescriptions of particular gender roles (or race roles, or sexual roles that are exclusively heterosexual), and one becomes conscious of and examines the social construction of such roles, one's identity is likely to shift, and one could develop new ways of acting in the world. One also begins to see that there are different "truths" and perhaps not one "Truth," and that social systems have allowed members of privileged groups to control what has counted as "knowledge" in determining the official curriculum through the politics of the knowledge production process. [Tisdell, 1998, p. 146]

Weiler (1996) identifies three issues from which a feminist pedagogy can be forged. The first is the role and authority of the teacher. The tension between feminist teachers' need "to claim

authority in a society that denies it to them” (p. 139) and the sharing of authority in the community of the classroom needs to be addressed. Lee and Johnson-Bailey (2004) point out the complexity of sharing authority when the instructor is both female and a person of color: “Instead of sharing our limited power and authority, we believe it is first essential to claim our power and authority in the class. Claiming this authority purposely is never easy, particularly when our students already see us as academic impostors or feel threatened by our position” (p. 62). Second, space needs to be made for personal experience as a source of knowledge and truth—how much space and what kind of space in regard to other sources of knowledge need to be negotiated. Weiler cites the Black lesbian feminist Audre Lorde in articulating the challenge of incorporating feelings, “those hidden sources of power from where true knowledge and, therefore, lasting action comes,” into the discourse around types of knowledge (cited by Weiler, 1996, p. 142). The third issue for Weiler is the question of difference. There is no unitary, universal women’s experience on which to base a pedagogy of practice. Women who have been marginalized and oppressed by the dominant society, by the dominant female norms, have had very different experiences from those of the mainstream. “The turning to experience thus reveals not a universal and common women’s essence, but, rather, deep divisions in what different women have experienced, and in the kinds of knowledge they discover when they examine their own experience. The recognition of the differences among women raises serious challenges to feminist pedagogy” (Weiler, 1996, p. 145). Brown, Cervero, and Johnson-Bailey’s (2000) study of race, gender, and teaching in the adult education classroom underscores Weiler’s point. They found that “the practices of African American women postsecondary mathematics teachers are significantly affected by their race and gender . . . dispel[ing] the myth of the universal teacher” (p. 286).

The work of Tisdell and Weiler is part of an expanding body of literature in adult education that addresses various aspects of adult teaching and learning contexts from a feminist pedagogy perspective. A number of writers have researched and presented guidelines for establishing collaborative and connected learning environments. Stalker’s (1993b) feminist analysis of women teachers’ mentoring women learners centers on women academics’ location

in a patriarchal system. Stalker (1993a) also examined sexual harassment in the adult learner–teacher relationship as a function of unequal power, authority, and control. Similarly, Jarvis and Zukas (1998) conducted a feminist analysis of teaching, research, and supervision in adult education, and Bierema and Cseh (2003) analyzed human resource development research from a feminist perspective. Finally, Gouthro and Grace (2000) use “positional” models of feminist pedagogy to analyze graduate women’s experiences in adult and higher education. They conclude that these models can bring about a more relevant graduate experience for women that might include “changes in the goals and objectives graduate students set for themselves, changes in the time it takes to finish graduate school, altered student perceptions of the role and purpose of graduate education, and altered research interests and job and career ambitions” (p. 137).

With few exceptions, critical theory and postmodernism offer little guidance on how to manage the teaching and learning encounter to effect the theory’s desired ends. There is much more in the feminist pedagogy literature, as the References indicate. Lee and Johnson-Bailey (2004) suggest the following strategies: using questioning and group debriefing, using technology to manage sensitive discussions, claiming authority as the instructor, facilitating the process of understanding new and contradictory knowledge, and selecting culturally diverse materials. Tisdell (1993, 1995, 1998) also includes the literature on multicultural education in her suggestions for creating inclusive learning environments:

- Integrate affective and experiential knowledge with theoretical concepts.
- Pay attention to the power relations inherent in knowledge production.
- Be aware that participants are positioned differently in relationship to each other and to the knowledge being acquired.
- Acknowledge the power disparity between the teacher/facilitator and the students.
- Identify all stakeholders and their positionality in the educational program.
- Consider the levels of inclusivity and the levels of contexts involved in the educational activity.

- Consider how curricular choices implicitly or explicitly contribute to challenging structured power relations.
- Adopt emancipatory teaching strategies.
- Be conscious of the ways in which unconscious behavior contributes to challenging or reproducing unequal power relations.
- Build a community based on both openness and intellectual rigor to create a democratic classroom. [Tisdell, 1995, p. 90]

In summary, of the three theoretical orientations of critical theory, postmodernism, and feminist theory/feminist pedagogy reviewed in the second half of this chapter, feminist pedagogy has most directly addressed the practice of adult education and in particular the teaching-learning transaction in the classroom. Critical theory and postmodernism focus more on critique and questioning of the status quo. A few writers have attempted what Grace (1996a) calls “an eclectic theoretical scaffolding . . . using insights from discourses including critical theory, feminism, and postmodernism” (p. 145). His model is based on several assumptions necessary for building an adult learning community. He suggests that actual classroom practices must acknowledge personal experience along with theoretical analyses through being sensitive to intersections of power “where race, ethnicity, class, gender, sexual orientation, ableness, and age impact learning, life, and work” (1996a, p. 147), through conflict and dialogue, and through practices that are inclusionary of the diversity of peoples and their knowledge.

SUMMARY

In this chapter we have presented an overview of several contemporary perspectives on adult learning, all of which deal with critique and power relations. The mound of writing and research, the plethora of viewpoints, and the complexity and density of language and concepts that make up this perspective have made this effort a daunting one. What we have done is to sketch the outlines, name some of the main concepts and players, and drawing from the work of colleagues in adult education, show how this perspective is shaping our understanding of adult learning and adult education practice.

To this end, and drawing from Marxist theory, critical theory, multiculturalism, critical race theory, postmodernism, and feminist theory, we briefly discussed three themes that characterize this perspective. The first theme—race, class, and gender—leads to the second theme—of how the intersections of race, class, and gender affect the distribution of resources and power so that some groups in our society are privileged and some are oppressed. The third theme—knowledge and truth—considers the nature and construction of knowledge as it relates to learning.

The second half of the chapter reviewed critical theory, postmodernism, and feminist pedagogy and their contributions to understanding adult learning. Drawing from Welton's (1993) framework, several aspects of critical theory were discussed: Habermas's three distinct types of knowledge and the conditions necessary for ideal discourse, how to make institutions sites for learning, and the relationship between systemic forces based on money and power and the everyday lifeworld of adults.

Postmodernism challenges the certainty and rationality that characterize modernity. Uncertainty, diversity, and multiplicity can be fragmenting and disempowering for some, energizing and powerful for others. Postmodernity's major contribution to adult education has been to bring to the foreground previously oppressed and marginalized groups.

Finally, feminist pedagogy—the application of feminist theory to education—was reviewed with attention to adult education. What Maher (1987) categorizes as liberatory (focusing on social structures) and gender (emphasizing the psychological) models of feminist pedagogy were presented, followed by Tisdell's (1995, 1996, 1998) synthesis of the two into a poststructural model of feminist pedagogy. The work of adult educators in applying feminist pedagogy to adult learning transactions and contexts was also reviewed.

PART FOUR

LEARNING AND DEVELOPMENT

The adult learner is at the center of all learning activities. Understanding how we as adults develop and change as we age, and how developmental issues and the changes we encounter interface with learning in adulthood, are important considerations in facilitating meaningful learning. Equally informative is research that explores those cognitive factors that affect learning, such as intelligence, memory, brain functioning, and so on. Part Four of *Learning in Adulthood* is a set of chapters that offer foundational work on learning theory in general and developmental perspectives in particular. Drawing from psychology, sociology, neurobiology, and educational and developmental psychology, these chapters compile material from a wide range of research and theory and are designed as a *resource* for the reader who wants to explore particular aspects of learning in more depth. While much of this literature is not specific to adults, we have selected topics that are important to understanding adult learning, and wherever possible, made those links.

Part Four opens with Chapter Eleven, which reviews five traditional theories of learning. Beginning with the earliest developed orientation to learning, behaviorism, the chapter goes on to review humanism, cognitivism, social cognitive learning theory, and constructivism. Each of these orientations, which all offer very different explanations of learning, has something to contribute to our understanding of the learning process. We examine each theory in terms of its major proponents, its explanation of the learning

process, the purpose of education, the role of the learner, and the influence it has had on adult education.

Research has shown that adults are often motivated to participate in learning activities by developmental issues and changes in their lives. Chapter Twelve explores the developmental characteristics of adults that are most clearly related to learning. In selecting the information from this large body of research that is most relevant to learning in adulthood, we chose to cover four areas: biological and psychological changes in adulthood, sociocultural factors, and what we term the integrative perspective on development. The biological perspective acknowledges the physical aging process brought on by the natural mechanisms of aging as well as environmental influences, health habits, and disease. For the most part, there are few effects on adult learning from these biological changes, except for those associated with deterioration of sight and hearing, a slowing of reaction time, and disease, especially diseases connected with the central nervous system.

Psychological models of development, where the focus is on internal, psychological change, can loosely be grouped into stage-of-life or chronological age categories. Erikson's famous stage theory and Levinson's model are discussed as exemplars of these foundational psychological models. As with other areas of adult learning, psychological perspectives on development have dominated our thinking as adult educators about the linkages between development and learning.

From the sociocultural perspective, change in adulthood is determined more by contextual influences, such as social, economic, and historical factors, than by internal mechanisms. Two strands of work from this perspective are highlighted: first, the importance of social roles and the timing of life events, and second, the socially constructed nature of the concepts of race, gender, ethnicity, and sexual orientation and how they shape development. The integrative perspective acknowledges the intersections among the biological, psychological, and sociocultural perspectives in framing developmental theory. To move to a richer understanding of learning in adulthood, we suggest that adult educators use multiple lenses or perspectives on development instead of relying on just a single paradigm of development.

Chapter Thirteen explores cognitive development in adulthood—that is, how adults’ thinking patterns change over time. Beginning with a discussion of the pioneering work of Piaget (1972), we present alternative theories and models of adult cognitive development, including a contextual perspective, which has gained more prominence recently. Dialectical thinking, characterized by the tolerance for contradictions and ambiguity in ways of thinking about similar phenomena in adult life, and wisdom, one of the hallmarks of mature adult thought, are also discussed.

Chapter Fourteen focuses on the concept of intelligence. Beginning with the early work on intelligence tests used to measure whether young men were “mentally fit” to serve in the armed forces in World War I (Kaufman, 2000) and Thorndike’s studies of intelligence and aging (Thorndike, Bregman, Tilton, & Woodyard, 1928), researchers and educators alike have sought to understand the nature of adult intelligence and how it might be affected by the aging process. This chapter traces the development of the concept of intelligence, highlighting first the more traditional theories and approaches to the study of intelligence. The fundamental question of whether intelligence declines with age has different answers, depending largely on how intelligence and the parameters of aging are defined, and the research designs and tests that are used in these studies. Challenges to the traditional approaches to intelligence have a promising potential for furthering the understanding of the nature of adult intelligence, providing that more empirical work is completed to validate both the basic components of these theories and the tests being developed to measure those components.

Chapter Fifteen focuses on memory and cognition and how brain structures and functioning affect learning. After reviewing how memory works, the chapter explores the different components of memory—sensory, working, and long-term memory—and how age may or may not affect an adult’s ability to remember. Other important aspects of cognition are then discussed, including the concepts of declarative and procedural knowledge, expert versus novice learners, and the differences between cognitive style and learning style. Although the major work in cognition has been done primarily with children and computer modeling, many

educators have generalized the findings to include learning in adulthood but without the necessary verification studies. The final area explored in Chapter Fifteen is one of the most fascinating frontiers in the study of learning: the neurobiological basis of learning. Although neurobiologists have provided captivating descriptions of how the human brain is organized and functions, only a few direct connections between what we have learned about the brain and specific learning interventions for adults are being explored. Rather, what we primarily have are tentative and often tantalizing hypotheses about the neurobiology of learning.

CHAPTER ELEVEN

TRADITIONAL LEARNING THEORIES

Learning, so central to human behavior yet so elusive to understanding, has fascinated thinkers as far back as Plato and Aristotle. Indeed, the views of these two philosophers underpin much modern research on learning conducted by psychologists and educators. The fact that so many people have thought about, investigated, and written about the process of learning over the years suggests the complexity of the topic. Learning defies easy definition and simple theorizing. This chapter reviews some of the main ways in which learning has been studied and delineates the contributions these orientations have made to our understanding of learning in adulthood.

Originally, learning was within the purview of philosophical investigations into the nature of knowledge, the human mind, and what it means to know. Plato believed that the physical objects in our everyday world have corresponding abstract forms that we can come to know through “introspection or self-analysis. . . . Only by turning away from the physical impure world to the world of ideas, pondered by the mind’s eye, can we hope to gain true knowledge” (Hergenhahn & Olson, 2005, p. 31). Aristotle, in contrast, believed that all knowledge comes through the senses; these sense impressions can be pondered “to discover the lawfulness that runs through them” (p. 32). Plato’s “rationalism” can be seen in Gestalt and cognitive psychology; Aristotle’s “empiricism” is particularly evident in early behavioral psychology. Later philosophers presented variations on these two basic positions, ranging from Descartes’ separation of mind and body to Kant’s notion of innate mental faculties.

It was not until the nineteenth century that the study of the mind, of how people know, and by extension, of behavior became “scientifically” investigated. Hergenhahn and Olson (2005, p. 42) write that Hermann Ebbinghaus “emancipated psychology from philosophy by demonstrating that the ‘higher mental processes’ of learning and memory could be studied experimentally” and that many of his findings on learning and memory published in 1885 are still valid. Another pioneer, Wilhelm Wundt, set up the first psychological laboratory in Leipzig in 1879 and investigated how experience is assimilated into one’s previous knowledge structures. Interestingly, Wundt felt that laboratory research was limited in its usefulness for studying “products of the mind” such as “religion, morals, myths, art, social customs, language, and law” and he spent years studying these products “through naturalistic observation” (Hergenhahn & Olson, 2005, p. 43). Thus, by the turn of the century, systematic investigations into human learning were well under way in Europe and North America.

In this chapter we first present a brief discussion of learning and learning theories in general, and then we focus on five different learning theories: behaviorist, humanist, cognitivist, social cognitive, and constructivist. These theories deal with learning in general; attempts to build theories of *adult* learning in particular were examined in the chapters in Part Two.

LEARNING AND LEARNING THEORIES

A common definition of learning, emanating from psychologists who investigated the phenomenon until the 1950s, is that learning is a change in behavior. This definition, however, fails to capture some of the complexities involved—such as whether one needs to perform in order for learning to occur or whether all human behavior is learned. As Hill (2002, p. 10) points out, “What is learned need not be ‘correct’ or adaptive (we learn bad habits as well as good), need not be conscious or deliberate (one of the advantages of coaching in a skill is that it makes us aware of mistakes we have unconsciously learned to make), and need not involve any overt act (attitudes and emotions can be learned as well as knowledge and skills).” The notion of change, however, still underlies most definitions of learning, although it has been modified to include the potential for change. And the idea that having

an experience of some sort, rather than learning as a function of maturation, is important. Thus a reasonable definition of learning would be as follows: Learning is a process that brings together cognitive, emotional, and environmental influences and experiences for acquiring, enhancing, or making changes in one's knowledge, skills, values, and worldviews (Illeris, 2000; Ormrod, 1995).

Learning as a process (rather than an end product) focuses on what happens when the learning takes place. Explanations of what happens are called *learning theories*, and it is these theories that are the subject of this chapter. There are, however, many explanations of learning, some more comprehensive than others, that are called theories. How the knowledge base in this area is divided and labeled depends on the writer. Hilgard and Bower (1966), for example, review eleven learning theories and then note that they fall into two main families: stimulus-response theories and cognitive theories. Knowles (1984) uses Reese and Overton's (1970) organization, in which learning theories are grouped according to two different worldviews: mechanistic and organismic.

Gredler (1997) exemplifies the difficulties in deciding which "contemporary perspectives" are actual learning theories. She discusses seven "perspectives": Skinner's operant conditioning, Gagne's conditions of learning, cognitive learning principles, Piaget's cognitive-development theory, Vygotsky's sociohistorical theory, Bandura's social-cognitive theory, and Weiner's theory of motivation. However, three of these (Piaget, Vygotsky, and Weiner) "technically are not categorized as learning theories" but "have important implications for classroom practice" (p. 12).

Since there is little consensus on how many learning theories there are or how they should be grouped for discussion, we have organized this chapter according to orientations that present very different assumptions about learning and offer helpful insights into adult learning. With these criteria in mind, five basic orientations have been selected for discussion: behaviorist, humanist, cognitivist, social cognitive, and constructivist. As Hill (2002, p. 190) has observed, "For most of us, the various learning theories have two chief values. One is in providing us with a vocabulary and a conceptual framework for interpreting the examples of learning that we observe. These are valuable for anyone who is alert to the world. The other, closely related, is in suggesting where to look for solutions to practical problems. The theories do not give us

solutions, but they do direct our attention to those variables that are crucial in finding solutions.”

In each of the five orientations examined in this chapter, the following topics are covered: the major proponents, the view of the learning process itself, the locus of learning, the purpose of education, the role of the teacher, and the ways in which these theories are manifested in the practice of adult education. A summary of this information can be found in Table 11.1 at the end of the chapter.

BEHAVIORIST ORIENTATION

Behaviorism is a well-known orientation to learning that encompasses a number of individual theories. Developed by John B. Watson in the early decades of the twentieth century, behaviorism loosely includes the work of such people as Thorndike, Tolman, Guthrie, Hull, and Skinner (Ormrod, 1995). What characterizes these investigators is their underlying assumptions about the process of learning. In essence, three basic assumptions are held to be true. First, observable behavior rather than internal thought processes is the focus of study; in particular, learning is manifested by a change in behavior. Second, the environment shapes behavior; what one learns is determined by the elements in the environment, not by the individual learner. And third, the principles of contiguity (how close in time two events must be for a bond to be formed) and reinforcement (any means of increasing the likelihood that an event will be repeated) are central to explaining the learning process (Grippin & Peters, 1984).

Edward L. Thorndike, a contemporary of Watson, is “perhaps the greatest learning theorist of all time” (Hergenhahn & Olson, 2005, p. 54). A prolific researcher and writer, “he did pioneer work not only in learning theory but also in the areas of educational practices, verbal behavior, comparative psychology, intelligence testing, the nature-nurture problem, transfer of training, and the application of quantitative measures to sociopsychological problems (e.g., he developed scales with which to compare the quality of life in different cities).” In fact, the book *Adult Learning* published by Thorndike and his colleagues in 1928 (Thorndike, Bregman, Tilton, & Woodyard, 1928) was the first major report of research on learning with adults.

Thorndike's most significant contribution to understanding learning has come to be called *connectionism*, or the S-R theory of learning. Using animals in controlled experiments, Thorndike noted that through repeated trial-and-error learning, certain connections between sensory impressions, or stimuli (S), and subsequent behavior, or responses (R), are strengthened or weakened by the consequences of behavior. Thorndike formulated three laws of learning to explain his findings: the Law of Effect, which states that learners will acquire and remember responses that lead to satisfying aftereffects; the Law of Exercise, which asserts that the repetition of a meaningful connection results in substantial learning; and the Law of Readiness, which notes that if the organism is ready for the connection, learning is enhanced, and if it is not, learning is inhibited (Ormrod, 1995). Although Thorndike himself and later researchers modified these laws, they are nevertheless still applied widely in educational settings.

Thorndike's connectionism became refined and expanded on by his contemporaries and by those who followed (for a detailed discussion, see Hergenhahn & Olson, 2005; Ormrod, 1995). Working in Russia, Pavlov, for example, added concepts of reinforcement, conditioned stimulus, and extinction to the basic notion of the stimulus-response connection. Guthrie stated that one law of learning based on contiguity is all that is needed to make learning comprehensible: "Whatever you do in the presence of a stimulus, you do again when that stimulus is re-presented" (Grippin & Peters, 1984, p. 61). Important as the work of these and other researchers was, behaviorism was most developed as a theory of learning by B. F. Skinner.

Skinner's major contribution to understanding learning is known as *operant conditioning*. Simply stated, operant conditioning means "reinforce what you want the individual to do again; ignore what you want the individual to stop doing" (Grippin & Peters, 1984, p. 65). Reinforcement is essential to understanding operant conditioning. If behavior is reinforced or rewarded, the response is more likely to occur again under similar conditions. Behavior that is not reinforced is likely to become less frequent and may even disappear. Within this framework, even something as complex as personality can be explained by operant conditioning. Personality, according to Skinner (1974, p. 149), is a "repertoire of behavior imported by an organized set of contingencies"—in effect, a

personal history of reinforcements. Skinner's research concentrated on positive and negative reinforcement schedules, the timing of reinforcements, and avoidance behavior. In essence, his work indicates that since all behavior is learned, it can be determined by arranging the contingencies of reinforcement in the learner's immediate environment. Behaviorists since Skinner have taken into account certain aspects of the human organism but still emphasize that it is environment that controls behavior, "not some mechanism within the individual" (Grippin & Peters, 1984, p. 71).

The behaviorist orientation has been foundational to much educational practice, including adult learning. Skinner in particular has addressed the application of his theory to educational issues. As he sees it, the ultimate goal of education is to bring about behavior that will ensure survival of the human species, societies, and individuals (Skinner, 1971). The teacher's role is to design an environment that elicits desired behavior toward meeting these goals and to extinguish undesirable behavior.

Several practices in education and adult education can be traced to behaviorism. Since behaviorism focuses on the measurable, overt activity of the learner, behavioral objectives that specify the behavior to be exhibited by learners after some intervention direct much instructional planning even today. Behavioral objectives specify the conditions (or stimuli), the behavior to be performed, and the criteria by which the behavior will be judged.

Closely linked to a behaviorist perspective is the demand at all levels of education for accountability. The current No Child Left Behind (NCLB) legislation is an example of efforts to make education accountable. Enacted in 2001, NCLB mandated that students, schools, districts, and states must be evaluated each year; those schools that fail to meet certain standards will be penalized. Another example of the accountability thrust in education is the current federal push for "scientifically based" or "evidence-based" practices; that is, funding sources want reliable evidence that an educational program or practice works. For example, the U.S. Department of Education's Institute of Education Sciences has called for "the integration of professional wisdom with the best empirical evidence in making decisions about how to deliver instruction" (Comings, 2003, p. 2). For many policymakers, "the best empirical evidence" consists of measurable, quantifiable changes in behavior that can be tied to the educational intervention. Evidence-based

practice has found its way into adult basic education (ABE), adult English for speakers of other languages (ESOL), and adult secondary education (ASE). Literacy educators are being urged to use quantitative research methodologies such as experimental and quasi-experimental designs to assess the efficacy of their methods and practices.

In adult education in particular, behaviorism is the philosophy that most underlies adult career and technical education and human resource development. The emphasis in vocational education is on identifying the skills needed to perform in an occupation, teaching those skills, and requiring a certain standard of performance of those skills. The National Skills Standards Board (NSSB) determines the standards for skills needed in the workplace (see <http://www.nssb.org/>). Vocational educational programs teach to those standards and students are evaluated by those standards.

Human resource development (HRD) is most associated with training to enhance on-the-job performance in the workplace. Performance improvement, competency-based instruction, and accountability are all part of this behavioral orientation to HRD. Jacobs (1987), in particular, conceptualizes HRD as performance improvement: “Human performance technology is about engineering . . . technologies . . . based on what is known about the principles to change the outcomes of behavior” (p. 19). As Sleezer, Conti, and Nolan (2003) point out, “HRD professionals who rely on behaviorism and cognitivism emphasize rewards, the stimuli that learners receive from the environment, the systematic observation of behavior, and relating new information to previous learning” (p. 26). It should be noted that there are numerous educators and HRD and technical education professionals who do not ascribe to such a behaviorist orientation. Nevertheless, the behavioral orientation to learning has had a profound effect on our educational system. It has also been challenged by theorists from two radically different perspectives: humanism and cognitivism.

HUMANIST ORIENTATION

Humanist theories consider learning from the perspective of the human potential for growth. This shift to the study of the affective as well as cognitive dimensions of learning was informed in part by

Freud's psychoanalytic approach to human behavior. Although most would not label Freud a learning theorist, aspects of his psychology, such as the influence of the subconscious mind on behavior, as well as the concepts of anxiety, repression, defense mechanism, drives, and transference, have found their way into some learning theories. Sahakian (1984) even makes the case for psychoanalytic therapy as a type of learning theory.

Despite Freud's focus on personality, humanists reject the view of human nature implied by both behaviorists and Freudian psychologists. Identifying their orientation as a "third force," humanists refuse to accept the notion that behavior is predetermined by either the environment or one's subconscious. Rather, human beings can control their own destiny; people are inherently good and will strive for a better world; people are free to act, and behavior is the consequence of human choice; people possess unlimited potential for growth and development (Rogers, 1983; Maslow, 1970). From a learning theory perspective, humanism emphasizes that perceptions are centered in experience, and it also emphasizes the freedom and responsibility to become what one is capable of becoming. These tenets underlie much of adult learning theory that stresses the self-directedness of adults and the value of experience in the learning process. Two psychologists who have contributed the most to our understanding of learning from this perspective are Abraham Maslow and Carl Rogers.

Maslow (1970), considered the founder of humanistic psychology, proposed a theory of human motivation based on a hierarchy of needs. At the lowest level of his famous triangle hierarchy are physiological needs such as hunger and thirst, which must be attended to before one can deal with safety needs—those dealing with security and protection. The remaining levels are belonging and love, self-esteem, and finally, the need for self-actualization. This final need can be seen in a person's desire to become all that he or she is capable of becoming. The motivation to learn is intrinsic; it emanates from the learner. For Maslow self-actualization is the goal of learning, and educators should strive to bring this about. As Sahakian (1984) notes, learning from Maslow's point of view is itself "a form of self-actualization. Among the growth motivations was found the need for cognition, the desire to know and to understand. Learning is not only a form of psychotherapy . . . but learning contributes to psychological health" (p. 438).

Although self-actualization is the primary goal of learning, Maslow posits other goals (Sahakian, 1984, p. 439):

1. The discovery of a vocation or destiny
2. The knowledge or acquisition of a set of values
3. The realization of life as precious
4. The acquisition of peak experiences
5. A sense of accomplishment
6. The satisfaction of psychological needs
7. The refreshing of consciousness to an awareness of the beauty and wonder of life
8. The control of impulses
9. The grappling with the critical existential problems of life
10. Learning to choose discriminatively

Another major figure writing from a humanist orientation is Carl Rogers. His book *Freedom to Learn for the 80s* (1983) lays out his theory of learning, which he sees as a similar process in both therapy and education. In fact, his “client-centered therapy” is often equated with student-centered learning. In both education and therapy, Rogers is concerned with significant learning that leads to personal growth and development. Such learning, according to Rogers, has the following characteristics (p. 20):

1. Personal involvement: The affective and cognitive aspects of a person should be involved in the learning event.
2. Self-initiated: A sense of discovery must come from within.
3. Pervasive: The learning “makes a difference in the behavior, the attitudes, perhaps even the personality of the learner.”
4. Evaluated by the learner: The learner can best determine whether the experience is meeting a need.
5. Essence is meaning: When experiential learning takes place, its meaning to the learner becomes incorporated into the total experience.

Quite clearly, Rogers’s principles of significant learning and Maslow’s views have been integrated into much of adult learning. Knowles’s theory of andragogy, with its assumptions about the adult learner (see Chapter Four), and much of the research and writing on self-directed learning (see Chapter Five) are grounded in

humanistic learning theories. As Caffarella (1993, p. 26) observes about self-directed learning, “The focus of learning is on the individual and self-development, with learners expected to assume primary responsibility for their own learning. The process of learning, which is centered on learner need, is seen as more important than the content; therefore, when educators are involved in the learning process, their most important role is to act as facilitators, or guides.”

In addition to andragogy and self-directed learning, Mezirow’s notion of perspective transformation (see Chapter Six) also has humanistic roots. In transformational learning theory the notion of individual development is both inherent in and an outcome of the process: “Meaning perspectives that permit us to deal with a broader range of experience, to be more discriminating, to be more open to other perspectives, and to better integrate our experiences are superior perspectives” (Mezirow, 1990b, p. 14).

In summary, adult education that is lodged in humanistic psychology is quite prevalent in the United States. Elias and Merriam (2005) attribute its popularity to its compatibility with a democratic political system and to adult education’s voluntary nature: “Educational activities must meet the needs of adult learners in order to survive. Practical considerations thus necessitate an emphasis upon individual needs and interests” (p. 144).

COGNITIVE ORIENTATION

The earliest challenge to the behaviorists came in a publication in 1929 by Bode, a Gestalt psychologist. He criticized behaviorists for being too particularistic, too concerned with single events and actions, and too dependent on overt behavior to explain learning. *Gestalt* (a German word meaning *pattern* or *shape*) psychologists proposed looking at the whole rather than its parts, at patterns rather than isolated events. Through the research of Gestaltists Wertheimer, Kohler, Koffka, and later Lewin (Hergenhahn & Olson, 2005; Ormrod, 1995), Gestalt views of learning rivaled behaviorism by the mid-twentieth century. These views have been incorporated into what have come to be labeled *cognitive* or *information-processing* learning theories. Two key assumptions underlie this cognitive or information-processing approach: “(1) that the memory system is an active organized processor of information,

and (2) that prior knowledge plays an important role in learning” (Gredler, 1997, p. 144).

Perception, insight, and meaning are key concepts in cognitivism for Gestalt learning theorists. According to cognitivists, “The human mind is not simply a passive exchange-terminal system where the stimuli arrive and the appropriate response leaves. Rather, the thinking person interprets sensations and gives meaning to the events that impinge upon his consciousness” (Grippin & Peters, 1984, p. 76). Learning involves the reorganization of experiences in order to make sense of stimuli from the environment. Sometimes this sense comes through flashes of insight. Hergenhahn and Olson (2005, p. 273) summarize the learning process according to Gestalt psychology: “Learning, to the Gestaltist, is a cognitive phenomenon. The organism ‘comes to see’ the solution after pondering a problem. The learner thinks about all the ingredients necessary to solve a problem and puts them together (cognitively) first one way and then another until the problem is solved. When the solution comes, it comes suddenly, that is, the organism gains an *insight* into the solution of a problem. The problem can exist in only two states: (1) unsolved and (2) solved; there is no state of partial solution in between.” A major difference between Gestaltists and behaviorists, therefore, is the locus of control over the learning activity. For Gestaltists it lies with the individual learner; for behaviorists it lies with the environment. This shift to the individual—and in particular to the learner’s mental processes—is characteristic of cognitivist-oriented learning theories.

A cognitive psychologist who clarified the focus on internal cognitive processes was Jean Piaget (1966). Influenced by both the behaviorist and Gestalt schools of thought, Piaget proposed that one’s internal cognitive structure changes partly as a result of maturational changes in the nervous system and partly as a result of the organism’s interacting with the environment and being exposed to an increasing number of experiences. His four-stage theory of cognitive development and its implications for adult learning are discussed more fully in Chapter Thirteen.

Currently, cognitive learning theory encompasses a number of perspectives, all of which take as their starting point the mental processes involved in learning (Wilson & Keil, 1999). Examples of specific areas of study include information-processing theories, memory and metacognition, theories of transfer, mathematical

learning theory models, the study of expertise, computer simulations, cognition and culture, and artificial intelligence (see Chapter Fifteen). Converging with cognitive learning theory are theories of instruction that attempt to unite what is known about learning with the best way to facilitate its occurrence. Ausubel, Bruner, and Gagne provide good examples of how the understanding of mental processes can be linked to instruction.

Ausubel (1967) distinguishes between meaningful learning and rote learning. He suggests that learning is meaningful only when it can be related to concepts that already exist in a person's cognitive structure. Rote learning, in contrast, does not become linked to a person's cognitive structure and hence is easily forgotten. Ausubel's views have also been labeled *assimilation theory* since "most learning, especially in adulthood but in childhood as well, consists of assimilating new experience into one's existing cognitive structure" (Hill, 2002, p. 138). He suggests the use of "advance organizers" to prepare a person for new learning. Ausubel's work can be seen as an antecedent to current research on schema theory whereby schemata—structures that organize the learner's worldview—determine how people process new experiences (Anderson, 1996; Di Vesta, 1987; Ormrod, 1995).

Ausubel emphasizes the importance of the learner's cognitive structure in new learning. Bruner, whose views are often contrasted with Ausubel's, emphasizes learning through discovery. Discovery is "in its essence a matter of rearranging or transforming evidence in such a way that one is enabled to go beyond the evidence" and as a result, reconstruct additional new insights (Bruner, 1965, pp. 607–608). According to Knowles (1984), Bruner's instructional theory is based on a theory about the act of learning that involves "three almost simultaneous processes: (1) acquisition of new information . . . ; (2) transformation, or the process of manipulating knowledge to make it fit new tasks; and (3) evaluation, or checking whether the way we have manipulated information is adequate to the task" (p. 25).

Linking instruction to the acquisition and processing of knowledge has probably been most thoroughly developed by Gagne, Briggs, and Wager (1992). They contend that there are eight different types of knowledge—signal learning, stimulus-response, motor training, verbal association, discrimination learning, concept learning, rule learning, and problem solving—each with

appropriate instructional procedures. Kidd (1973, p. 182) points out that the work of Gagne and others has been an important influence on the “learning how to learn” concept, which has been explored in some depth by Smith, who has been particularly interested in applying it to adult learning (Smith, 1982, 1987; Smith & Associates, 1990). According to Smith (1982, p. 19), “Learning how to learn involves possessing, or acquiring, the knowledge and skill to learn effectively in whatever learning situation one encounters.” Three subconcepts are involved: the learner’s needs; a person’s learning style; and training, which is an organized activity, or instruction to increase competence in learning.

In addition to Smith’s work on learning how to learn, the cognitive orientation can be seen in two other areas that have particular relevance for adult learning. First, interest in cognitive development in adulthood has been the subject of recent research (see Chapter Thirteen); second, the study of learning processes as a function of age (see Chapter Fifteen) draws from the cognitive focus on learning. (See also Tennant & Pogson, 1995.)

In summary, cognitively oriented explanations of learning encompass a wide range of topics with a common focus on internal mental processes that are under the learner’s control. “Essential components of learning are the organization of the information to be learned, the learner’s prior knowledge, and the processes involved in perceiving, comprehending, and storing information” (Gredler, 1997, p. 143). As Di Vesta (1987, p. 229) observes, “Rather than seeking the general all-encompassing laws for controlling and predicting behavior, as did the earlier grand theories of learning,” cognitive learning theory “is directed toward miniature models of specific facets of cognition, such as models of discourse analysis, models of comprehension, ways of aiding understanding and meaningful learning, the nature of the schemata, the memory system, the development of cognitive skills, and the like.”

SOCIAL COGNITIVE ORIENTATION

This learning theory, which combines elements from both behaviorist and cognitivist orientations, posits that people learn from observing others. By definition, such observations take place in a social setting—hence the label *observational* or *social* learning (Lefrancois, 1999). Specifically, “social cognitive learning theory

highlights the idea that much human learning occurs in a social environment. By observing others, people acquire knowledge, rules, skills, strategies, beliefs, and attitudes. Individuals also learn about the usefulness and appropriateness of behaviors by observing models and the consequences of modeled behaviors, and they act in accordance with their beliefs concerning the expected outcomes of actions” (Schunk, 1996, p. 102). Just how the learning occurs has been the subject of several investigations.

Miller and Dollard in the 1940s were the first to explore how people learn through observation. Drawing from stimulus-response and reinforcement theory, they argued that people do not learn from observation alone; rather, they must imitate and reinforce what they have observed. “If imitative responses were not made and reinforced, no learning would take place. For them, imitative learning was the result of observation, overt responding, and reinforcement” (Hergenhahn & Olson, 2005, p. 339). These ideas are totally congruent with the behaviorist orientation to learning. Not until the 1960s, however, with the work of Bandura, did social learning theory break from a purely behaviorist orientation.

Bandura focused more on the cognitive processes involved in the observation than on the subsequent behavior. Central to his theory is the separation of observation from the act of imitation. One can learn from observation, he maintains, without having to imitate what was observed (Lefrancois, 1999). In fact, the learning can be vicarious: “Virtually all learning phenomena resulting from direct experiences can occur on a vicarious basis through observation of other people’s behavior and its consequences for the observer” (Bandura, 1976, p. 392). In addition to being cognitive and vicarious, Bandura’s observational learning is characterized by the concept of self-regulation. He contends that “persons can regulate their own behavior to some extent by visualizing self-generated consequences” (p. 392).

Observational learning is influenced by the four processes of attention, retention or memory, behavioral rehearsal, and motivation (Hergenhahn & Olson, 2005). Before something can be learned, the model must be attended to; some models are more likely than others to be attended to, such as those thought to be competent, powerful, attractive, and so on. Information from an observation then needs to be retained or stored for future use. Retention can be through symbols or words: “Imaginably stored

symbols are pictures or mental images of past experiences, whereas verbal symbols capture the complexities of behavior in words. Bandura notes that conceptual representations often comprise both images and verbal symbols” (Gibson, 2004, p. 197). Finally, the modeled behavior is stored until a person is motivated to act on it.

More recently, Bandura has focused on self-efficacy, that is, our own estimate of how competent we feel we are likely to be in a particular environment. This self-assessment influences how effective we are in interactions with others and with our environment (Lefrancois, 1999). Bandura’s approach first became known as social learning theory, but as his research and writing began to emphasize cognitive components, it is now known as social *cognitive* theory (Hergenhahn & Olson, 2005; Hill, 2002). As Bandura himself explained in the preface to his book, *Social Foundations of Thought and Action: A Social Cognitive Theory* (1986, p. xii), “The theoretical approach of this book is designated as *social cognitive theory*. The social portion of the terminology acknowledges the social origins of much human thought and action; the cognitive portion recognizes the influential causal contribution of thought processes to human motivation, affect, and action.”

Bandura’s theory has particular relevance to adult learning in that it accounts for both the learner and the environment in which he or she operates. Behavior is a function of the interaction of the person with the environment. This is a reciprocal concept in that people influence their environment, which in turn influences the way they behave. This three-way interactive model of the learning, the individual, and the environment is pictured by Bandura (1986) as a triangle in which learning is set solidly in a social context.

The social situation is also central to Rotter’s (1954) theory, which includes strands from behaviorism, cognitivism, and personality theory. Rotter’s theory is framed by seven propositions and attendant corollaries that delineate relationships among the concepts of behavior, personality, experience, and environment. Rotter’s theory assumes that “much of human behavior takes place in a meaningful environment and is acquired through social interactions with other people” (Phares, 1980, p. 406). Key to understanding “which behavior (once acquired) in the individual’s repertoire will occur in a given situation” (p. 407) are the concepts of expectancy and reinforcement. Expectancy is the likelihood that a particular reinforcement will occur as the result of specific behavior: “The way

in which the person construes or psychologically defines the situation will affect the values of both reinforcement and expectancy, thereby influencing the potential for any given behavior to occur” (p. 408). “Rotter’s theory says that when subjective beliefs contradict prior experiences . . . people are more likely to act on the basis of belief than experience” (Schunk, 1996, p. 107).

Several useful concepts emerge from social cognitive learning theory. For example, the motivation to engage in adult learning activities might be partly explained by Rotter’s (1954) notion of locus of control. Some people attribute their successes and failures to factors over which they feel they have no control—they exhibit an external locus of control—whereas others attribute successes and failures to personal, internal factors. An example of how this might relate to motivation and participation in adult education would be the case of someone who is out of work. This person’s unemployment might be blamed on factors over which he feels he has no control such as “the economy,” outsourcing of jobs to cheaper labor markets, lack of public transportation, or age, gender, or skin color. Another person, whose locus of control is more internal, might decide that her being unemployed is more likely due to her inability to get along with coworkers, her lack of computer skills, and so forth. This person is much more likely to engage in learning activities to make herself more employable.

Another connection to adult learning is the importance of context and the learner’s interaction with the environment to explain behavior. That is, explanations of learning may need to focus on more than overt behavior, mental processes, or personality. Bandura, in fact, has advanced a model of *triadic reciprocity* “in which behavior, cognitive and other personal factors, and environmental events all operate as interacting determinants of each other” (1986, p. 18). Studying the interaction of all these factors may result in a more comprehensive explanation of how adults learn. Moreover, Bandura’s work on observational learning and modeling provides insights into social role acquisition and the nature of mentoring, a topic explored in depth by several adult educators (see Cohen, 1995; Daloz, 1999; Galbraith & Cohen, 1995; Mullen, 2005). Finally, Gibson (2004) makes a strong case for the influence of social cognitive theory in HRD theory building, research, and practice. In the area of practice, for example, she points out the prevalence of behavior-modeling techniques in both formal classroom

situations and informal workplace interactions. Self-efficacy and its relationship to training and development of employees and employee socialization and on-the-job training are other areas of practice where social cognitive learning theory is evident.

CONSTRUCTIVIST ORIENTATION

Like some of the other theories already reviewed, constructivism encompasses a number of related perspectives. Basically, a constructivist stance maintains that learning is a process of constructing meaning; it is how people make sense of their experience. Beyond that basic assumption, constructivists differ as to the nature of reality, the role of experience, what knowledge is of interest, and whether the process of meaning-making is primarily individual or social (Steffe & Gale, 1995).

In an essay underscoring the variety of perspectives that are labeled constructivist, Phillips (1995) identifies six major strands: von Glaserfeld's work in math and science education, Kant's notions of knowledge and experience, feminist theorists' views on knowledge construction, Kuhn's work on scientific paradigms and revolutions, Piaget's theory of cognitive development, and Dewey's assumptions about knowledge and experience. Where these strands seem to converge is in the debate over the individual versus the social.

Driver and her colleagues (Driver, Asoko, Leach, Mortimer, & Scott, 1994) frame the issue as one of personal versus social constructivism. Drawing heavily on Piaget, they state that learning as an individual or personal activity involves a "progressive adaptation of [an] individual's cognitive schemes to the physical environment" (p. 6). Meaning is made by the individual and is dependent on the individual's previous and current knowledge structure. Learning is thus an internal cognitive activity. Teaching from the personal constructivism perspective involves providing "experiences that induce cognitive conflict and hence encourage learners to develop new knowledge schemes that are better adapted to experience. Practical activities supported by group discussions form the core of such pedagogical practices" (Driver et al., 1994, p. 6).

The social constructivist view, in contrast, posits that knowledge is "constructed when individuals engage socially in talk and activity about shared problems or tasks. Making meaning is thus a

dialogic process involving persons-in-conversation, and learning is seen as the process by which individuals are introduced to a culture by more skilled members” (Driver et al., 1994, p. 7). This approach involves learning the culturally shared ways of understanding and talking about the world and reality. Vygotsky (1978) is credited with developing the foundation of this view because he proposed that learning is socially mediated through a culture’s symbols and language, which are constructed in interaction with others in the culture. Vygotsky’s work is also considered foundational to what’s known as *activity theory* (AT). Activity theory “conceptualises learning as involving a subject (the learner), and object (the task or activity) and mediating artifacts (for example, a computer, laws)” (Issroff & Scanlon, 2002, p. 77). Activity theory, or what is better known as situated cognition in the United States (Wilson, 2005), combines the individual and the social (including culture and history) in understanding an activity such as learning.

Phillips (1995) posits that the various forms of constructivism can be graphed on a number of continua or axes and in so doing some would be close together on one dimension and far apart on another. For example, the personal, more psychological, orientation of, say, Piaget would contrast with the social perspective of feminist epistemologists. Other constructivists would be more in the middle of this continuum in that they “believe that their theories throw light on both the question of how individuals build up bodies of knowledge and how human communities have constructed the public bodies of knowledge known as the various disciplines” (p. 7). Cobb (1994, p. 13), for example, suggests viewing mathematical learning as “both a process of active individual construction and a process of enculturation into the mathematical practices of wider society.” However, regardless of one’s position on the continuum, there are important pedagogical implications to be derived, “each of which has a degree of credibility that is independent of the fate of the respective epistemologies” (p. 10). All forms of constructivism understand learning to be an active rather than passive endeavor. Consequently, learning occurs through dialogue, collaborative learning, and cooperative learning. “One learns through engaging, incorporating, and critically exploring the views of others, and new possibilities of interpretations are opened through the interaction” (Gergen, 1995, p. 34).

This view, of course, is quite congruent with what we know about adult learning.

Writing from a predominantly social constructivist perspective, Candy (1991, p. 275) discusses how this view translates to adult education: “Becoming knowledgeable involves acquiring the symbolic meaning structures appropriate to one’s society, and, since knowledge is socially constructed, individual members of society may be able to add to or change the general pool of knowledge. Teaching and learning, *especially for adults*, is a process of negotiation, involving the construction and exchange of personally relevant and viable meanings” (italics in original).

Much of our adult learning theory is constructivist in nature. For example, “the constructivist view of learning is particularly compatible with the notion of self-direction, since it emphasizes the combined characteristics of active inquiry, independence, and individuality in a learning task” (Candy, 1991, p. 278). Transformational learning theory (see Chapter Six), especially as presented by Mezirow, focuses on both the individual and social construction of meaning. Perspective transformation is a highly cognitive process in which one’s meaning schemes and meaning perspectives undergo radical change (Mezirow & Associates, 2000). This change is mediated through personal reflection and dialogue with others. The central role of experience in adult learning is another point of connection. Andragogy and other models of adult learning see life experience as both a resource and a stimulus for learning; constructivism too begins with the learner’s interaction with experience.

Finally, much of what the field of adult learning draws from situated cognition is constructivist in nature (see Chapter Seven). Concepts such as cognitive apprenticeship, situated learning, reflective practice, and communities of practice are found in both adult learning and constructivist literature. Two adult education practice arenas in particular where constructivist and situated cognition concepts are having an impact are in continuing professional education (Ferry & Ross-Gordon, 1998) and human resource development (Stamps, 1997). As Wegner (cited by Stamps, 1997, pp. 38–39) explains, “What is shared by a community of practice—what makes it a community—is its practice. The concept of practice connotes doing, but not just doing in and of

itself. It is doing in a historical and social context that gives structure and meaning to what we do. . . . Learning is the engine of practice, and practice is the history of that learning. Indeed, practice is ultimately produced by its members through the negotiation of meaning.”

SUMMARY

Learning, a process central to human behavior, has been of interest to philosophers, psychologists, educators, and politicians for centuries. Since the late nineteenth century, the systematic investigation of this phenomenon has resulted in many explanations of how people learn. This chapter has reviewed some of these theories. Because there are dozens of learning theories and volumes written describing them, we have explored different orientations to learning, any of which might include numerous learning theories. The behaviorist, humanist, cognitivist, social cognitive, and constructivist orientations were chosen for their diversity and for their insights into learning in adulthood. Table 11.1 summarizes these five orientations. Since each is based on different assumptions about the nature of learning, the strategies one might use to enhance learning will depend on one’s orientation. Instructors and program developers can use this review of major learning theories to identify their own theory of learning and discover the strategies for facilitating learning that are most congruent with their theory.

In brief, behaviorists define learning as a change in behavior. The focus of their research is overt behavior, which is a measurable response to stimuli in the environment. The role of the teacher is to arrange the contingencies of reinforcement in the learning environment so that the desired behavior will occur. Findings from behavioral learning theories can be seen in training and vocational adult education.

In contrast to behaviorism is the humanistic orientation to learning. Here the emphasis is on human nature, human potential, human emotions, and affect. Theorists in this tradition believe that learning involves more than cognitive processes and overt behavior. It is a function of motivation and involves choice and responsibility. Much of adult learning theory, especially the concepts of andragogy and many of the models of self-directed learning, are grounded in humanistic assumptions.

TABLE 11.1. FIVE ORIENTATIONS TO LEARNING.

<i>Aspect</i>	<i>Behaviorist</i>	<i>Humanist</i>	<i>Cognitivist</i>	<i>Social Cognitive</i>	<i>Constructivist</i>
Learning theorists	Guthrie, Hull, Pavlov, Skinner, Thorndike, Tolman, Watson	Maslow, Rogers	Ausubel, Bruner, Gagne, Koffka, Kohler, Lewin, Piaget	Bandura, Rotter	Candy, Dewey, Lave, Piaget, Rogoff, von Glaserfeld, Vygotsky
View of the learning process	Change in behavior	A personal act to fulfill development	Information processing (including insight, memory, perception, metacognition)	Interaction with and observation of others in a social context	Construction of meaning from experience
Locus of learning	Stimuli in external environment	Affective and developmental needs	Internal cognitive structure	Interaction of person, behavior, environment	Individual and social construction of knowledge
Purpose of learning	To produce behavioral change in desired direction	To become self-actualized, mature, autonomous	To develop capacity and skills to learn better	To learn new roles and behaviors	To construct knowledge

continued

TABLE 11.1. *Continued*

<i>Aspect</i>	<i>Behaviorist</i>	<i>Humanist</i>	<i>Cognitivist</i>	<i>Social Cognitive</i>	<i>Constructivist</i>
Instructor's role	Arrange environment to elicit desired response	Facilitate development of whole person	Structure content of learning activity	Model and guide new roles and behaviors	Facilitate and negotiate meaning-making with learner
Manifestation in adult learning	<ul style="list-style-type: none"> • Behavioral objectives • Accountability • Performance improvement • Skill development • HRD and training 	<ul style="list-style-type: none"> • Andragogy • Self-directed learning • Cognitive development • Transformational learning 	<ul style="list-style-type: none"> • Learning how to learn • Social role acquisition • Intelligence, learning, and memory as related to age 	<ul style="list-style-type: none"> • Socialization • Self-directed learning • Locus of control • Mentoring 	<ul style="list-style-type: none"> • Experiential learning • Transformational learning • Reflective practice • Communities of practice • Situated learning

Also in contrast to behaviorists, researchers working from a cognitivist perspective focus not on external behavior but on internal mental processes. Cognitivists are interested in how the mind makes sense out of stimuli in the environment—how information is processed, stored, and retrieved. This orientation is especially evident in the study of adult learning from a developmental perspective. The major concerns are how aging affects an adult's ability to process and retrieve information and how it affects an adult's internal mental structures.

The fourth orientation discussed here is social cognitive learning. This perspective differs from the other three in its focus on the social setting in which learning occurs. From this perspective, learning occurs through the observation of people in one's immediate environment. Furthermore, learning is a function of the interaction of the person, the environment, and the behavior. Variations in behavior under the same circumstances can be explained by idiosyncratic personality traits and their unique interaction with environmental stimuli. Social learning theories contribute to adult learning by highlighting the importance of social context and explicating the processes of modeling and mentoring.

Finally, constructivism, representing an array of perspectives, posits that learners construct their own knowledge from their experiences. The cognitive process of meaning-making is emphasized as both an individual mental activity and a socially interactive interchange. Aspects of constructivism can be found in self-directed learning, transformational learning, experiential learning, situated cognition, and reflective practice.

CHAPTER TWELVE

ADULT DEVELOPMENT

At age eighty, John reflects on the many changes he has experienced. Although his eyes are now clouded by cataracts, he remembers when family and friends nicknamed him “Eagle-Eye Johnny” because of his excellent eyesight. He also recalls his friends’ surprise when he married at age forty and went on to have two children. He explains, “I guess I was a late bloomer. Having kids in my forties kept me young, though.” John recollects that his priorities have changed over time. In high school and college, he wanted to “be [his] own man” and after college he focused on his career. John recalls, “In my mid-thirties, I realized that I wanted to give back to the community. I also wanted to be married and have a family.” John continues to give back to people in his small town by visiting people in the nursing home and sponsoring a support group for men who have had heart surgery. John admits that lately he has spent more time “remembering the good times.” He continues, “I’ve had a good life. In some ways, I’m still the same person I was at twenty. For example, I’ve always valued being organized and efficient. In other ways, I’ve changed a lot.”

The concept of development is most often equated with change. Development has been defined as “systematic change within an individual or a group of individuals that results from a dynamic interaction of heredity and environmental influences” (Lerner, 1998, as cited in Bee & Bjorkland, 2004, p. 14). However, it is important to remember that there is a sense of both stability and change in development (Bee & Bjorkland, 2004). For example, John’s sense of organization has been a constant in his life. However, his values have changed somewhat. In the next section

we will briefly introduce the approaches to development that wrestle with the importance of nature and nurture in the developmental process, including biological, psychological, sociocultural, and integrated perspectives.

FOUR APPROACHES TO ADULT DEVELOPMENT

The biological perspective acknowledges the role of nature in our development. It recognizes that “we are physical beings” and that change in our physical being can be “driven by natural aging, the environment, our own health habits or by an accident or disease process” (Clark & Caffarella, 1999, p. 5). The psychological perspective “focuses on how we develop as individuals and examines primarily internal development processes” (p. 5). Psychological models of development have been used to explore faith development (Fowler, 1981), moral development (Kohlberg, 1976), identity development (Erikson, 1968; Loevinger, 1976), and intellectual development (Perry, 1999). The sociocultural approach posits that adult development cannot be understood apart from the historical context in which it occurs (Miller, 2002). The influence of society is taken into account in this perspective. The integrative approach to development combines several influences on adult development. For example, Bronfenbrenner’s (2001) ecological model delineates changes that occur in people as the result of their interaction with peers or the interaction between a person’s workplace and community.

We discuss the four approaches to adult development in this chapter. First, we explore biological aging and its impact on learning. Next, we examine psychological models of development, including Erikson’s (1963, 1978) psychosocial model and Levinson’s (Levinson, Darrow, Klein, Levinson, & McKee, 1978; Levinson & Levinson, 1996) model of personal development, among others. Third, we discuss how sociocultural factors affect development, including the influence of the timing of life events and the influence of race, class, and gender on development. The last section of the chapter presents integrative models of development, which demonstrate a more holistic approach.

BIOLOGICAL DEVELOPMENT

Biological aging is a fact of life, although rarely a welcome one in American culture. Anti-aging products abound because people are fascinated with maintaining a youthful appearance. The top ten facial moisturizers (some of which advertise antiwrinkle properties) sold at supermarkets, drugstores, and discount stores produced \$262.8 million in sales in 2004, and professional skin care products sold at spas and salons netted an additional \$285 million (“Beauty at Every Age Is the Maxim,” 2005). Antiwrinkle creams, hair color, sexual enhancement medications, and laser treatments temporarily keep the signs of aging at bay. Yet, people cannot escape the inevitability of biological aging.

Biological development refers to the physical and biological changes that occur over the life span. In this section, we discuss biological aging. We briefly explore theories of primary aging. In addition, we discuss age-related changes in vision, hearing, and the central nervous system.

Although life expectancy has increased from 49.2 years in 1900 to 76.5 years in the United States in 2000 (Guyer, Freedman, Strobino, & Sondik, 2000), our capacity to live longer does not mean we have been able to halt the primary process of aging—those time-related physical changes governed by some kind of maturational process, as in vision and hearing, for example—that happen to all of us (Bee & Bjorkland, 2004). Theories as to *why* primary aging occurs are plentiful, but all theories need further research. One theory asserts that cellular damage occurs during “the normal metabolism of oxygen” and this cellular damage builds up with age (Bee & Bjorkland, 2004, p. 61). Some scholars blame physical aging on the cell’s lessening ability to repair daily breaks in DNA strands (Bee & Bjorkland, 2004; Carey, 2003). A third theory asserts that primary aging is related to “how many calories we metabolize per day” (Bee & Bjorkland, 2004, p. 63). Bee and Bjorkland note, “This theory is based on the premise that the hypothalamus serves as a glandular clock of some kind that measures age in the number of calories metabolized by the body” (p. 63).

Although life expectancy has increased, the human life span, usually given as 110 to 120 years, has not changed. Rather, our increased longevity stems from overcoming some of the problems related to secondary aging—aging that occurs due to “the . . . changes that are

the result of disease, health habits or environmental influences” (Bee & Bjorkland, 2004, p. 60). These changes do not happen to everyone and can often be prevented. Improved nutrition, hygiene, discoveries in the medical and mental health fields, and lifestyle changes have accounted for most of this increased longevity.

It is important to note, however, that racial and ethnic health disparities have an impact on longevity. Black men are more likely to suffer from prostate, lung, colorectal, and stomach cancer than White men, and Black men and women are more likely than their White counterparts to suffer from hypertension (“Health Disparities Experienced by Black or African Americans,” 2004). Numerous factors, including access to preventive services and racial discrimination, contribute to these disparities. In a study of three hundred thousand Medicare patients, research completed with Black patients found that they received different treatment than Whites (Schneider, Zaslavsky, & Epstein, 2002). Blacks were less likely than Whites to receive beta-blockers after a heart attack or aftercare following a hospitalization for mental illness. The researchers controlled for income, education, and quality of the clinic the patients visited.

While racial and ethnic disparities in health care persist, biological aging affects us all. However, decline in the actual functioning of the major biological systems is slow. The fourth and fifth decades tend to be the physiological turning point for most adults, although the effects of these changes may not be felt until the sixth or seventh decade of life (Bee & Bjorkland, 2004). The most obvious changes are changes in appearance. Suddenly, we notice our skin is not as firm and elastic as it once was. Our hair may become increasingly gray and turn white or we may experience hair loss. Yet these changes, although noticeable, really have little effect on our physical functioning. Less obvious are the more pervasive internal changes. For example, most adults begin to experience changes in vision, cardiovascular systems, bones and connective material, respiratory system, and reproductive function (for women) sometime in their forties or early fifties.

Although it appears that we will all experience many major changes in our physical beings at some point in our lives, the effect of these changes on our capacity to learn is largely unknown. In fact, many of these changes may prove to be very minor, except in cases of underlying disease processes. We will briefly discuss

physical changes that have been shown to affect learning in adulthood: age-related changes in two of the senses and changes in the central nervous system. In addition, vision and hearing disorders common to older adulthood are discussed.

SENSES

Deterioration in the ability to see and to hear can create problems with the learning process. Specific changes in vision are well documented (Pesce, Guidetti, Baldari, Tessitore, & Capranica, 2005; Stuen & Faye, 2003). One of the most notable changes is in the ability to perceive small detail on the printed page and computer screen. A loss of close vision begins for many people between the ages of forty and fifty and results primarily from the lens becoming larger and denser and losing elasticity (Meisami, Brown, & Emerle, 2003; Stuen & Faye, 2003). This problem can be corrected by eyeglasses or various types of surgery. A second major sight-related change concerns light. As people age, the pupil of the eye becomes smaller and allows less light to enter the eye (Stuen & Faye, 2003). Hence people need more illumination to see both near and far (Bee & Bjorkland, 2004; Marsh, 1996). These latter changes make people less responsive to sudden changes in illumination, such as oncoming headlights. In addition, “peripheral vision, depth perception, color vision, and adaptation to the dark also become poorer and sensitivity to glare increases” with age (Lefrancois, 1996, p. 505).

In addition to age-related vision changes, there are age-related vision disorders. Cataracts are the most common of these age-related eye conditions; in this condition, there is a clouding of the lens that reduces passage of light (Meisami, Brown, & Emerle, 2003; Stuen & Faye, 2003). Cataract surgery is a common remedy for this condition. A second common eye malady is age-related macular degeneration, which “is the leading cause of vision loss among people over age 60” (Stuen & Faye, 2003, p. 9). Seeing detail and reading become difficult. Caucasians and people with light eye color are more at risk for this disease than African Americans or people with dark eye color. A third age-related eye disease is glaucoma, usually caused by very high eye pressure, which results in damage to the optic nerve and causes damage to peripheral vision and sometimes blindness. Treatment includes surgery and

eyedrops. Those of African ancestry, individuals with diabetes, and people with a history of glaucoma in the family are at increased risk for the disease (Stuen & Faye, 2003).

While changes in vision happen primarily at set periods in life, hearing loss is a progressive but gradual process throughout adulthood generally starting in the thirties (Bee & Bjorkland, 2004). Most adults do not notice any discernible change until their fifties and sixties, when sounds, especially in the high-frequency range, become more difficult to hear (Kline & Scialfa, 1996). Males suffer this type of hearing impairment more often than females (Bee & Bjorkland, 2004). By age sixty-five, over 25 percent of adults have a hearing difficulty, and for males over age seventy-five approximately 50 percent experience hearing loss (Bee & Bjorkland, 2004). The basic cause appears to be from "gradual changes in the inner ear" that result in structures in the inner ear becoming less responsive to sound (Rados, 2005, p. 22).

Some hearing deficits can be compensated for with the use of hearing aids. However, most older adults who could benefit from hearing aids do not use them because they do not feel the need, do not want to be associated with a device that makes them "look old," or simply cannot afford them. Other devices to assist hearing include hardwire systems, infrared systems, or FM devices (Montano, 2003). In addition, cochlear implants, which directly stimulate the auditory nerve through wires inserted in the cochlea, appear to improve the life of those with significant hearing difficulties (Meisami, Brown & Emerle, 2003).

Tinnitus, a ringing noise in the head or ears with no external stimuli present, is another common hearing disturbance in older adults (Whitbourne, 2005). Thirty-five to fifty million Americans experience this hearing impairment and two to three million are debilitated by this symptom (Ahmad & Seidman, 2004). Men are more commonly affected than women. The use of antibiotics, aspirin, and anti-inflammatory medications may contribute to tinnitus (Whitbourne, 2005). Other causes for the disturbance include injuries or infections of the ear, neck injuries, head trauma, stress, seizure disorders, possible nutritional deficiencies, and metabolic disturbances (Ahmad & Seidman, 2004).

Except for major degenerative and other disease processes, corrective measures, such as the wearing of eyeglasses and teaching people to find alternative ways of communicating, can help ensure

the best use of the vision and hearing that remain. Further, advances in technology such as closed captioning of lectures and discussions (Schmidt & Haydu, 1992) and computer programs that assist low-vision individuals to read texts, help older adults navigate new learning in both formal and informal settings. Both teachers and learners must see to it that the educational environment is conducive to all adult learners, ensuring, for example, that rooms are adequately illuminated and acoustics are good.

THE CENTRAL NERVOUS SYSTEM

Consisting of the brain and the spinal cord, the central nervous system forms the primary biological basis for learning. We continue to learn how changes in this system may affect cognitive functioning (Bee & Bjorkland, 2004). Research on the aging brain has shifted from seeing “aging as an inevitable process of brain damage and decline” to aging as “a complex phenomenon characterized by reorganization, optimization and enduring functional plasticity that can enable the maintenance of a productive—and happy—life” (Reuter-Lorenz & Lustig, 2005, p. 249). For example, instead of seeing the decrease in brain cells as a sign of inevitable cognitive decline, we now know that although we lose brain cells or neurons through the aging process, the remaining neurons increase their connections with each other. This plasticity of the brain allows the aging brain to maintain much of its function (Bee & Bjorkland, 2004; Timiras, 2003). Further, brain scans have shown that deficits in one area of the brain may be compensated for in other areas (Cabeza, Anderson, Locantore, & McIntosh, 2002; Reuter-Lorenz & Lustig, 2005). In addition, older adults may also maintain higher levels of brain activity to compensate for deficits. However, higher levels of brain activity may not, for some, necessarily represent compensation but inefficient processing (Reuter-Lorenz & Lustig, 2005).

A consistent finding related to changes in the central nervous system concerns declining reaction time as people age (Bee & Bjorkland, 2004; Schaie & Willis, 2002). Reaction time is usually measured as the time it takes a person to complete a psychomotor task such as putting together a puzzle or responding to a specific stimulus by hitting a lighted button. Although “it is not true that all elderly people are markedly slower than young people . . . ,

on the average people over the age of 65” react less rapidly (Lefrancois, 1996, p. 506). Numerous explanations have been posited for this change, such as possible sensory deprivation (Baltes & Lindenberger, 1997) or changes in actual brain activity (Baltes & Lindenberger, 1997; Schaie & Willis, 2002). Factors such as the nature of the task and a person’s familiarity with it also affect reaction time. In addition, physical activity seems to improve reaction times in older adults (Schaie & Willis, 2002).

In sum, while our life expectancy in the United States has increased from 49.2 years in 1900 to 76.5 years in 2000—although racial disparities in health care affect longevity for African Americans—the human life span remains at approximately 110 to 120 years. Regardless of race, changes in vision, hearing, and reaction time are an inevitable part of the aging process. However, new technologies such as cochlear implants and laser surgery for cataracts help older adults remain active and they can continue learning well into old age. In addition, technology has demonstrated the brain’s elasticity. Older adults who show deficits in one area of the brain may compensate for it in other areas.

PSYCHOLOGICAL DEVELOPMENT

Most of the work in adult development has been driven by the psychological tradition and focuses on the individual’s *internal* process of development. A myriad of models concerning faith development (Fowler, 1981), identity development (Erikson, 1963), and self-development (Gould, 1978; Josselson, 1996; Kegan, 1994) have been based on this perspective. In this view, little attention is paid to the society’s influence on the person’s development. The psychological perspective also underlies models used to explain race identity development (Helms, 1990), gay identity development (Cass, 1979), and more recently, biracial identity development (Henriksen & Trusty, 2004). In short, the psychological model of development, which explores the internal experiences of the individual, continues to be a favorite of developmental psychologists even among those studying socially constructed identities of race and gender.

In this next section, we will touch on two foundational psychological models of development: namely, Erikson’s model of psychosocial development and Levinson’s model of personal

development will be discussed. In addition, Helms's model of White identity development, Henriksen and Trusty's recursive Black-White biracial identity development model, and Cass's gay identity development model will be explored.

Models of psychological development fall into two main categories. In stage theories, there is a stepwise upward movement, but it is not necessarily tied to chronological age (for example, Erikson, 1963, 1978; Fowler, 1981). These scholars assert that these stages are hierarchical in nature and therefore build on one another. There is disagreement about what causes the movement between stages and whether this movement is upward only to higher stages or whether it is back and forth across stages. Age-graded models, in contrast, tie specific ages to particular tasks (for example, Levinson et al., 1978; Levinson & Levinson, 1996).

ERIKSON'S PSYCHOSOCIAL DEVELOPMENT MODEL

Erikson's (1963) psychosocial development model is representative of the stage-related view of development. Considered "the most influential view of adult development proposed thus far" (Bee & Bjorklund, 2004, p. 33), Erikson's theory consists of eight stages of development, each representing a series of crises or issues to be dealt with over the life span. At each stage, there is a choice between opposites—one negative and the other positive—and it is imperative that persons achieve a favorable ratio of positive over negative prior to moving to the next stage. In young adulthood, the successful resolution between intimacy versus isolation results in love. In middle adulthood, resolving the tensions between generativity and self-absorption allows people to care for others; in older adulthood, resolutions between integrity versus despair provide the capacity for wisdom. Although Erikson tied his fifth stage—identity versus identity confusion—primarily to the period of adolescence, researchers in adult development have also included the examination of this stage as part of their research on adults (for example, Josselson, 1987). Erikson maintains that as adults we may revisit earlier stages to resolve or re-resolve conflicts from earlier periods in different ways. For example, because of the loss of a spouse, we may need to work again through issues of both intimacy and identity. In addition, Erikson, Erikson, and Kivnick (1986) go on to suggest that vital involvement in old age

and interdependence among people allow adults to complete the life cycle successfully and leave a positive legacy for the next generation.

Erikson's theory continues to stimulate discussion and research. One recent work, for example, seeks to realign his eight stages into a decade-by-decade formulation (Capps, 2004), in essence making Erikson's model an age-based one, rather than stage-of-life; generativity would then be most prominent in one's sixties, and ego integrity the task for the seventies. In terms of research, Westermeyer (2004) has recently reported on a thirty-two-year longitudinal study applying Erikson's theory to healthy men. In 1959, ninety-four male students completed a seven-hundred-item questionnaire assessing dimensions of Erikson's theory. After thirty-two years, eighty-six of the original ninety-four were assessed again. Fifty-six percent of the participants had achieved generativity, the appropriate task for adults in their late fifties. Likewise, Norman, McCluskey-Fawcett, and Ashcraft (2002) assessed developmental differences between women in their sixties and women in their eighties. The young-old group more so than the old-old women "identified with the positive aspects of Erikson's developmental stages such as fidelity, wisdom, and satisfaction with their lives, work, and accomplishment" (pp. 37–38). The authors speculated that the older women were dealing with widowhood, physical limitations and decreased resources, which may have caused them to revisit earlier issues of trust and identity.

LEVINSON'S AGE-GRADED MODEL

Levinson and his colleagues (Levinson & Levinson, 1996; Levinson et al., 1978) provide an often-quoted description of an age-graded model. Levinson and Levinson (1996), for example, from their studies of both men and women, suggest that people evolve through an orderly sequence of stable and transitional periods that correlate with chronological age. One's life structure, that is, "the underlying pattern or design of a person's life at any given time" (p. 22), tends to be established and maintained during stable periods and then questioned and changed during transitional periods. For example, the authors indicate that the early life transition occurs between the ages of seventeen and twenty-two. This is followed by the entry into the life structure at age twenty-two to

twenty-eight, followed by the age thirty transition, which occurs from the ages of twenty-eight to thirty-three, and the culmination of the life structure occurring between ages thirty-three and forty. The model ends with the era of late adulthood, starting at age sixty.

Among the components of this changing life are marriage and family, occupation, friendships, religion, ethnicity, and community. The “*central components* are those that have the greatest significance for the self and the life. They receive the greatest share of one’s time and energy, and they strongly influence the character of the other components” (Levinson & Levinson, 1996, p. 23).

Although Levinson and his colleagues hold that both men and women follow these alternating sequences of structure building and transitional periods, these periods “operate somewhat differently in females and males” (Levinson & Levinson, 1996, p. 36), largely because of *gender splitting*, which “refers not simply to gender differences but of a splitting asunder—the creation of a rigid division between male and female, masculine and feminine, in human life” (p. 38). They elucidate four forms of gender splitting: (1) public sphere (male)/domestic sphere (female), (2) within marriage breadwinner (male)/homemaker (female), (3) “men’s work”/“women’s work,” and (4) splitting of the psyche as male and female.

This framework of relating development to specific age periods has led a number of educators to propose a link between age-appropriate tasks and behavior and the fostering of learning activities for adults. Havighurst (1972) was one of the earliest writers to link these ideas into what he termed *the teachable moment*. The idea of the teachable moment is grounded in the concept of developmental tasks—tasks that arise at a certain period in a person’s life, such as selecting a mate, starting a family, and getting started in an occupation. Although the time frame and some of the tasks Havighurst suggested are somewhat dated, the idea of specific life tasks giving rise to a teachable moment is not. Knowles (1980, p. 51) has also viewed developmental tasks as producing “a ‘readiness to learn’ which at its peak presents a ‘teachable moment’” and outlines his own list of “life tasks” for young, old, and middle-aged adults.

OTHER MODELS

The psychological paradigm has been embraced by some who have constructed models of racial identity development and sexual identity development. While some of these models implicitly recognize the influence of society on racial and sexual orientation identity development, they still primarily focus on the experience of the individual, with little mention of society's influence on these types of development. For example, Helms (1990, 1995) proposes a process model of White racial identity that consists of two phases: abandoning racism and creating a nonracist identity. The process of abandoning racism is as follows (Helms, 1990): Initially, Whites are oblivious to racism, until they encounter an incident or series of incidents that alert them to racism. During the *disintegration* stage, they recognize that racial discrimination exists and may experience confusion or guilt because of their White privilege. During *reintegration* they often believe there is an element of truth to negative stereotypes about people of color. They avoid associating with or may even act violently toward people of color. As Whites focus on developing a nonracist identity, they traverse through a *pseudo-independent* stage where they begin to recognize that Whites are not superior to people of color, but they may still perpetuate the idea of White superiority through their actions or behaviors, while in the *immersion/emersion* stage individuals encourage others to abandon racism and come to terms with their Whiteness. In the last phase, *autonomy*, they abandon racism and commit to its eradication on a personal and societal level. Maintaining this perspective is a continual process (Richardson & Silvestri, 1999).

Biracial identity development has received more attention from researchers in the past fifteen years (Bowles, 1993; Collins, 2000a, 2000b; Herring, 1995; Pinderhugh, 1995). Research has explored conflicts about dual racial identity, self-esteem and identity, and identity development, among others (Rockquemore & Brunsma, 2002). Like Helms's model, the focus of a recent biracial identity development model constructed by Henriksen and Trusty (2004) is on the experience of the individual, with less explicit attention given to the impact of society on this development. Their model of recursive Black-White biracial identity development, developed

from interviews with biracial women, describes six periods that individuals undergo during their biracial identity development. These periods are *neutrality*, *acceptance*, *awareness*, *experimentation*, *transition*, and *recognition*. During the neutrality period, individuals are unaware of racial differences (Henriksen & Trusty, 2004). Acceptance occurs when people realize that they are racially different from others and that they “[do] not have a racial reference group” (p. 72). This difference and the lack of a racial reference group promote feelings of isolation during the awareness period. People “try to fit into one part of their racial identity” (p. 72) by associating mostly with Blacks or Whites in an effort to find where they fit in (Henriksen & Trusty, 2004). During transition, women realize they cannot identify as Black or White. Last, the recognition period is one of acceptance of their biracial identity.

Early models of sexual identity development also relied on the psychological paradigm. Cass’s (1979) foundational model of gay or lesbian identity development is one of the most well-known. Cass proposes a six-stage model. The first stage, identity confusion, is marked by feelings of confusion as an individual begins to realize that he or she may be gay or lesbian. This is followed by the identity comparison stage, when the person begins to realize that he or she is gay or lesbian but denies the identity on some level. During the second stage, the individual may believe that his or her attraction to the same sex is temporary. In the third stage, identity tolerance, the person becomes more open to the idea of a gay or lesbian identity but does not yet fully embrace the identity. Identity acceptance occurs during Stage 4. Individuals have increased contact with other gays or lesbians and evaluate them more positively. This is followed by the identity pride stage, where the person discloses the identity to others and may be more immersed in the gay or lesbian subculture. Last, the gay or lesbian identity is synthesized into one’s self.

Even recent models of women’s midlife development have used a psychological perspective (Barrett, 2005; Josselson, 2003; Tangri, Thomas, Mednick, & Lee, 2003). Implicit in these developmental stages is the influence of society on midlife women, but the focus is still on the internal experiences of the women. Howell and Beth (2002) interviewed eleven women (seven Caucasian and four African-American) between the ages of forty and sixty in an urban environment to understand their midlife experiences. A

three-stage (nonlinear) process emerged: *Rejecting Midlife Stereotypes*, *Exploring Midlife Realities*, and *Adjusting Attitudes, Behaviors, and Circumstances*. Rejecting Midlife Stereotypes included an awareness of midlife changes and a denial of the label “middle-aged” (which they associated with negative stereotypes) as applying to themselves (Howell & Beth, 2002). In Stage 2, the denial of being middle-aged gave way to the second stage, Exploring Midlife Realities, where women mourned midlife losses, including losses in relationships due to divorce, death, or estrangement, their changing bodies, and concern about finances. Participants also clarified their values as a result of their losses and looked for role models that they felt were successfully negotiating midlife changes. During the third stage, Adjusting Attitudes, Behaviors, and Circumstances, women acted on their newfound values.

A second study expanded the findings of the Howell and Beth 2002 investigation. The study concentrated on midlife development in lesbians. It revealed that while lesbians experienced some of the same stages as heterosexual women, there were differences. For example, because of the “coming out” process that the women journeyed through earlier in their lives they had “a stronger sense of who they were and were less concerned with what others thought of them” (Howell & Beth, 2004, p. 133). They were much less concerned about ageism than their heterosexual counterparts. The earlier coming out process for participants equated with the Rejecting Midlife Stereotypes stage for heterosexual women. For example, both groups of women struggled with self-esteem. In addition, both groups coped with social rejection. Lesbians felt rejected by some members of society because of their sexual orientation. Middle-aged heterosexual women felt rejected by others because they were growing older. They experienced ageism (Howell & Beth, 2004). Lesbians experienced losses in the Exploring Midlife Realities stage but “they experienced grief with the pragmatism of individuals who had already been through many difficult experiences” because many had experienced losses during the coming out process (p. 143). Stage 3, Adjusting Attitudes, Behaviors, and Circumstances, was similar for lesbians and heterosexuals.

How do psychological models of adult development relate to learning? Educators who accept that their job is to help learners achieve the highest level of development possible could encourage students to examine their assumptions, and facilitate critical

reflection on these assumptions (Daloz, 1986, 1999; Levine, 1989; Mezirow, 2000). Through mentoring and learning activities designed with development in mind, facilitators can enable the “transformational journeys” of their students (Daloz, 1986, p. 16).

In sum, psychological models of development explore the internal experiences of the individual. Models of psychological development primarily fall into two categories. For stage theorists, there is a stepwise upward movement, but it is not necessarily tied to chronological age (for example, Erikson, 1963, 1978; Fowler, 1981), nor is it always linear (Howell & Beth, 2002). Age-graded models tie specific ages to particular tasks (for example, Levinson et al., 1978; Levinson & Levinson, 1996). Despite the knowledge that society affects adults’ development, the psychological model continues to be popular.

SOCIOCULTURAL FACTORS

The sociocultural perspective on adult development acknowledges how the social world in which we live influences our development (Dannefer, 1996; Gardiner & Kosmitzki, 2005; Shaffer, 2005). This perspective recognizes that factors such as age, race, gender, ethnicity, socioeconomic status, and sexual orientation affect how society defines us. We offer two salient strands of work from the literature on the sociocultural perspective on adulthood that provide us with different ways of looking at adult development. We examine how adult social roles and the timing of life events affect development. We then review how socially constructed notions of race, ethnicity, gender, and sexual orientation affect development.

SOCIAL ROLES AND THE TIMING OF LIFE EVENTS

The earlier work on the sociocultural dimensions of adulthood focused on the taking of social roles and the notion of the timing of life events. Social roles are defined as both positions and associated expectations determined primarily by normative beliefs held by society (Bee & Bjorkland, 2004). Examples of these various roles include parent, spouse, worker, child, and friend. Changes in one’s social position result from modifications of these roles (such as redefining the role of parent when both parents assume employment) and the taking on of new roles (such as wife to widow or

paid worker to retired person). These changes may be initiated by the individual or by others; a parent might ask an older child to take on the role of worker to help pay for her college expenses, for example, or changes in legislative policy might give a specific group in society, such as minorities or women, more or perhaps less control over their own lives.

Research on role transitions has migrated from a “life problem” approach to a “life trajectory” approach (Ferraro, 2001, p. 316). Early research on role transitions in the United States in the 1950s through the mid-1970s focused on loss of roles, such as the loss of the worker role after retirement. It was thought that such losses led to disengagement from society. Studies in the 1970s and 1980s moved from a concentration on role loss and gain to one of role *transitions* as life circumstances change (Bee & Bjorkland, 2004; Ferraro, 2001). More rigorous research designs and longitudinal studies on role transitions brought to light the complexities of role transition outcomes. Role transition outcomes could be positive or negative instead of solely negative. In the 1990s, research began to focus on the place of role transitions and role salience in the life course. Scholars investigated “how role transitions are both influenced by earlier life experiences and shape subsequent paths of personal adjustment” (Ferraro, 2001, p. 315). In research on role salience (Krause, 1999; Reitzes, 2003), people have multiple roles or identities, such as mother, sister, parent, or worker, which are arranged hierarchically according to their salience. The role’s importance or salience is determined by how much the person values that role and how detrimental the loss of the role would be to a person’s self-concept. This spotlight on social roles has fostered a number of research traditions in such areas as career development and marriage and family roles (see Bee & Bjorkland, 2004; Berger, 1998; Ferraro, 2001; Kalmijin, 2004).

The scholarship on the timing of life events, which is exemplified by the work of Neugarten and others (Neugarten, 1976, 1979; Neugarten & Danan, 1973), suggests that “every society is age-graded, and every society has a system of social expectations regarding age-appropriate behavior. The individual passes through a socially regulated cycle from birth to death as inexorably as he [sic] passes through the biological cycle: a succession of socially delineated age-statuses, each with its recognized rights, duties and obligations” (Neugarten, 1976, p. 16). Although the timing of

events has changed somewhat and the deadlines for completing such events have become more variable since Neugarten completed her original work, being “off-time” or “on-time” regarding certain major life events still holds merit (Bee & Bjorkland, 2004; Pinhey & Pinhey, 2002). It is not the events themselves that necessarily precipitate crisis or change. Life events that occur “off-time,” such as going through menopause at an early age, becoming a widower at age thirty, or having children later in life, can be stressful (Bee & Bjorkland, 2004; Pinhey & Pinhey, 2002). From this vantage point, the study of adult development then becomes a study of life events construed from socially constructed beliefs, whereas in the psychological tradition, the focus is on the life events themselves as markers and processes.

The idea that learning in adulthood is related to appropriate role taking, as defined by society’s expectations, has a long history in adult education, from the early citizenship education programs for immigrants to today’s workplace learning programs. Several writers have suggested that programs be developed related to the social roles of adults. Some thirty years ago, Kidd (1973) and Knox (1977), for example, explored how changes in social roles can be related to learning activities. In particular, Kidd (1973) outlined a taxonomy suggested by Malcolm Knowles at a UNESCO seminar in Hamburg in 1972 that takes into account not only roles but also the competencies related to those roles. The implied assumption underlying this taxonomy is that learning programs could be built to address these competencies for adults going through role changes or wishing to become more competent in their current roles (for example, family member, worker, and citizen). Even learning on our own may be driven by what society expects of us, such as learning parenting skills or taking care of aging parents. For the most part, adult educators have developed programs around role taking to the age-normative times of life events and have not taken into account those people who are “off-time.” More recently there has been some change in this thinking. For example, hospice programs, which both offer support and teach caretakers how to care for dying people, do not discriminate whom they will serve based on either the age of the patient or the age of the caretaker.

SOCIALLY CONSTRUCTED NOTIONS OF RACE, ETHNICITY, GENDER, AND SEXUAL ORIENTATION

Researchers have been especially interested over the past two decades in the socially constructed notions of race, ethnicity, gender, and sexual orientation as they relate to adult development (Alderson, 2003; Cross & Vandiver, 2001; Ponterotto, Casas, Suzuki, & Alexander, 2001; Worthington, Savoy, Dillion, & Vernaglia, 2002). Discussing these different constructs in relation to development is challenging because they often overlap and have been given different meanings by researchers. For example, some people use the terms *race* and *ethnicity* interchangeably, whereas others clearly distinguish between these two concepts. What makes it even more difficult to establish the connection between these ideas and development is the intersection of various positionalities, that is, where one stands or where one's "position" is in relation to others. As Kincheloe and Steinberg (1993, p. 302) write: "We are never independent of the social and historical forces that surround us—we are caught at a particular point in the web of reality. The post-formal project is to understand what that point in the web is, how it constructs our vantage point, and the ways it insidiously restricts our vision." A person's race, class, gender, and sexual orientation, among other positionalities, intersect to influence the development of that person. For example, a middle-class White lesbian may face different developmental challenges than a wealthy, heterosexual Black man because of their different positionalities. There has been increasing interest in examining these intersections and their impact on adult development (Bowman et al., 2001; Etter-Lewis & Foster, 1996).

Most approaches to Black identity development appear to be sociocultural. Black identity development models take three approaches: mainstream, underground, and multidimensional. The mainstream approach focuses on how racial identity can be viewed in relation to other identities. This view of Black identity development emphasizes coping with the stigma associated with a marginalized identity but does not examine "the qualitative meanings associated with particular ethnic and racial identity" (Sellers, Smith, Shelton, Rowley, & Chavous, 1998, p. 21). The underground approach recognizes the importance of history and culture

in the “experiential meaning associated with being Black” (p. 21). The multidimensional approach combines the mainstream and underground perspectives.

Cross’s (1971) theory exemplifies an underground approach to Black identity development and offers several propositions. First, Black racial identity contains two dimensions: “a personal identity component (PI) and a reference group component (RGO)” (Cross & Vandiver, 2001, p. 380). Second, the “core of the theory is on the various ways Black people make sense of themselves as social beings” (p. 380). Third, the theory addresses how Black identity is “*enacted* in everyday interactions with Black and White people” and while there are four stages that contain a total of eight “identity exemplars” (p. 375), Cross recognizes the myriad ways people experience their Nigrescence.

Cross’s model has grown from five identity stages (Cross, 1971) to multiple identity clusters at each of four stages (Cross & Vandiver, 2001). The four main stages are *pre-encounter*, *encounter*, *immersion-emersion*, and *internalization*. An individual in the pre-encounter stage generally does not interact with Black culture or problems. In the encounter stage, the individual may have an experience or series of experiences that “*shatter* the relevance of the person’s current identity and worldview, and at the same time provide some hint of the new direction the person must now take” (Cross, 1995, p. 105; italics added). Generally, this new worldview is followed by Stage 3, immersion-emersion, where the individual immerses himself or herself in Black culture. The last stage, internalization, is marked by an “inner peace,” and the person’s idea of Blackness “tends to be more open, expansive, and sophisticated” (Cross, 1995, p. 114). Furthermore, an internalization-biculturalist engages in Black issues and is committed to Black concerns but he or she also enjoys aspects of the dominant culture (Cross & Vandiver, 2001). An internalization-nationalist stresses the Afrocentric perspective. The internalization-multiculturalist feels a part of the Black community but appreciates many cultures and “prefers solutions . . . that address multiple oppressions” (p. 376).

As noted, mainstream and underground perspectives are combined in the multidimensional approach to racial identity development (Sellers et al., 1998). Racial identity is composed of four elements: racial salience, racial centrality, racial regard, and racial ideology. *Racial salience* “refers to the extent to which one’s race is

a relevant part of one's self-concept at a particular moment or in a particular situation" (p. 24). *Centrality* concerns how central race is to the person's self-definition. *Racial regard* refers to how positively or negatively a person feels about his or her race. This includes how the individual believes others view African Americans as well as how he or she feels about being African American. *Ideology* "is composed of the individual's beliefs, opinions, and attitudes with respect to the way she or he feels that the members of the race should act" (p. 27). Various ideologies include that of the nationalist, oppressed minority, assimilationist, and humanist. People with a nationalist ideology "stress the uniqueness of being Black," while oppressed minority ideologists compare the oppression faced by Blacks with other groups and support building coalitions with other groups in an effort to fight oppression (p. 27). The assimilationist emphasizes similarities between cultures and works within the existing power structure to change the system, while the humanist "emphasize[s] the similarities among all humans" and is concerned with oppression of all people and global issues such as hunger and environmental issues (p. 28).

The sociocultural approach to development is not limited to scholars who investigate racial identity development. Researchers have also used this approach to explore gay sexual identity development. For example, Cox and Gallois's (1996) social identity perspective on gay and lesbian identity development explicitly acknowledges the importance of society in the construction of a gay or lesbian sexual identity. Their model, grounded in social identity theory, "examines the identity processes which occur within the individual . . . [and] explores the effect that the larger social and societal forces have on these processes" (p. 10). Identity development involves two processes: self-categorization and social comparison. Cox and Gallois (1996) assert that people can possess a personal identity (self-categorization) that is not part of their social identity. In short, people can self-categorize as gay or lesbian but not have a gay or lesbian social identity. They note that when people adopt a gay or lesbian social identity they may use several strategies in order to address the stigma, which include putting down heterosexuals. For example, they may call heterosexuals "breeders" (p. 21) in order to feel better about being gay or lesbian.

A second model of gay identity development takes an ecological approach (Alderson, 2003). This model examines the myriad

influences that help or hinder the person in the process of claiming a gay identity. In the Before Coming Out stage, influences that can serve as catalysts to continue the process or can hinder the process include parents, culture, church, peers, and society. These influences continue in the During Coming Out phase, when a person experiences conflicting emotions, learns new behaviors, and works at reducing his or her own internalized homophobia. In the Beyond Coming Out phase, the person commits to the gay identity, has integrated the gay identity with other parts of the self, and has reintegrated into the heterosexual world (Alderson, 2003).

Numerous scholars, primarily over the past decade, have acknowledged the importance of the socially constructed notions of race, ethnicity, gender, and sexual orientation to understanding learning in adulthood and the teaching-learning transaction (Hayes & Colin, 1994; Flannery & Hayes, 2001; Lee & Johnson-Bailey, 2004; Johnson-Bailey & Cervero, 1998; Maher & Tetreault, 1994; Mojab, 2005; Tisdell, 1995). Lee and Johnson-Bailey (2004) examine their experiences as teachers of color in the White academy. While explaining their feminist classroom practice, they unearth issues of racism, sexism, and power in the classroom and its effect on the teaching-learning transaction. They write, "In those early days, we were often the only women of color in a sea of white women and men who felt free to vocalize their surprise that we were their instructors and to ask openly whether or not we belonged in that environment" (p. 56). In another study, Johnson-Bailey and Cervero (1998) compared graduate student perceptions of a White male full professor and a Black female assistant professor. Race had an impact on the messages students received from each professor. The White professor, who discussed race as a central topic in his class, was not seen as having an agenda associated with race. His competence and fairness to students was not questioned. In contrast, the Black professor, who did not discuss race as a central topic in class, was seen as having a racial agenda and her fairness and competence were questioned (Johnson-Bailey & Cervero, 1998). Tisdell (1995), among others, has pointed out the important role that power plays when introducing socially constructed notions of race, ethnicity, gender, and sexual orientation into formal and even nonformal programs of adult learning. Tisdell observes that "what counts as knowledge in a particular learning context—and decisions about what gets included in the

curriculum for a given learning activity—are decisions made with attention to the politics of this particular educational context and to what is seen as ‘real’ knowledge relevant to this educational context” (p. 11). Teaching strategies that allow participants to connect the material to their own life experiences, allow for reflective time, confront differences, and bring together theory and practice seem to provide useful starting points for doing this (Caffarella, 1992; Wlodkowski & Ginsberg, 1995).

To summarize, the sociocultural approach to adult development acknowledges how the social world influences our development. This perspective recognizes that the intersection of various positionalities affects how society defines us. In addition, the social roles we take on and the timing of life events such as marriage and having children affect our development. Cross and Vandiver’s (2001) model of Black identity development and Cox and Gallois’s (1996) model of gay and lesbian identity development were two models that were highlighted that come from the sociocultural paradigm.

INTEGRATIVE PERSPECTIVES

There have been attempts to respond to the call for a more integrated theory of adult development by combining two or more of the perspectives reviewed in this chapter. Four models of adult development—those proposed by Baltes (1982, 1987), Magnusson (1995), Perun and Bielby (1980), and Bronfenbrenner (2001) are illustrative of this wave of theory building.

Baltes (1982, p. 18) introduced one of the earlier comprehensive models that emphasized a “multicausal and interactive view” of adult development. Drawing on the work of Havighurst, Neugarten, and others, he hypothesized that biological and environmental forces constitute the basic determinants of development. These are then influenced by three major sets of factors: normative age-graded influences (forces normally correlated with age), normative history-graded influences (events that are widely experienced by one age group of people), and nonnormative influences (factors significant to one particular person). The interaction of these influences results in developmental changes over the life span. Baltes hypothesized that the relative significance of the three developmental influences may vary at different points in the life span—“for example, age-graded influences may be

especially important . . . in old age, whereas history-graded non-normative influences may predominate in early and middle adulthood” (Baltes, 1982, p. 22).

Within this life-span perspective, writes Bee (1996, p. 74), Baltes and his colleagues assume “there is *lawfulness* to the changes we see in adult life. . . . Our task . . . is to uncover and understand the nature of that lawfulness. They do not assume that the specific pathways followed by adults will necessarily all be the same; they do not assume that all pathways lead toward either decline or toward higher efficacy. They do assume that the underlying lawfulness will create many surface patterns.” Baltes has also stressed the need for new “development-specific” research methodologies to address the more interactive and complex models of adult development.

One response to Baltes’s concern about methodology is an integrative model proposed by Magnusson (1995). Grounded in four basic assumptions, Magnusson argues that his model “can serve as a general theoretical framework for planning, implementation, and interpretation of empirical research on specific aspects of individual development” (p. 19). His four assumptions are as follows (pp. 25–29):

1. The individual functions and develops as a total integrated organism. Development does not take place in single aspects, taken out of context. . . .
2. The individual functions and develops in a continuously ongoing, reciprocal process of interaction with his or her environment. . . .
3. At each specific moment, individual functioning is determined in a process of continuous, reciprocal interaction between mental factors, biological factors, and behavior—on the individual side—and situational factors. . . .
4. The individual develops in a process of continuous reciprocal interaction among psychological, biological, and environmental factors. . . .

What is key to this model is that “individuals do not develop in terms of single variables but as total integrated systems. In this perspective, all changes during the life span of a person are characterized by lawful continuity” (p. 39). Magnusson emphasizes that his model “does not imply that the whole system of an individual

must be studied at the same time. The essential function of the model is that it enables us to formulate problems at different levels of the functioning of the total organism, to implement empirical studies, and to interpret the results in a common, theoretical framework" (p. 50).

The third model we discuss is not widely known, but we have found it useful in framing development from the integrative perspective. Perun and Bielby (1980) view adulthood as "consisting of a large number of temporal progressions—sequences of experiences or internal changes, each of which follow some timetable" (Bee, 1996, p. 75). Pictured as a set of disks, similar to machine gears rotating on a central rod, each disk represents a part of the developmental picture: physical changes, changes in nuclear family roles (like marrying and having children), changes in other family roles (such as death of a parent), changes in work roles, and changes in emotional and personal tasks of adulthood (Perun & Bielby, 1980). Each of these gears or disks moves at different rates for different people, "thus creating a unique pattern for each adult" (Bee, 1996, p. 76). For example, one person may delay having children until her early forties so she can establish herself in a career, while another may start a family in her teens and then start a career once her children are grown. The first person would have speeded up her career or work progression while slowing down her family life cycle, while the second person would have done just the opposite. In addition, the entire developmental process is embedded in historical time, which also affects the developmental progression in each of the major areas.

In this model, developmental changes come from two sources. The first is the basic changes that happen during each of the temporal progressions, some of them inevitable and others chosen. Second, *asynchrony*, which "occurs when one or more dimensions is off-time in relation to others" (Perun & Bielby, 1980, p. 105), triggers other changes. For example, when a person's spouse or partner dies in early adulthood, the nuclear family roles and possibly the work roles often change dramatically, especially if there are minor children involved. Bee (1996, p. 77) has outlined a number of "intriguing and potentially useful implications or expansions of this model." Among these are that the rate of movement along any of the temporal dimensions may be influenced by gender, race, class, ethnicity, and sexual orientation.

Last, Bronfenbrenner's (2001) bioecological systems theory delineates five layers of the environment or systems that influence development. Although his emphasis was on child development, his theory has implications for adults. The *microsystem* includes the "activities, roles, and interpersonal relations" in the person's immediate environment, which include the home, school, peers, and workplace (Bronfenbrenner, 2001). The *mesosystem* is defined as the relationships between these microsystems. An example of a mesosystem is the relationship between a person's workplace and the community. The *exosystem* is a larger social system in which the person may not function directly but which has an effect on his or her microsystem. For a child, this may be the relationship between the home and the parent's workplace. For an adult, this may be the relationship between the child's school and a community group (Bronfenbrenner, 2001). The fourth system is the *macrosystem*, which contains the cultural values, mores, and laws that affect the previously mentioned systems. For example, if the cultural belief is that women should marry and raise children, opportunities for aspiring career women may be limited and affect their development and standing in society. Last, the *chronosystem* refers to the influence of time as it relates to the person's environment and subsequent development. Examples include the timing of historical events such as the Depression or personal events such as the timing of a parent's death.

Although application of these integrated models to learning in adulthood has been limited, the message conveyed by the theorists is clear: to understand development in adulthood fully, one must move beyond explanations fostered only by one or two perspectives. Educators of adults must be mindful of the impact of single-perspective theories "on shaping and maintaining conventionally held views about what it means to be a mature and healthy adult" (Tennant, 1988, p. 65). The psychological perspective, which has been used as the major lens through which educators of adults have viewed development, can be widened to include the other lenses of biological, sociocultural, and integrated perspectives. Tennant and Pogson (1995) observe that "the raw material[s] in the process of development are the organism, with its constitutionally endowed equipment, and the social environment, with its historical and cultural formations. Development thus proceeds through a constant interaction between the person and the environment.

[Further], because development is contested, and because different versions of development serve the interests of different groups, it is as much a political as it is a psychological construct” (pp. 198–199). Therefore, it is important to foster a multiperspective focus in our study and practice of how adult development theory is linked to learning in adulthood.

SUMMARY

Adult developmental theory and research offer a rich array of material from which numerous implications can be drawn about learning in adulthood. This chapter has reviewed the developmental characteristics of adults from four perspectives: biological aging, psychological change, the influence of sociocultural factors on development, and the integrative paradigm. With regard to biological aging, all adults experience some changes as they age. Many of these changes vary from person to person and may have little effect on learning thanks to advances in technology. Psychological changes in adulthood have been charted by a number of researchers. The sequential models of development of Erikson and Levinson are representative of those that attempt to delineate the common themes of adult life according to what phase or stage of life one is in.

From the sociocultural perspective, change in adulthood is determined more by sociocultural factors, such as social roles, race, and gender, than by individual maturation. Two strands of work from the sociocultural perspective were described, and implications for this work for adult learning were addressed. Discussed first was the importance of social roles, such as parent, worker, or friend. Social roles are determined primarily by societal expectations and change over time. Adult educators have often designed programs tied to social roles, such as parenting classes or workshops on retirement. Society still determines at what age we ought to be engaged in which life events, although some would argue that the age norms for events are much more flexible than they were in the past.

Addressed next was the socially constructed nature of the concepts of race, gender, ethnicity, and sexual orientation and how defining these concepts as social constructions versus individual traits has affected the way we think about adult development.

Research in this area has exploded in the past fifteen years. Representative theories on racial and sexual identity development were discussed.

The chapter concluded with a description of integrated perspectives on development with salient examples of theorists who have included the biological, psychological, and sociological perspectives in their models of adult development (for example, Baltes and Magnusson). To understand fully how adult development is linked to adult learning, we suggested that educators of adults move to multiple explanations of what adulthood is all about, rather than rely on just one or two paradigms. We especially need to acknowledge perspectives beyond the psychological lens that has driven our research and practice on learning in adulthood for the past three decades. The more we know about adult learners, the changes they go through, and how these changes motivate and interact with learning, the better we can structure learning experiences that both respond to and stimulate development.

CHAPTER THIRTEEN

COGNITIVE DEVELOPMENT IN ADULTHOOD

Andrew lives his life certain that for every situation there is a “right way” and a “wrong way” to view it. He sees the world in absolutes. According to Andrew, the taking of a human life for any reason is wrong. Hence, he is against such things as capital punishment, abortion, and assisted suicide. In contrast, for his sister Marie, everything is relative. Abortion, the death penalty, and assisted suicide may be appropriate in particular situations, according to Marie. Andrew and Marie represent different ways of thinking about the same issue. Scholars continue to be fascinated with the myriad of ways people think and whether adults’ thinking patterns change with age. If so, what might these changes in thinking patterns look like over the adult life span?

The study of pathways of adult cognitive development—that is, how thinking patterns change over time—is often linked to a combination of factors, primarily the interaction of maturational and environmental variables. As in other research traditions on learning, the major studies on cognitive development have been primarily carried out with children and adolescents. When this research is extended to adulthood, the underlying assumption has often been that adults move toward a final stage of cognitive development, however that is defined, or if that stage has been attained, work at maintaining that stage. Still other theorists have posited models of cognitive development that may be unique to adulthood.

Explored first in this chapter is the foundational work of Piaget (1972) and how scholars have used and extended this work. We then discuss alternative conceptualizations of cognitive development that

are linear or categorical in nature (for example, Belenky, Clinchy, Goldberger, & Tarule, 1986; Perry, 1999). This discussion is followed by an exploration of dialectical thinking and models that are representative of this form of thinking. Then, the contextual perspective on cognitive development and key theorists who represent this perspective are presented. Last, wisdom—the hallmark of adult thinking—is discussed. Representative conceptions of wisdom, including those of Holliday and Chandler, Sternberg, and Bassett, are reviewed.

FOUNDATIONAL WORK ON COGNITIVE DEVELOPMENT

When we speak of cognitive development, Jean Piaget immediately comes to mind. Although Piaget's work is entirely focused on childhood cognitive development, his theory has provided the foundation for work with adults. Piaget proposed four invariant stages of cognitive development that are age related. These stages represent "qualitatively different ways of making sense, understanding, and constructing a knowledge of the world" (Tennant, 1988, p. 68). In Piaget's view, children's thought processes move from innate reflex actions (sensory-motor stage, birth to two years), to being able to represent concrete objects in symbols and words (preoperational stage, two to seven years), to an understanding of concepts and relationships of ideas (concrete operational stage, seven to eleven years), to an ability to reason hypothetically, logically, and systematically (formal operational stage, twelve-plus years). Piaget contended that normal children have the capacity to reach this final stage of formal operations between the ages of twelve and fifteen, which he later revised upward to ages fifteen to twenty (Piaget, 1972). It is this final stage, characterized by the ability to think abstractly, that characterized the apex of mature adult thought for Piaget.

Piaget's model has its limitations in that it accepts "a mechanistic worldview that is caught up in a cause-effect, hypothetico-deductive system of reasoning. Unconcerned with questions of power relations and the way they structure our consciousness, formal operational thinkers accept an objectified, unpoliticized way of knowing that breaks a social or educational system down into its

basic parts in order to understand how it works. . . . [F]ormal thought operates on the assumption that resolution must be found for all contradictions” (Kincheloe & Steinberg, 1993, p. 297).

Those who came after Piaget (neo-Piagetians) have challenged some aspects of Piaget’s principles. First, they recognize that these qualitative changes (for example, moving from concrete operational thought to formal operational thought) may not occur for all aspects of thinking, but rather tend to be “local and domain specific in nature” (Knight & Sutton, 2004, p. 49). This explains why people can use concrete operations in one context and formal operations in another.

Second, several neo-Piagetian scholars have found evidence of postformal thought (see Arlin, 1975; Sinnott, 1998). Knight and Sutton (2004) note, “Whereas Piagetian formal operational thinking implies the ability to think systematically within a set of logical parameters, a more advanced level involves an individual’s ability not only to think logically but also to reflect on this logical thinking” (p. 51). People who possess postformal thought believe the following: First, they know that all knowledge is incomplete and subjective. However, they recognize that they must act despite the limits of their knowledge. They understand that there is not one “Truth” but many “truths” and they commit to one set of beliefs knowing that there are many. Further, they understand that contradiction and subjectivity are inherent in all logical and objective observations (Sinnott, 1998). They go beyond *problem-solving* behaviors, as is common in formal operations where they seek a solution to a problem, to *problem-finding* behaviors, characterized by “creative thought vis-à-vis ‘discovered’ problems” (Arlin, 1975, p. 603). In short, formal operational thought “presume[s] logical consistency within a single logical system” (Sinnott, 1998, p. 25). In contrast, postformal operations “presume somewhat necessarily subjective selection among logically contradictory formal operational systems, each of which is internally consistent and absolute” (p. 25).

In addition to recognizing the existence of postformal operational thought, neo-Piagetians focus on the importance of context in learning and development. In his later work, Piaget acknowledged that learning and development were more dependent on context than previously thought (Knight & Sutton, 2004). However, neo-Piagetians concentrate on the *specific* context in which

the learning occurs and assert that “new learning is most robust in the context in which it was constructed” (p. 51). The further away a person gets from the context in which the learning was constructed, the more difficult it is to access the learning that occurred.

So, how has Piaget’s theory enhanced our understanding of cognitive development in adulthood? Tennant (1988, p. 77) noted Piaget’s most salient contributions:

- The emphasis on qualitative rather than quantitative developmental changes in cognition (and his related “structuralist” approach to cognitive development)
- The importance attached to the active role of the person in constructing his or her knowledge (with the implication that learning through activity is more meaningful [than passive learning])
- A conception of mature adult thought (that is, formal operations)

With the discovery of postformal operational thought, neo-Piagetians have further expanded our understanding of cognitive development. They have helped us recognize that cognitive development occurs into adulthood (Knight & Sutton, 2004). Further, the importance of contextual support such as “familiar materials, opportunities for practice, analysis [and] interaction with others” (p. 52) for adult learners cannot be underestimated. The more types of support adult learners have, the more likely they are to perform at high levels and to retain the learned information. Conversely, if they are not given the support or challenged to think at higher levels, the understanding and retention of material will be lower (Knight & Sutton, 2004).

Neo-Piagetian theories offer several implications for adult educators. First, students come to our classes at different cognitive levels and thus interpret our course material and activities in different ways. They operate at different levels *during* a class period. In addition, assert Knight and Sutton (2004), older students have a higher level of functioning than younger students and can access their optimal levels more easily than younger students. They add, “Consequently, in the college classroom, the cognitive gap is even wider

than a simple comparison of optimal levels would suggest. Therefore, we add even more complex challenges to the educator of adults” (p. 57).

In sum, Jean Piaget’s four stages of cognitive development provided the foundation for other models of cognitive development. Neo-Piagetians augmented Piaget’s original theory in the following ways: First, they recognized that people could use formal operational thought in one context and concrete operational thought in another. Hence, cognitive change was not systemwide but localized. Second, they introduced the idea of postformal thought; that is, there is development past formal operations. These discoveries have implications for adult educators. Adult educators now know that cognitive development occurs in adulthood and that learning affects this development. In addition, the importance of context in adult learning is acknowledged.

LINEAR AND CATEGORICAL MODELS OF ADULT COGNITIVE DEVELOPMENT

There are other models of cognitive development that differ from Piaget’s and yet are also linear or categorical in nature. These writers come from a variety of disciplines and interests (for example, college student development, women’s development, psychology), but all have the same interest in exploring how adult thinking changes over time. A discussion of a number of these linear or categorical models of cognitive development follows.

Perry’s Developmental Scheme

Perry’s (1970, 1999) map of cognitive development is perhaps the best known and has been used the most often in the study of young adults, most of whom have been college students. Based on a study of the thinking patterns of Ivy League, White male college students, Perry proposed a model of cognitive development consisting of nine positions, each position representing a qualitatively different way of interpreting learning experiences. Perry purposely chose the word *position* over *stage* because “the notion of ‘position’ is happily appropriate to the image of ‘point of outlook’ or ‘position from which a person views his [sic] world’” (Perry, 1999, p. 54). As in

Piaget's work, each position is conceptualized as hierarchical and sequential and moves from relatively simple thinking patterns to highly complex ways of perceiving and evaluating knowledge. People move from viewing knowledge in "dualistic" terms, as either right or wrong, to an acceptance of knowledge and values as "relativistic"—that is, the context of the knowledge is as important as the knowledge itself. Perry places as much emphasis on the transitions between each position as on the positions themselves and observes: "Perhaps development is all transitions and 'stages' [are] only resting points along the way" (1981, p. 78). Some examples of Perry's proposed positions and the transitions between them are outlined as follows (see Perry, 1970, 1981, 1999 for a complete description):

Position 1: Authorities know, and if we work hard, read every word, and learn the Right answers, all will be well.

Transition between Positions 1 and 2: But what about those Others I hear about? And different opinions? And uncertainties? Some of our own Authorities disagree with each other or don't seem to know, and some give us problems instead of answers.

Position 2: True Authorities must be Right, the Others are frauds. We remain Right. Others must be different and wrong. . . .

Transition between Positions 5 and 6: But if everything is relative, am I relative too? How can I know I'm making the Right Choice?

Position 6: I see I'm going to have to make my own decisions in an uncertain world with no one to tell me I'm Right. . . .

Transition between Positions 8 and 9: Things are getting contradictory. I can't make logical sense out of life's dilemmas.

Position 9: This is how life will be. I must be wholehearted while tentative, fight for my values yet respect others, believe my deepest values are right yet be ready to learn. I see that I shall be retracing this whole journey over and over—but, I hope, more wisely. [Perry, 1981, p. 79]

Within this schema one can see shades of the conceptually complex notions of dialectical thinking, which is discussed later in this chapter, as well as the major theme of becoming more relativistic in one's thought patterns as one matures.

Each position is descriptive of individual cognitive growth, and in addition, Perry's positions have also been used to describe how people view instructors' roles and their own roles as learners. Learners at the lowest positions, for example, tend to view instructors as authority figures; their job as learners is to filter out the right answers from the material presented. Those at the higher end of the continuum view knowledge in a contextual sense and search for relationships between ideas; they see instructors more as guides.

The increasing diversity of the college student population has prompted scholars to investigate the generalizability of Perry's scheme with various student populations. Zhang (1999, 2004) investigated the applicability of Perry's scheme to both American and Chinese college students. He conducted five studies between 1994 and 2000 using the Zhang Cognitive Development Inventory (ZCDI), which is based on Perry's schemes. In the five studies that he conducted, he found that Chinese college students' cognitive development was *opposite* that of Perry's scheme. That is, students traversed from a more relativistic viewpoint toward a more dualistic viewpoint. In the two studies in which Americans were included, the dualistic-relativistic-commitment progression did not hold for American students in the second study, but it did in the first. Zhang (2004) hypothesized that changing American values may explain why Perry's order of cognitive development was not evident. He indicated that mainland China's approach to higher education, which limits students' opportunities for making choices, may explain why students in the study moved toward more dualistic thinking. He cautioned, however, that these conclusions were not final and recommended that qualitative research procedures and longitudinal studies would give a richer picture of Chinese students' cognitive development. Likewise Johnson (2000) noted that Perry's scale, normed on White, traditional-age college students, did not account for cultural differences between Whites and African Americans.

Most of the work using Perry's schema with older adults has produced contradictory results. Lavalley, Gourde, and Rodier (1990) and Wilson (1996) found that the majority of their respondents were at Positions 3 or 4 (multiplicity) on Perry's scheme, while Cameron's (1983) subjects were primarily at Position 2 (dualist). In a cross-sectional study, Hood and Deopere (2002) found

that “as age increased, relativism scores tended to decrease” even when researchers controlled for intelligence and education (p. 233). This finding reinforces the stereotype that older people are more set in their ways and “less capable or willing to handle complexity in their thought processes” (p. 233). In addition, the findings of Wilson (1996) and Lavalley, Gourde, and Rodier (1990) differed on the importance of the level of education in terms of reaching higher levels of cognitive development. Wilson (1996) and Hood and Deopere (2002) found that those with a higher education scored higher on Perry’s scale while Lavalley, Gourde, and Rodier (1990) concluded that level of education had little effect on the cognitive development of their subjects.

In sum, Perry’s cognitive development model, based on the thinking patterns of White, Ivy League traditional-age college students, suggests that individuals move from dualistic (right-wrong) thinking toward dialectical thinking, where students are able to hold contradictory notions in their mind. Recent studies have indicated that the model may not account for cultural differences (Johnson, 2000; Zhang, 2004). Further, some studies show that older adults may show more dualistic thinking than younger adults (Hood & Deopere, 2002; Wilson, 1996).

THE REFLECTIVE JUDGMENT MODEL

King and Kitchener, like Perry, have also constructed a stage model. Influenced by the developmental traditions of Perry (1970), Piaget (1972), and Kohlberg (1981), they examine the development of “epistemic assumptions” or “reflective thinking from late adolescence through adulthood” (King & Kitchener, 2004, pp. 5–6). The authors focus on how people make judgments about complex or “ill-structured” problems that “cannot be defined with a high degree of completeness, and . . . cannot be solved with a high degree of certainty” (p. 5). Examples include such controversial issues as “the accuracy of news reporting, the creation of human beings, and the safety of nuclear power” (pp. 10–11).

According to this complex stage model, people move through seven stages, with the final two stages encompassing the more mature thinking patterns of what King and Kitchener call *reflective thinking* (King & Kitchener, 1994, 2004). In Stages 1, 2, and 3 (labeled *prereflective thinking*), people assume that knowledge comes

from authority figures or is gained through personal experience. Individuals in these stages do not see problems as ill-structured, but rather view all problems as having complete and right answers. In Stages 4 and 5 (*quasi-reflective reasoning*), people define knowledge in terms of uncertainty and are more subjective in their thinking. Although they understand that ill-defined problems exist, they have trouble dealing with the ambiguity of those problems and tend to respond in very individualistic ways. In the final two stages of thinking (Stages 7 and 8), knowledge is no longer a given. Rather, knowledge, especially knowledge used to solve life's ill-structured problems, may have to be constructed by the person, and this knowledge must be understood in the context in which it was generated. Decisions and judgments people make, although they must be grounded in relevant data, should remain open to evaluation and reevaluation (King & Kitchener, 1994, 2004). It is important to note that individuals do not fit neatly into one particular stage. People can use Stage 4 reasoning and can also evidence Stage 3 epistemic assumptions. King and Kitchener note that the development of reflective thinking is more like "waves across a mixture of stages, where the peak of the wave is the most commonly used set of assumptions" (King, Kitchener, & Wood, 1994, p. 140).

The sample for their original ten-year longitudinal study consisted of male and female students. The sample included twenty high school juniors, forty twenty-one-year-old college juniors, and twenty doctoral students whose average age was twenty-eight (King & Kitchener, 2002). Subsequent studies have included nonstudent adults. As the result of thousands of interviews, King and Kitchener (2004) have come to the following conclusions: "(a) There are striking differences in people's underlying assumptions about knowledge or epistemic assumptions; (b) these differences in assumptions are related to the way people make and justify their own judgments about ill-structured problems; and (c) there is a developmental sequence in the patterns of responses and judgments about such problems" (p. 5).

A great deal of research has been completed using the reflective judgment model (see King & Kitchener, 1994, 2002). Research has centered on validating whether the stages in the model form a developmental sequence. In addition, scholars have examined the impact of education, gender, and ethnicity on reflective judgment

and the relationship of reflective judgment to other intellectual and personality constructs (King & Kitchener, 2002). As previously noted, there appears to be a developmental sequence to the model. Further, there is a trend for older, more educated participants to score higher on the reflective judgment model than younger, less-educated individuals. Results on differences in reflective judgment by gender are mixed. King and Kitchener caution readers that “samples differ on many variables beyond gender (such as ability and educational level), and [we] suggest that these should be examined when interpreting gender differences” (p. 49).

There has been scant research on reflective judgment and ethnicity. Two studies that examined ethnicity (Latino-Latina and African American) revealed similar reflective judgment scores to Whites (King & Kitchener, 2002). King and Kitchener report, “Prior studies have show that RJ [reflective judgment] is related to but not the same as academic aptitude, verbal ability, formal operations, or traditional measures of critical thinking” (2002, p. 50). There also appears to be some overlap with Belenky et al.’s (1986) *Women’s Ways of Knowing*, but “only to the extent that the Belenky et al. interview asks epistemic questions and scores for that category” (p. 51). Regarding the relationship between reflective judgment and personality constructs, there seems to be moderate correlations between RJ and tolerance for diversity. Kozak (1996, as cited in King & Kitchener, 2002) found that people with higher reflective judgment scores “can access their feelings in the process of decision making, but aren’t ruled by their feelings” (p. 53). The authors conclude that although personality variables may be related to reflective judgment, reflective judgment is a separate construct.

Recent research utilizing the reflective judgment model includes an investigation of the relationship between personality traits and reflective judgment among female undergraduates and graduates in teacher education programs (Friedman, 2004), the epistemological development of Finnish adults (Pirttilä-Backman & Kajanne, 2001), and the reflective judgment scores of seminar-ians over time (Dale, 2005). In the study concerning the epistemological development of Finnish adults, fifty-nine adults were interviewed in the mid-1980s and again in the early 1990s using King and Kitchener’s Reflective Judgment Interview. Participants ranged in age from twenty-four to fifty in the follow-up interviews.

Their post–high school education included graduation from a vocational institute or university in the technical, medical-nursing, or social science fields. Formal education contributed to “epistemic development . . . through middle adulthood” (Pirttilä-Backman & Kajanne, 2001, p. 90). In addition, being exposed to a variety of information and diverse associations with others appeared to promote epistemic development in adulthood.

There seem to be similarities between the Perry scheme and the model developed by King and Kitchener. For example, both start with the assumption that people progress from a dualistic to a relativistic form of thinking. However, King and Kitchener incorporate the idea of knowledge construction in their model while Perry focuses on expanding his ideas of using relativistic thinking in a responsible way. Although a great deal of research has been completed using the reflective judgment model, few studies have been completed with adults outside the higher education setting. Attention to adult populations outside of the higher education setting would increase the generalizability of the reflective judgment model and would expand the understanding of people’s personal epistemology.

WOMEN’S WAYS OF KNOWING

In reaction to the early work of Perry (1970), Kohlberg (1973), and others in which primarily male samples were used, researchers became more interested in hearing the voices of women on developmental issues. The most prominent and often-quoted study on cognitive development using a sample of women is the work of Belenky, Clinchy, Goldberger, and Tarule: *Women’s Ways of Knowing* (1986). These researchers interviewed women from diverse social and ethnic backgrounds from two major settings: different types of academic institutions and parenting classes. From their in-depth interviews of 135 women of different ages, classes, and ethnic backgrounds, “based on the theoretical and empirical work of Perry, Kohlberg, and Gilligan” (p. 14), Belenky et al. grouped women’s perspectives on knowing into five major categories:

1. *Silence*—a position in which women experience themselves as mindless and voiceless and subject to the whims of external authority. (They are passive, feel incompetent, and are defined by others.)

2. *Received knowledge*—a perspective from which women conceive of themselves as capable of receiving, even reproducing, knowledge from the all-knowing external authorities but not capable of creating knowledge on their own. (They listen to the voices of others; their world is literal and concrete, good or bad.)
3. *Subjective knowledge*—a perspective from which truth and knowledge are conceived of as personal, private, and subjectively known or intuited. (The locus of truth shifts to the self; intuition is valued over logic and abstraction; here women begin to gain a voice. Half the women in the study were in this category.)
4. *Procedural knowledge*—a position in which women are invested in learning and applying objective procedures for obtaining and communicating knowledge. (This position takes two forms: separate knowing—the self is separate from the object of discourse, making it possible to doubt and reason—and connected knowing—there is intimacy and equality between the self and the object of discourse, based on empathetic understanding.)
5. *Constructed knowledge*—a position in which women view all knowledge as contextual, experience themselves as creators of knowledge, and value both subjective and objective strategies for knowing. (This stage is characterized by the development of an authentic voice.)

These categories, which are not necessarily fixed or universal, move from the simple to the complex—from having no voice, to being able to value and create different ways of knowing that are contextual in nature. Although these authors do not assert that the categories constitute specific stages of cognitive development, they appear to present them as such, and some people continue to interpret them in this way (Goldberger, 1996b).

Reflecting on fifteen years of research, Clinchy (2002) lent some additional insight to a couple of positions. She realized the Silence position was much more common than previously realized, regardless of class. She also noted that the categorization of women into five broad categories did not allow for subtle distinctions between women in that category. For example, she indicated that most Received Knowers in their sample were young college students or older, poor women. Clinchy stated, “Received Knowing may take a different form among, say, a sample of prosperous

middle-aged people. . . . Received Knowing cannot be quite the same for a first-year student in an elite college . . . and a fifty-year-old with minimal formal education” (pp. 68–69).

Scholars see similarities and differences between the *Women’s Ways of Knowing* (WWK) positions and other epistemological models. Clinchy (2002) states that there are parallels between Perry’s (1970) dualistic position and *Women’s Ways of Knowing* position of received knowledge. In both cases, the knowers see “the world in terms of black and white, right and wrong” (Clinchy, 2002, p. 66). Likewise, subjective knowledge has similarities to Perry’s (1970) multiplicity position, and WWK’s constructed knowing is similar to Perry’s Position 5—relativism (Clinchy, 2002). However, Baron (2003), who used “factor, correlational, and comparative analysis” to assess the relationships between Perry’s scale and WWK, found that “the two theories are largely independent of each other” (p. x). Baron believes that Perry does not address “the concept of knowing in relationship and caring” while WWK explicitly acknowledges these factors (p. 55). Further, Perry presents his theory in a sequential fashion, whereas the WWK authors do not see cognitive development as a linear progression.

WWK’s final category of constructed knowing seems comparable with the findings of King and Kitchener (1994, 2004) and Baxter Magolda (1992; Baxter Magolda’s work is reviewed in the following section). For example, King and Kitchener (2004) speak to the importance of contextual knowing and constructing one’s own knowledge as characteristic of their final two stages, and Baxter Magolda (1992) stresses the integration of relational (subjective) and impersonal (objective) knowing as key to what she terms contextual knowing. These apparent similarities add confirmation to the work of Belenky and her colleagues and are in line with their original interpretations of their research.

As with other epistemological models, scholars have several criticisms of the WWK theory. First, they argue that it is essentialist rather than constructivist. Clinchy refutes this criticism, saying, “We did not argue that the positions we described applied only to women, although we speculated that for various reasons, the positions might take somewhat different form in men” (2002, p. 79). Second, critics note that the theory does not take into consideration “the role of social positionality and oppression in the construction of

knowledge” (Goldberger, 1996b, p. 8). Goldberger agrees that this is a weakness of the theory, but says they have “listened to and learned from women of color and other culture theorists . . . , [and] have become much more alert to the situational and cultural determinants of knowing and to the relationship of power and knowledge” (p. 8). Cultural differences were also not explored in the WWK theory. However, the influence of culture on knowing has become of interest to the authors as the result of subsequent conversations. Last, the theory is thought to “endorse . . . the superiority of antirationalist, subjectivist epistemologies” (p. 9). Goldberger (1996b) replies that the authors value both connected and separate knowing and do not champion one above the other.

The WWK theory has generated much discussion around issues of gender and epistemological development. Clinchy (2002, p. 85) recommends that future research examine “development within rather than across domains” in the form of longitudinal case studies in order to get a better understanding of what factors promote epistemological development.

EPISTEMOLOGICAL REFLECTION MODEL

Marcia Baxter Magolda (1992) originally developed the epistemological reflection model to demonstrate the epistemological reasoning of college students. Later, she extended her work to young adults beyond their college experience. Like others who have studied cognitive development, Baxter Magolda’s work is grounded in the assumption that ways of knowing are socially constructed and context bound.

Baxter Magolda (1992, p. 29) followed a group of seventy predominantly White male and female college students over five years, interviewing them yearly, and discovered “four qualitatively different ways of knowing, each characterized by a core set of epistemic assumptions”: *absolute knowing*, *transitional knowing*, *independent knowing*, and *contextual knowing*. Students told stories of moving from being certain about what they knew, to uncertainty, and finally to being able to integrate information from diverse points of view in order to apply that knowledge in a particular context. Baxter Magolda noted that only a small percentage of students used contextual knowing while in college. Like Perry’s (1999) and

King and Kitchener's (2004) work, Baxter Magolda provides excellent descriptions of what this work means for practice in higher education.

Unlike the work on the Perry (1981) and King and Kitchener (1994) schemes, Baxter Magolda found patterns of thinking within each of the ways of knowing that were gender related. Baxter Magolda (2004) explains, "I use the term gender related to convey that women or men in the project used one pattern more but the patterns were not exclusive to one gender" (p. 34). For example, in the absolute knowing category, two patterns emerged: listening-recording and mastery. Women focused on listening and recording information to learn from authorities while men were more likely to use the mastery pattern, which meant they participated in class and actively showed their mastery of material (Baxter Magolda, 2004).

Baxter Magolda (2004) extended her original study and followed students for another two years after they graduated from college. She found that when her participants exhibited contextual knowing, their ways of knowing were no longer gender related. Rather, as they took on different adult roles, their patterns of thinking within this contextual framework became more integrated. More specifically, the patterns of relational and impersonal modes of knowing, which characterize contextual knowing, were used in an integrative fashion: "Contextual knowing required connecting to others and to the subject to be known, yet at the same time required standing back to analyze the situation" (pp. 37–38). (Her descriptions of contextual knowing echo somewhat the descriptions of "constructed knowledge" described by Belenky, Clinchy, Goldberger, & Tarule, 1986.) However, Baxter Magolda was puzzled at recent college graduates' need to continue to "look to external sources for guidance" despite their advanced epistemological positions (Baxter Magolda, 2004, p. 38). She stated, "On leaving college, longitudinal participants did what they had been taught to do best—follow authorities' leads to manage uncertainty" (p. 38). She continued to interview participants "for 12 years after their college graduation" (p. 39) and found that participants put external authority in perspective as they began to author their own lives. Baxter Magolda (2004) explained, "Becoming the author of one's life meant taking responsibility for one's beliefs, identity, and

relationships. The internal voice became the coordinator of meaning-making in all three dimensions of development” (p. 40). As a result, people opened themselves to change and ambiguity and authored their own epistemologies.

From these longitudinal interviews with undergraduates, Baxter Magolda and King (2004) developed a learning partnerships model where they “identified conditions that promote self-authorship” (p. 41). The authors listed three assumptions and three key principles of educational practice. The assumptions were as follows: First, environments that promoted self-authorship conveyed “knowledge as complex and socially constructed” (p. 41). Individuals had to grapple with multiple interpretations and ambiguity. Second, these environments recognized that “self is central to knowledge construction” (p. 42). Third, “authority and expertise were shared in the mutual construction of knowledge” (p. 42). These assumptions were demonstrated by educators and employers in connection with the three principals of educational practice. The first principle was “validating learners’ capacity to know” (p. 42). Employers and teachers solicited students’ opinions and demonstrated that knowledge is constructed. Second, employers situated learners’ experiences. Employees’ knowledge was used as a “basis for continued learning and decision making” (p. 43). The last principle, “mutually constructing meaning” (p. 43), was shown when experts and learners constructed knowledge together to arrive at more complex understandings of the material.

THE TRANSCENDENCE VIEW

A very different view of cognitive development has emerged from scholars writing from the perspective of transpersonal psychology. Washburn (2000), among others (see Wilber, 1990), has extended models of cognitive development beyond the rational level by identifying deeper structures in the mind that undergird higher or transpersonal levels of consciousness. An important component of these theories is Consciousness of human beings, with a capital C, which denotes “the unlimited reservoir from which we draw personal, ego-centered awareness. Our individual Consciousness is an infinitesimal spark within the eternal flame of Universal Consciousness” (Nuernberger, 1994, p. 96). When we allow ourselves to move beyond our own individual limits of time and space—our

individual Consciousness—a whole new world of expanded Consciousness with limitless boundaries, almost mystical in nature, is open to us.

Washburn (2000) cites several characteristics of transpersonal cognition. First, our consciousness goes beyond ourselves or our egos. We are more open to images. Second, transpersonal cognition is not only a cognitive occurrence but includes “feeling, instinct . . . a sense of being in the midst of or infused by an awesome energy” (p. 204). This energy amplifies our awareness. Third, transpersonal cognition is initially unstable and becomes more stable as it develops. In short, transpersonal cognition is a deep awakening. Washburn writes, “As Socrates put it, wisdom cannot be taught; we must awaken to it, and this awakening is not an isolated cognitive event but is, rather, a transformation of our whole being” (p. 207).

Wilber’s (1986) model of transpersonal cognitive development has nine stages. The last two levels illustrate well the transpersonal nature of the theory. The subtle level, Level 7, is based on “a truly trans-rational structure . . . not emotionalism or merely felt meaning . . . or hunch” (Wilber, 1982, p. 30). Rather, phrases such as *illumination of the spirit*, *intuition as an elemental sense*, and *mystical awareness* characterize the thinking of this developmental level. The eighth level, the causal state, indisputably moves individuals beyond themselves. As described by Wilber (1983, p. 97), “This is total and utter transcendence and release into Formless Consciousness, Boundless Radiance. There is here no self, no God, no final-God, no subjects, no thingness, apart or other than consciousness as such.”

In reviewing these and other theoretical models of adult cognitive development, what becomes apparent is there are two themes that many of these theories address: first, higher stages of cognitive development in some models suggest the presence of dialectical thinking in adulthood—that is, the acceptance of inherent contradictions and alternative truths—and second, context, including the acceptance of cultural differences, is critical in determining what thinking patterns in adulthood really mean. The discussions of dialectical thinking have a long history in adult cognitive development, beginning with the work of Riegel (1973) and others. In contrast, viewing the contextual dimensions of development is more recent. Both of these themes, and representative work illustrating the themes, are discussed in the next two sections.

DIALECTICAL THINKING

Our modern world is rife with contradictions and paradoxes. We have the capability to clone cells, with the possibility for great advances in medicine and many other areas, yet at the same time we fear what might be constructed with this technology. We eradicate one dreaded disease and other vicious diseases take its place. We can replace most body parts at will, but ethically cannot decide who should get the limited supply of these parts. And the list keeps expanding to the point where Kegan (1994), among others, views us literally “in over our heads” in responding to a world of continuous change and disparities.

Conflict and contradictions in adult life are not new phenomena; rather, they may just be more apparent now because we can often see and hear them up close through television and other technological formats. In addition, what used to be intensely personal, such as the beginning and the end of life, has also become public knowledge. Should a woman be allowed to decide to abort an unwanted child? Who has the right to end someone’s life? These are just a few of the questions debated in the public forum. In responding to life’s inherent contradictions and complexities, a number of authors have posited that dialectical ways of thinking must become part of the way adults think. In essence, thinking in a dialectic sense allows for the acceptance of alternative truths or ways of thinking about similar phenomena that abound in everyday adult life. One might abhor killing, for example, and yet silently applaud the gentle person who switches off the life-support system of her spouse who is suffering beyond relief from a terminal illness.

One of the earliest and most thoughtful theorists to describe dialectical thinking was Riegel (1973, 1975, 1976). According to Riegel (1973, p. 350), “[D]ialectic conceptualization characterizes the origin of thought in the individual and in society [and] represents a necessary synthesis in the development of thought toward maturity.” In describing the dialectic thought process, Riegel (1973, 1975) proposed a corresponding mode of dialectic operations to stand beside Piaget’s formal system. The key to this alternative system is the inclusion of the dialectic, or the acceptance of inherent contradictions and ambiguities in thought processes, at all developmental levels and not just as part of the more mature

thought of adulthood. “The skills and competence in one area of concern, for instance in sciences, might be of the type of formal dialectic operations, while in everyday business transactions, might be of the type of concrete dialectic operations,” and so on (Riegel, 1973, p. 365). Riegel’s basic assumptions are that people do not have to pass through any of the Piagetian levels to reach the higher levels of thinking within the dialectic framework and that people can operate simultaneously on all levels. In proposing this system, Riegel (1973, p. 366) argued that people are not only ready to live with life’s inherent contradictions and ambiguities but will accept “these contradictions as a basic property of thought and creativity.”

Unlike Riegel, however, some writers view dialectical thought as evolving from the formal stages Piaget proposed. Benack and Basseches (1989, p. 98), for example, in exploring dialectical thinking as a postformal stage of thought, have developed a “dialectical schemata framework” consisting of twenty-four schemata representing different “moves in thought that dialectical thinkers tend to make.” These schemata were abstracted from “writings reflecting dialectic world-outlooks” (Basseches, 1984, p. 72) and interviews with college students and professors about the nature of education. Basseches claims that “some of the dialectical schemata describe ways of introducing dialectical perspectives on existence and knowledge into processes of inquiry. Others describe ways of maintaining dialectical movement within one’s own thought” (p. 73). Based on his research, Basseches has suggested that there are actually four phases to the development of mature dialectical thinking. (See Basseches, 1984, and Benack & Basseches, 1989, for a full description of these phases.)

Kegan (1994), framing his work from both a psychological and contextual approach, proposes a level-of-consciousness model that incorporates dialectical thinking as part of the highest level of consciousness. His assumption in proposing this model is that the “hidden curriculum” of modern life necessitates different ways of thinking and “a new conception of *consciousness thresholds* individuals may have to reach in order to satisfy contemporary expectations of love and work” (p. 11). Through examples of real-world demands on our private lives (parenting and partnering) and our public lives (work, dealing with differences, healing, and learning), Kegan (1994) explains how our thinking must continue to evolve through several levels of consciousness in order to navigate our

complex lives. First, adults need to discern how to use their mental capacities in social situations. This form of thinking moves adults from the concrete world (having a point of view), to abstractions (being able to build inferences and hypotheses), to abstract systems (conceiving relations between abstractions), and finally to dialectical thinking (testing of paradoxical and contradictory formulations). Dialectical thinking thus becomes the hallmark of mature adult thinking.

Kegan argues that this pressing demand for dialectical thinking comes from our need as adults to respond to what he terms “culture’s curriculum”—that is, the mental demands the post-modern world places on us. Kegan, like Riegel and Kramer, also views contradictions and paradoxes as inevitable and at the heart of the dialectical process. He then adds a new framework to this process: trans-systems thinking. What is key in this trans-systems way of thinking is that the parties or systems in conflict move beyond trying to “win” for their position, even the most desired of outcomes—the “win-win” position. Rather, what is needed is the recognition that “the other side will not go away, [and] probably *should* not. The conflict is potentially a reminder of our tendency to pretend to completeness when we are in fact incomplete” (Kegan, 1994, p. 319). Therefore, we must acknowledge and value the thought processes that brought about these conflictual relationships, knowing they are often based in fundamental ideological differences. We need to work within these relationships, miserable as that might be, to advance our ways of thinking and working.

In working together, the parties or systems in these conflictual relationships must then focus on transforming who they are versus trying to solve the conflict. As Kegan (1994, p. 345) goes on to observe:

This view does not mean that the challengers are co-opted into the status quo. It means that the old status quo is replaced by a new status quo. It does not mean that blacks can come into the office only if they act white. It does not mean that women’s experience is included in the curriculum simply by changing pronouns and making a “Michael” example into a “Mary” example. It means that formerly marginalized people will come into the office, and they will

have their own distinctive way of seeing things, setting the agenda, getting the goals accomplished; and it means that these ways will be recognized, acknowledged, and respected, provided that some common ground can be found where all contending "cultures" in their wholeness and distinctness can stand. This common ground becomes, in effect, a new status quo and a new ideology, but a much more wholesome one.

From his longitudinal work, Kegan (1994) has found that most people do not even enter the fourth level of consciousness until their forties. Kegan sees our expanded life span as a wonderful opportunity to develop our consciousness to this fifth level. From Kegan's perspective, "Highly evolved people do not mate and create highly evolved children. The evolution of human consciousness requires long preparation. We may gradually become ever more ready to engage the curriculum of the fifth order because we have found ways to increase the number of years we live" (p. 352).

Some studies on dialectical thought include the view that culture shapes the process. Peng and Nisbett (1999) describe differences between Western and Eastern thought. First, they delineate three principles to Chinese dialectical epistemology. First is the principle of change, which says that reality is a dynamic, flexible process. Existence does not consist of two categories: life and death. Instead, life is a "constant passing of one stage to another" (p. 743). Second is the principle of contradiction, which says that reality is full of contradictions. "Two sides of any contradiction exist in an active harmony, opposed but connected and mutually controlling" (p. 743). Third is the "principle of relationship or holism" (p. 743). Everything is connected and an entity is more than the sum of its parts. Next, Peng and Nisbett maintain that Western thought rests on laws of formal Aristotelian logic. The law of identity dictates that everything is what it is. $A = A$. The law of noncontradiction says that "no statement can be both true and false" (p. 744).

Peng and Nisbett (1999) selected Chinese and American dialectical and nondialectical proverbs for American and Chinese undergraduates to read. A dialectical proverb, for example would be "Beware of your friends, not your enemies," which contradicts the very definition of friendship (p. 744). A nondialectical proverb

might be “One against all is certain to fall” (p. 744). Americans preferred nondialectical American proverbs, while the Chinese preferred dialectical Chinese proverbs. In a separate study, Chinese and American undergraduates were asked to read vignettes and suggest resolutions to the conflicts. Americans suggested nondialectical solutions more often than their Chinese counterparts, while Chinese proposed dialectical solutions more often than their American colleagues. Peng and Nisbett determined that Westerners take a more analytic approach to problems, while Easterners have a more holistic approach.

Caroline Ho (2004) takes issue with these findings in her dissertation. She examined the dialectical reasoning of 196 Chinese Canadians and European Canadians. She found no difference between groups in dialectic reasoning ability, suggesting that “dialectical thinking skills may be more universal; however, the “tendency to display those skills may be more culture specific” (p. ii).

Nisbett’s 2003 book, *The Geography of Thought: How Asians and Westerners Think Differently . . . and Why*, explores these cultural differences in detail. He contends that that we do think quite differently, in part because of the Greek heritage of the West versus the Confucian-Chinese philosophy of the East:

The ancient Greeks were fond of categories and used them as the basis for discovery and application of rules. They also believed in stability and understood both the physical and social worlds in terms of fixed attributes or dispositions. These are not unrelated facts, nor is it a coincidence that the ancient Chinese were uninterested in categories, believed in change, and understood the behavior of both physical and social objects as being due to the interaction of the object with the surrounding field of forces. . . . [For example], there is the whiteness of the horse or the whiteness of the snow in ancient Chinese philosophy, but not whiteness as an abstract, detachable concept that can be applied to almost anything. [pp. 152–153]

Clearly, there are intriguing questions yet to be explored about the role of culture in cognitive development—and “if the nature of thought is not everywhere the same” (Nisbett, 2003, p. 211), then what are the implications for educators?

THE CONTEXTUAL PERSPECTIVE

When we read through the many theories of cognitive development, some of us might resonate better than other people with these theories. We may wrestle with ideas presented in various theories and reflect later on how powerful being exposed to different ways of thinking has been. Acknowledging the contextual factors of cognitive development—that is, taking into account how social, cultural, economic, and political forces shape the development of adult thinking—completes the picture. Our theories and models need to be altered and perhaps totally revamped when these contextual aspects are seriously considered by scholars studying adult cognitive development. The work of Labouvie-Vief (1992) and the work of Goldberger (1996a) are used to illustrate how scholars consider context as central to cognitive development.

Labouvie-Vief (1980, 1984) was one of the earlier scholars to acknowledge the importance of contextual factors in cognitive development. Labouvie-Vief challenged the more accepted notion at that time that the perfection of formal logic was the ultimate goal of adult thinking. Rather, Labouvie-Vief contends that a different form of thinking must be integrated into one's model of adult cognitive development: "While the theme of youth is flexibility, the hallmark of adulthood is commitment and responsibility. Careers must be started, intimacy bonds formed, children raised. In short, in a world of a multitude of logical possibilities, one course of action must be adopted. This conscious commitment to one pathway and the deliberate disregard of other logical choices may mark the onset of adult maturity" (1980, p. 153). Therefore, what may have been conceived of as a regression in later life to Piaget's notion of concrete thought patterns is, rather, a positive adaptation to the realities of adult life. One key factor in being able to adapt to these new ways of thinking is the ability to accept and even thrive on contradiction. This in turn leads to acceptance of the notion of inherent relativity of knowledge and the ability to be self-regulating in choosing one's worldview.

Labouvie-Vief (1990, p. 256), expanding on her earlier work, postulates that "it may be variables related [more] to one's social context than to one's age that account for particular developmental gradients" in cognition. Therefore, if one wishes to discover

changes and patterns in cognitive development, it might be more fruitful to examine groups of people who share pertinent life events and experiences versus people of a certain chronological age group. For example, age has been most often cited as the marker by which cognitive declines are measured. Labouvie-Vief (1990) instead asks the question of whether a major life event, such as retirement, “could be the cause of the ubiquitous decline in cognitive functioning” (p. 263). In posing this framework, Labouvie-Vief is echoing the sentiments of those studying personal and intellectual development from a sociocultural or contextual perspective.

In more recent work, Labouvie-Vief has examined the relationship between cognitive complexity and cognitive-affective integration (Labouvie-Vief & Diehl, 2000). A person’s cognitive complexity was shown by tests that measured crystallized intelligence (cultural knowledge), fluid intelligence (on-the-spot reasoning not dependent on experience but tied to how fast we can respond to stimuli), and reflective cognition (the complexity of thought demonstrated in thinking about oneself). Cognitive-affective integration was demonstrated by the level of a person’s coping strategies and defense mechanisms as shown by answers to the California Psychological Inventory–based coping and defense scales. The study showed an interconnection between cognitive complexity and cognitive-affective integration. Those who were more “culturally advantaged and of higher cognitive complexity are more likely to show integrated coping” (p. 501). However, for those who “feel a sense of vulnerability vis-à-vis their family of origin, the two domains may be somewhat disconnected” (p. 501). In short, the study demonstrated the importance of environment on cognitive-affective integration.

Goldberger (1996a), from interviews with approximately sixty bicultural individuals, primarily women, living in the United States, has added different dimensions of meanings to all of the original categories of knowing that she and Belenky, Clinchy, Goldberger, and Tarule (1986) had described. Goldberger found that the position of “not knowing,” that of silence, for example, is a much more complicated phenomenon than was described in *Women’s Ways of Knowing*. Rather, how silence is defined can be culturally determined and is actually a positive way of knowing for some. In American Indian cultures, “silence is taught [as something to be

respected] within their tribal groups. . . . Allaq [a member of the Inuit nation] remembers the ‘nice silence’ of many children in a room, listening as the elders told stories. Hard Rider [a member of the Canadian West Coast Dtidahy band], struggling to learn from his grandfather how to be a tribal leader, had already recognized the advantages of silent and respectful listening” (Goldberger, 1996a, p. 343). Goldberger also highlights the importance of silence for others, such as African-American women, as a tactical strategy for “negotiating life in white communities or workplaces” (p. 345). This distinction of types of silence has led Goldberger to differentiate between those who are truly silenced “by oppressive and demeaning life conditions who feel powerless, mindless, and truly without words . . . from individuals who resort to strategic or culturally and ritually endorsed silence, but who may have other well-developed ways of acquiring, even constructing knowledge” (p. 346). In reframing the original categories from a contextual perspective, Goldberger views them more as strategies for knowing than as “person types” to which individuals are assigned based on their response patterns. In conceptualizing these categories as knowing strategies, one can then explore how contextual factors limit or expand our ways of knowing and allow us to speak of different uses or even meanings of each of the ways of knowing.

In this review of the work of Labouvie-Vief, Goldberger, and others on the contextual perspective of cognitive development, two important points become apparent.

First, the majority of the mainstream theory in adult cognitive development is “based largely on the findings from a mainly White, well-educated U.S. population” (Hofer & Pintrich, 1997, p. 89). There is a paucity of studies that incorporate people of color or different social classes or that examine cross-cultural differences. It appears from studies where the contextual aspect is acknowledged that people from varying backgrounds may define and value knowledge quite differently. Goldberger (1996a), for example, shares three stories from bicultural women living in the United States: Kat, a South American–born woman of mestizo background who is a counselor; Allaq, a Native Alaskan of the Inuit people and a health worker; and Toshi, an African-American professor recently granted tenure:

Kat: My grandmother [who is a shaman] would teach me the difference between thinking that you know something and knowing it. She would take me out into the woods and have me sense becoming things. Not just looking and describing what I saw. I had to be the tree, I had to be the rock, I was the bird. Some of that [kind of knowing] is helped with the sacred medicine plants. They allow one to open up many different channels and get all the information possible. Whereas [simply] thinking about something feels like it is a very narrow band, a very narrow channel.

Allaq: As a child, I learned a lot just listening to the elders. They talked about the way of living of the Yupik people. . . . Knowledge is part of the soul. You have to learn it spiritually in every aspect of life—spiritually, mentally, emotionally, physically, socially, as a whole person. Yugarag is passed through generations. . . . In my world everything is interrelated. Everything interrelates.

Toshi: Black people have a different way of relating to the world. Even intellectually active black people. And that way is more experientially related than cognitively related. We think less about something but react more. I like being able to go from my experience, rather than having to think about it. As a Black person, I don't have to hold it in. I can express it. [pp. 336–337]

What is evident in these stories, and those from other writers (for example, Goldberger, Tarule, Clinchy, & Belenky, 1996; Reybold, 1997), is that culture and personal experience shape what and how people develop their distinctive ways of knowing.

The second point regarding the contextual perspective, as observed by Goodnow (1990, p. 82), is that social context is not, as it is often presented, “a relatively benign, neutral, or free market” commodity. Rather, the social world in which we live “takes an active and managing interest in the ideas people acquire” (p. 93). This active and managing interest manifests itself in two ways related to adult cognitive development. The first is that the dominant culture may subvert ways of knowing it does not value. Because these ways of knowing may not be valued by the dominant culture, they may be hidden or lost, and worse, viewed as illegitimate or not needed in our modern world. And second, scholars

themselves may choose to study only the development of the ways of knowing that they are familiar with and value. This bias will continue to block the construction of alternative models and theories that acknowledge contextual factors as a critical aspect of adult cognitive development.

WISDOM: THE HALLMARK OF ADULT THINKING

Wisdom is often seen as the pinnacle or hallmark of adult thinking. It is something we all speak about and sometimes yearn for as we face the many challenges of adult life. Should we tell our teenage grandchildren they are making horrendous decisions? Should we make a major career change, especially if it means losing our financial security? What do we say to a very dear friend who is dying of cancer? Questions like these haunt many of us, and we wish we had the wisdom of the elders to make the “right” decisions. Yet this notion of wisdom continues to be a fluid and elusive idea that is most often characterized by the acceptance of ambiguity as one of its many virtues.

Wisdom is not a new concept; it has been discussed through the ages by great philosophers and theologians of all backgrounds and persuasions. Psychologists and educators have defined and studied wisdom from a variety of perspectives. Robinson (1990) noted that the definition of wisdom has changed over time, differing in ancient Greek, traditional Christian, and contemporary conceptions. Baltes and Smith (1990) define wisdom as expertise in everyday life, while Kramer and Baccelar (1994) link wisdom to being able to think in a dialectic way, while Becvar (2005) states that “being wise has to do with higher awareness,” one which allows us to acknowledge the “many possible paradigms, worldviews, reality tunnels and epistemologies, each of which is a plausible explanation of the way the world really is” (p. 29). Therefore, the problems we face as adults are value- and context-specific, and wisdom then becomes a process versus a state of being. And Sternberg (1996b, p. 276) has noted the importance of the social-interaction nature of wisdom, which stresses “that wisdom by definition will hardly ever be found in an individual, but rather in cultural or

social interactive products.” These and other definitions point to the complexity of the concept. Most researchers do agree, however, that wisdom is the province of adulthood, although *older* is not always equated with *wiser*.

Researchers and writers on wisdom have attempted to delineate its major components and its relationship to the aging process. Holliday and Chandler (1986), for example, have sought to provide empirical parameters for the term *wisdom* in three interlocking studies. They first collected general descriptions of wise people from which they formulated the basic description of wisdom in a second study. In the third phase of their research, they “examined the influence of the wise prototype on people’s information processing strategies” (p. 44). The 458 subjects in their study represented all age cohorts of adults: young, middle-aged, and older. They concluded that wisdom is a multidimensional construct consisting of more than objective and context-free aspects of thought. In their view, “Wise people must be able to solve problems—but not in an abstract sense. The type of problems that wise people presumably deal with appear to have strong practical and emancipatory components. That is, wisdom problems are problems endemic to life and to the human condition. . . . Consequently, the problems typically involve or center on values” (p. 90).

In a somewhat different way, Sternberg (1986b, pp. 177–178) sought to discover people’s conceptions or implicit theories of wisdom by exploring “the nature and the interrelationships of intelligence, wisdom, and creativity.” Through a series of studies with both laypersons (community volunteers and students) and specialists (college professors from a variety of disciplines), Sternberg found that people not only have implicit theories about intelligence, wisdom, and creativity but use them to evaluate others. Moreover, he found differences in the way laypersons and specialists perceived each of the three constructs, including the notion of wisdom.

Laypersons perceived the wise individual to have much the same analytic reasoning ability one finds in the intelligent person. “But the wise person has a certain sagacity that is not necessarily found in the intelligent person. He or she listens to others, knows how to weigh advice, and can deal with a variety of different kinds of people. . . . The wise individual is especially well able to make clear, sensible, and fair judgments and is perceived to profit from

the experiences of others and . . . learn from others' mistakes, as well as from his or her own" (p. 186). The specialists, in contrast, tend to emphasize certain aspects of wisdom as more critical than others. The art professors, for example, "emphasize insight, knowing how to balance logic and instinct . . . and sensitivity," while the business professors emphasize such things as "maturity of judgment, understanding of the limitations of one's own actions . . . and appreciation of the ideologies of others" (pp. 186–187). Sternberg concludes that the three major constructs of intelligence, wisdom, and creativity are indeed distinct and yet interrelated, and moreover, that we must pay as much attention to wisdom and creativity as we do to intelligence.

Sternberg and associates, using the findings from this 1986b study, have expanded on this earlier work through an expansive research program over the last twenty years to further delineate the nature of wisdom (Sternberg, 2000a; Sternberg & Jordan, 2005, Sternberg & Lubart, 2001; Sternberg et al., 2000). Sternberg has often linked this research, which is both theoretical and empirical, to his study of intelligence, and more specifically to his triarchic, successful, and practical theories of intelligence (see Chapter Fourteen). Sternberg's current theory of wisdom "views successful intelligence and creativity as the basis for wisdom" (2003b, p. 152). Termed the balance theory of wisdom, Sternberg contends that wisdom is mediated by the values that underlie achieving the common good. Thus wisdom is "about balancing various self-interests (intrapersonal) with the interests of others (interpersonal) and of other aspects of the context in which one lives (extrapersonal). Wisdom also involves creativity, in that the wise solution to a problem may be far from the obvious" (p. 152).

In a recent handbook on wisdom, edited by Sternberg and Jordan (2005), Sternberg (2005a) takes a different view of wisdom through his discussion of the absence of wisdom, or what he has characterized as *foolishness*. His message is very clear—"the costs of foolishness can be very high" (p. 349), especially from the actions of people who possess incredible power and wealth. Their foolishness has led us into wars, polarizations among those who could make a positive difference, and inconceivable hardships for people worldwide. It is Sternberg's contention, as echoed in his earlier work, that being bright does not necessarily equate with being wise. Rather, based on his balance theory of wisdom, he not only

views wisdom as a continuous balancing act among individuals, groups, and societal interests “but also of three possible courses of action in response to this balancing: adaptation of oneself and others to existing environments; shaping of environments to render them more compatible with oneself or others; and selection of new environments” (pp. 346–347). What is critical is taking action, as echoed earlier by Sternberg (2003b) and will be seen later in this chapter in the work of Bassett (2005) and Thorpe (2005)—in “wisdom, one seeks a common good, realizing this common good may be better for some than for others” (Sternberg, 2005a, p. 345).

Bassett (2005) also has developed a model of wisdom. This model, the Emergent Wisdom model, is based on in-depth interviews with twenty-four adults whom she describes as “thoughtful, insightful people of public distinction from many walks of life” (p. 6). Using a grounded theory approach, the model that emerged from these interviews comprises four major components: discerning, respecting, engaging, and transforming. *Discerning* includes the cognitive functions of wisdom, meaning that wise people have “the ability to distinguish often quite subtle variations in different qualities and characteristics of others” (p. 7). Or as one of her respondents observed: “Wise people are able to look at the ‘underlying forces and not be distracted by surface symptoms’” (p. 7). *Respecting* is an affective function that allows adults to express “a kind of caring for the other, even another we might not agree with, feel empathy for, or ‘love.’ Respect manifests gratitude and an expanded sphere of consideration” (p. 9) for both other people and the many interconnected parts of the environments where we live. *Engaging* means that we push ourselves to action, do things we never thought we could do and in some cases are afraid of doing. Engagement displays itself “in the wider world as committed action for the common good, what is good for many of us, not just me and the people like me” (p. 9). *Transforming* is a reflective process that allows us to think more deeply about “the fundamental patterns and relationships, expanded spheres of consideration, and actions” (p. 10) that are often associated with the common good. This domain allows us to live with ourselves, even with the “many possible, plausible, and competing worldviews and epistemologies” we are confronted with as we move through life. In essence, “the self becomes understood not as a *unit* seeking stability, but rather

as a *process* where the sub-parts constantly shift, adjust, and change” (p. 11; italics in original). In addition, included in the model for each dimension are “proficiencies (skilled behaviors), a main manifestation and several learning prompts or developmental stimuli whose practice can lead to wisdom” (p. 7).

Bassett (2005) views this model or “map of wisdom” not as a single path to follow but as a “spiral, circling ever wider and deeper” (p. 10). Therefore, we can keep moving forward, survive, and perhaps even thrive again, through even the most perplexing and painful situations, like the loss of a child, or being left with nothing from nature’s wrath of earthquakes, tsunamis, and hurricanes. Do these types of challenges we all face as adults leave us wiser? Not necessarily so. However, by embracing the Emergent Wisdom model, we may find a deeper acceptance of paradox and recognition of the interdependence of all living systems—“in short, the whole mystery of the world and of wisdom” (p. 11).

Thorpe (2005), in her essay on wisdom, asks different kinds of questions: “Does wisdom ever appear in the same place as violence and madness? What if madness came to town—and we had to deal with it?” (p. 34). Could we—or would we, especially those of us who are warm, well-fed, and relaxed—“have good sense, unusual discernment and judgment, in the face of firsthand violence or would we too be swept away in the hysteria?” (p. 34). Often we look for answers to these questions from great men and women throughout the ages, but she asks if the response to these questions really comes more from ordinary people, without aspiration, who find themselves in extraordinary situations. To answer these questions she followed the stories of three ordinary men who lived during the 1800s who found themselves embroiled in extraordinary times. What she discovered in their stories were numerous themes about wisdom that were a part of each of their stories. A sampling of these themes contains ideas that are both similar and different to what we have discussed previously in our discussion of wisdom.

- *Wisdom is not the same thing as peace, serenity, or personal insight.* When madness is flying all about, no one is peaceful, serene, nor afforded the luxury of inner contemplation. . . .
- *Wisdom is neither moderation nor relativism.* It is not about giving equal weight to all perspectives, nor about compromise.

[Rather,] it is seeing beyond the immediate positions and knowing what is beyond them that is more fundamental—and more permanent. . . .

- *Wisdom cannot be identified through benchmarks of time and place.* The standards of time and place do not predict or denote wisdom. However, the little streams of wisdom that people leave in other times and places grow into rivers that change the benchmark over time towards systems that work better. [Thorpe, 2005, pp. 41–42; italics in original]

Thorpe concludes “that wisdom appears when we most need it” (p. 43). If wisdom could not appear in times of war, madness, and polarization, those “tiny rivulets of sanity” that save us and society from exploding into oblivion would not be forthcoming.

Despite the different perspectives from which wisdom has been studied and the lack of consensus on its precise dimensions, several points of agreement have emerged. Wisdom is grounded in life’s rich experiences and therefore can be developed throughout our adult lives. Although book learning may be a part of developing wisdom, it is not a requirement. Rather, being able to respond well to the pragmatics of life seems to form the core of being wise. Moreover, wisdom seems to consist of the ability to move away from absolute truths, to be reflective, and to make sound judgments for the common good related to our daily existence, whatever our circumstances.

Recently, Sternberg (2005b) published a comprehensive review of the literature on the relationship between wisdom and age. He presents a number of conclusions with respect to this question. First, there is no single position on the relationship between age and wisdom—studies have reported it decreasing with age, increasing with age, and remaining stable with age. He also concludes that “there are almost certainly widespread individual differences in the trajectory of wisdom”; wisdom appears to lie “in situational rather than personal variables” and research results depend on how wisdom is defined and measured (p. 20). Finally, he concludes that while research suggests that people have the ability to become more wise, “whether wisdom actually will develop depends not so much on age as upon cognitive variables, personality variables, and life experiences” (p. 21).

In reflecting on this study of wisdom and how it might enrich learning in adulthood, we are struck by observations made by Dychtwald and Flower (1989) about “the third age”—that part of life beyond age sixty, a time of life that more and more people are experiencing as healthy and vital individuals. Dychtwald and Flower contend that this third age allows for the “further development of the interior life of the intellect, memory, and imagination, of emotional maturity, and of one’s personal sense of spiritual identity” (p. 53). It is a time for people to give back to society through their wisdom, power, and spirituality “the lessons, resources, and experiences accumulated over a lifetime” (p. 53). They then quote Monsignor Fahey, the director of Fordham University’s Third Age Center: “People in the third age should be the glue of society, not its ashes” (p. 53). Their conclusion is clear and dramatic: “Think about it. We know even with the best care overall fitness will decline gradually over the years. While the strength of the senses is weakening, what if the powers of the mind, heart, and the spirit are rising? If life offers the ongoing opportunity for increased awareness and personal growth, think how far we could evolve, given the advantage of extra decades of life!” (p. 52). Their observations of using our later years to further develop our cognitive thinking abilities are similar to Kegan’s (1994), discussed earlier. In incorporating the concept of wisdom in our thinking about cognitive development, mature adult cognition is more than just abstract logic, complex reasoning, and dialectical thinking; it also encompasses the ability to think, feel, and act “wisely” in life.

SUMMARY

Cognitive development refers to the change in thinking patterns that occurs as one grows older. Much of the earlier work on cognitive development in adulthood has been grounded primarily in the work of Piaget. One line of research has focused on how Piaget’s stages play out in adulthood. A more fruitful research tradition, grounded in Piaget’s work, has been the conceptualization of adult stages of cognition beyond that of formal operations, such as the work of Arlin (1975). Other researchers have posited entirely new schemes of adult cognitive development. These alternative theories range from the traditional stage theories of development, such as

the work of Perry (1970, 1999) and King and Kitchener (1994, 2004), to those theories that bring in new voices (Belenky, Clinchy, Goldberger, & Tarule, 1986; Goldberger, Tarule, Clinchy, & Belenky, 1996) and different ways of framing development, represented by Baxter Magolda (1992, 2004) and Labouvie-Vief (1980, 1990; Labouvie-Vief & Diehl, 2000).

In the review of the many theories of adult cognitive development, two major themes became apparent: dialectical thinking is important and contextual factors are critical in determining how we develop our thinking patterns as adults. Dialectical thinking, as represented by the work of Riegel (1973) and Kegan (1994), allows for the acceptance of alternative truths or ways of thinking about the many contradictions and paradoxes that we face in everyday life. To be able to engage in dialectical thinking is viewed by some as the only way to navigate our postmodern world successfully. Bringing in the contextual perspective on adult cognitive development acknowledges that the world around the thinker makes a difference in how adults develop their thinking patterns. Social, cultural, economic, and political forces help shape both how we think and what kind of knowledge we value.

The chapter concluded with a discussion of wisdom, often regarded as the hallmark of mature adult thinking. Although it has been discussed over the ages by the great philosophers and theologians, this area of study has received little attention in the literature on cognitive development and learning in general. Representative conceptions of wisdom, including those of Holliday and Chandler (1986), Sternberg (1996b, 2003b, 2005a), and Bassett (2005), were reviewed. Despite the different perspectives from which wisdom is viewed, scholars seem to agree that wisdom involves special types of experience-based knowledge and is characterized by the ability to move away from absolute truth, to be reflective, to take action for the common good, and to make sound judgments related to everyday life.

CHAPTER FOURTEEN

INTELLIGENCE AND AGING

One of the authors of this book vividly remembers her mother coming home after a trip into town, “just fit to be tied.” She was thoroughly disgusted with how she had been treated by a bank employee. The employee had insinuated that as a “little old lady” there was no way she could understand her different account options. As this mother reflected on her experience, still in an angry mood, she said, “I may be old and little, but I have not lost my mind and neither am I stupid.” This powerful myth—that adults lose their intellectual ability as they age—still prevails, even in the literature on intelligence and aging. However, over the past twenty-five years other scholars have put to rest that myth, backed up with a strong knowledge base that substantiates that for most adults intellectual functioning is alive and well throughout most of their lifetimes.

Intelligence is defined in a number of ways. From the perspective of the casual observer, intelligence is often equated with “being smart”—that is, being able to act intelligently when dealing with everyday life. But there is another definition of intelligence that many adults have carried with them since their elementary school days: intelligence is a specific measurement of their ability to learn. While not actually knowing their IQ scores, many adults have vague recollections of being labeled an “average,” “above-average,” or “below-average” student. Worse still are the memories of using IQ tests to be placed in a “slow” reading or math group, while watching a best friend be put in the “high” group. Although the concept of intelligence affects the lives of many adults, both through earlier and current experiences, what intrigues us is that educators of adults have given little attention to the study of intelligence in adulthood.

In this chapter, we first discuss the more traditional approaches to and theories of intelligence, focusing on those traditions that continue to have a very strong influence on intelligence in adulthood. We then argue that these traditional approaches continue to be foundational in how scholars both study and interpret the effect of aging on intelligence. Next, we explore the more recent challenges raised by scholars to these traditional approaches. In this section we examine key theoretical and empirical work that has promise for expanding how adult intelligence is conceptualized and in the future could have a significant effect on our basic understanding of aging and intelligence. The chapter concludes with a discussion of three ideas about intellectual functioning in adulthood that are particularly intriguing and useful for educators of adults.

TRADITIONAL APPROACHES TO INTELLIGENCE

There are two reasons why it is important to understand what are often termed “the traditional approaches” to intelligence. The first is that the different lenses these researchers use “come not only from ideological biases affecting what is said, but also from what defines the concept of intelligence” (Sternberg, Lautrey, & Lubart, 2003, p. 3). And second, many of the ideas from these traditions still dominate the thinking and practice related to how intelligence is viewed, and hence, often unbeknownst to us, frame our practice as educators of adults.

Three areas within the more traditional approaches have been foundational in our thinking about adult intelligence: the biological approach, the individual differences approach, and the cognitive processes approach. Described more in depth in the next two subsections are the first two approaches. The third tradition, the cognitive processes approach, exemplified by the work of Piaget and Vygotsky, arises “from the construction of cognitive structures that materialize as a function of the interaction of the organism with the environment” (Sternberg, Lautrey, & Lubart, 2003, p. 3). While Piaget’s (1952) work called our attention primarily to our biological maturation, Vygotsky (1978) was most interested in how the social environment around us influenced our intellectual development.

Although both of these authors and their colleagues are often quoted in the literature on adulthood, very little empirical work with adults has been completed from this tradition (see Chapter Thirteen).

THE BIOLOGICAL APPROACH

Although the biological approach to intelligence is not often discussed by educators of adults, “nearly everyone believes that intelligence resides in the brain, and is virtually synonymous with brain power” (Richardson, 1999, p. 180). If we can only discover where in the human brain “intelligence resides” and how it fits into the way the brain operates, we will have the key to exactly what intelligence is. Tracing this rationale further, with this knowledge at some point the brain could be manipulated so that all humans could both become smarter and stay that way throughout their lives. Unfortunately, the knowledge we have gained about “the smart brain” has little practical application and is tentative at best. Rather, what scholars over the past two or three decades “have produced is an outpouring of interesting new facts and ideas. But it has to be admitted that psychologists and neuroscientists have not yet managed to weave these into a clear, or clearly agreed theory about how the brain produces, or is otherwise involved in human intelligence” (Richardson, 1999, p. 181). This search for the biological correlates of human intelligence is still strong, but it also needs to be more theoretically driven (Haier, 2003; Vernon, Wickett, Bazana, & Stelmack, 2000).

Another avenue in the biology of intelligence couples it with the genetics of intelligence. This interest has been stimulated by those who assert that intelligence is an inheritable quality, and that people are born highly intelligent, “just so-so,” or way below the mean for functioning normally in society. There is no agreement in the current literature on the influence that genetic factors have on intelligence. Rather, there is a very wide spread of variations, with estimates ranging from 20 to 80 percent (Bronfenbrenner, 2005). Even among researchers who argue that “genes play a sizeable part in influencing differences in mental ability between people” (Deary, 2001, p. 88), there is scant knowledge about what these genes are. However, with the ever-widening interdisciplinary approach to the study of human genetics, there are those who

predict that we will discover, at some point in the future, the genetic composition of intelligence (Grigorenko, 2000). If indeed these specific genetic markers are able to pinpoint intelligence, there will be a need to carefully consider both the practical and ethical issues that would be involved with such a discovery.

THE INDIVIDUAL DIFFERENCES APPROACH

The individual differences approach has and continues to have an enormous impact on the study of adult intelligence. In many ways this tradition has served the field well. First, scholars from this approach have provided a systematic means for studying individual differences. Second, “the theories embedded within this tradition have proved to have many and diverse applications. [In addition] they have provided a model for how theory and measurement can evolve in synchrony” (Sternberg, Lautrey, & Lubart, 2003, p. 2).

Grounded in the psychometric tradition, viewing the concept of intelligence from this approach assumes that intelligence is a measurable construct. Although testing for individual differences in intelligence is most often done with children and adolescents, this form of testing still has a significant influence on how adults continue to be sorted, left out, or included in educational, work, and even living situations. Using the psychometric approach there are two primary ways that individual differences in intelligence are conceptualized: general intelligence (or the “g” factor) and multiple factors (Embretson & Schmidt McCollam, 2000).

Jensen (2002) observes that in “the state of the art in the field of psychology, a clear conclusion is warranted: That is, a century of research on intelligence suggests there are abilities and processes in intellectual functioning that are truly general, very strong in their affect and always present” (p. 5). Numerous scholars agree with Jensen’s view that the g factor is alive, well, and thriving, and tests that measure this factor are used in numerous settings with adults (Deary, 2001; Sternberg & Grigorenko, 2002). The central tenant of theory building and research related to the g factor is that a person’s performance on one or more scales can be explained as a single underlying ability (Sternberg & Grigorenko, 2002). Therefore, scores from diverse tests or subscales

can be combined to form a general intelligence quotient, commonly known as the g factor.

Spearman (1904, 1927) and Binet (1916) are representative of the early researchers who sought to understand the nature of intelligence as a single well-defined construct. The first massive use of intelligence testing with adults using the g factor as the norm was with men entering the army in World War I. As large numbers of recruits needed to be tested quickly, two IQ tests were developed (Kaufman, 2000). The practical consequences of the development of these tests were many. For example, "IQ tests [using the g factor] were found to be useful for adults, not just children; were perceived to be valuable for high functioning people, not just the lower extreme," and the data analysis from huge samples (almost two million) led to intense controversies, from "cries of racism and inferiority, to debates about the value of IQ tests and their social implications" (Kaufman, 2000, p. 446). Examples of often-quoted current scholars who study the g factor are Carroll (1993), Jenson (2002), Humphreys and Stark (2002), and Petrill (2002, 2003).

The more prevalent use of IQ tests with adults to measure individual differences is with those that include multiple factors of intelligence, such as spatial ability, perceptual speed, numerical ability, verbal relations, words, memory, and induction. Of the earlier theorists who advocated this point of view, Horn and Cattell (1966, 1967) have had the widest influence on conceptualizing intelligence as multiple factors. In addition, their work has been foundational to the study of intelligence in adulthood. The Horn-Cattell theory viewed intelligence as consisting of two broad areas: *fluid intelligence* (Gf) and *crystallized intelligence* (Gc). The fluid arena captured those tasks that "demanded new problem solving with minimal dependency on school learning or acculturation" (Kaufman, 2000, p. 460), and was therefore viewed as more innate and dependent on a neurophysiological base. In contrast, the crystallized domain was viewed as education dependant and more associated with accumulated information.

Horn (1985, 1989) expanded this Gf-Gc theory by shifting his focus to a group of eight to ten abilities, with the measure of each being "purer" and with no overlap between the factors. "From current Horn theory, tasks are only categorized as Gf if they emphasize reasoning ability and as Gc if they stress comprehension and

knowledge base” (Kaufman, 2000, p. 460). In addition, Horn (1985, p. 289) changed one of the basic assumptions of this theory, which is that “there are good reasons to believe that *Gf* is learned as much as *Gc*, and that *Gc* is inherited as much as *Gf*.” Instead, he believes that both types of intelligence can be nurtured, at least until very old age. This assertion has led researchers to study whether fluid intelligence, which was thought to be primarily innate, can be either restored (if loss has been shown) or strengthened as people age (Lohman & Scheurman, 1992; Schaie & Willis, 1986; Willis & Schaie, 1994). Schaie (1996b) has provided a clear and cogent summary of this work.

Psychometric tests using the multiple factors methods are most often used with adults in assessing people in the workplace for job placement, in clinical settings for appropriate treatment plans, and in the military, where a certain score is required for entry. In addition, these types of intelligence tests have been used in research to determine how intellectual abilities change as people age. The three tests that measure multiple factors of intelligence most often used in both research and practice with adults are the Kaufman Adolescent and Adult Intelligence Test (KAIT; Kaufman & Kaufman, 1993), the Wechsler Adult Intelligence Scale, which is now in its third edition (the WAIS-III), and the Primary Mental Abilities (PMA) test, the most recent version being the Schaie-Thurston Adult Mental Abilities Test (STAMAT; Schaie, 1979, 1985). Each of these tests appears to primarily assess mental abilities, such as verbal and reasoning ability, related more to formal schooling than everyday intelligence (Deary, 2001; Sternberg et al., 2000). In a challenge to this idea, Schaie and others (Schaie, 1996b; Willis & Schaie, 1986) found that, at least in later adulthood, certain primary mental abilities do predict competent behavior in specific situations—for example, “competence in active situations was predicted by spatial ability and inductive reasoning, and competence in passive situations was predicted by verbal abilities” (Schaie & Willis, 1986, p. 290). Therefore, to these researchers, the findings suggest “a strong relationship between the ‘building blocks’ of intelligence and abilities on real life tasks” (p. 290).

Two of these intelligence tests, the Kaufman Adolescent and Adult Intelligence Test (Kaufman & Kaufman, 1993) and the Wechsler Adult Intelligence Scale-Third Edition (Wechsler, 1997),

are examples of measures that have been primarily constructed using the work of Horn and Cattell. Within the KAIT framework (Kaufman & Kaufman, 1993), fluid intelligence “measures a person’s adaptability and flexibility when faced with new problems.” Crystallized intelligence evaluates “the acquisition of facts and problem-solving ability using stimuli that are dependent on formal schooling, cultural experiences, and verbal conceptual development” (Kaufman & Kaufman, 1993, p. 7).

The WAIS-III is designed for adults ages sixteen to eighty-nine. The WAIS-III, like its predecessors (the WAIS-R and the WAIS), consists of six regular verbal subtests and five mandatory performance tasks. Several of the WAIS-III subtests are often grouped together for measuring Horn’s expanded concepts of fluid and crystallized intelligence. Like the KAIT, the WAIS-III also may present problems in the testing of the elderly, and more specifically those seventy-five and above. However, “The WAIS-III is likely to follow in the footsteps of the WAIS-R, which has proven itself as a leader in the field of adult assessment” (Kaufman, 2000, p. 459).

The third test of adult intelligence, the Primary Mental Abilities test, is often associated with the work of Schaie and colleagues on intelligence and aging (Schaie, 1979, 1985, 1996a). The underlying assumption of the PMA test, originally developed by Thurstone and Thurstone (1941), is that intelligence is actually several distinct abilities. Purported to measure five relatively independent factors, the PMA test battery consists of five subtests: (1) verbal meaning, which is the ability to understand ideas expressed in words; (2) space, describing the ability to think about an object in two or three dimensions; (3) reasoning, involving the ability to solve logical problems; (4) number, the ability to handle arithmetic problems; and (5) word fluency, concerning the speed and ease with which words are used.

As we demonstrate in the next section, the individual differences approaches to intellectual development continues to dominate how scholars have argued whether adults lose or perhaps even gain in intellectual abilities as we age. Central to this discussion of linking age and intelligence is whether adults, and especially older adults, will be as intellectually capable in their sixties and seventies as they were in their twenties and thirties.

AGE AND INTELLECTUAL ABILITIES

“The study of the depth and breadth of interest in intellectual changes during adulthood has increased dramatically in recent decades” (Dixon, 2003, p. 152). The fundamental question that researchers have struggled with over the years is: Does intelligence decline with age? In their pioneering work in this arena, Thorndike, Bregman, Tilton, and Woodyard (1928) were among the first scholars who challenged the fundamental notion that learning ability peaks very early in life. Using primarily laboratory or schoolroom tasks, Thorndike measured the speed of the performance of people from ages fourteen to fifty on a variety of tasks, from memorizing poetry to acquiring an artificial language (Kidd, 1973). Thorndike et al. (1928, pp. 178–179) concluded from their many studies that “in general, teachers of adults of age twenty-five to forty-five should expect them to learn at nearly the same rate and in nearly the same manner as they would have learned the same thing at twenty.” In reflecting on Thorndike’s work, Kidd (1973) noted two major contributions. The first was to raise the age of onset of the downhill slide of a person’s ability to learn from twenty years of age to forty-five; second, and even more important, Thorndike “helped to stimulate colleagues to reject traditional views and formulas” (p. 79) about learning in adulthood.

Naturally, this question related to whether intelligence declines with age is of no small interest to current scholars and also to many adults who wonder if in fact they will become less “with it” as they age. Responses to this question are mixed and often have been controversial. They range from the contention that intelligence definitely enters a process of irreversible decline as we age (though that age does differ from scholar to scholar) to those who argue that intelligence is relatively stable through the adult years, with substantial changes occurring very late in life. Underlying these highly diverse responses are issues of *universality*, *directionality*, and *reversibility* in intellectual functions over the life span. Do changes in intelligence “occur generally or differently in normal aging adults?” (Dixon, 2003, p. 153). Are these changes progressive or regressive in nature? And what is the potential for adults to alter or compensate for any of these changes? One way to respond to

these underlying questions is through understanding how scholars who study intelligence and aging define the concept of intelligence, delineate the parameters of aging, and select the designs and measures they use in this research.

CONCEPT OF INTELLIGENCE

In looking at the concept of intelligence we can see how the different ways this construct is defined provide different responses to the questions of directionality and reversibility of intelligence. As noted earlier, although there is no universal agreement as to what constitutes intelligence, the study of intelligence and aging is deeply rooted in the individual differences approach. Because this approach assumes that intelligence is a measurable construct, when we speak of intelligence and aging our observations come primarily from a comparison of test scores. These tests are designed to investigate a specific theory or theories and factors thought to be the major components that constitute intelligence. For example, the PMA test defines intelligence as five relatively distinct measures of psychological competence, versus a single general intelligence factor.

From Schaie's perspective, when intelligence is defined as a unitary property, the research tends to confirm that intelligence does indeed decline with age, although again the point of departure for that decline often varies (Schaie & Willis, 1986). Yet when intelligence is viewed as consisting of multiple factors, the response tends to be that some of our abilities decline, while others remain stable or even increase (Baltes, 1993; Berg, 2000; Dixon, 2003; Schaie, 1996b).

Other authors, including Baltes and Schaie, have added important properties to their definitions of intelligence. Two of those properties—plasticity and compensation processes—are key in addressing the issue of whether adults can in some way change the course of their intellectual development. Again, these added properties need to be placed in the context of the data sources used, which are primarily empirical studies based on traditional intelligence tests.

Plasticity refers to the ability for people to change and yet also maintain a certain durability as they age. Research on "the plasticity

of intelligence has focused on the modifiability of intelligence through intervention” (Berg, 2000, p. 122). Dixon (2003) asserts in his review of literature related to intervention research that “it is possible to train normal older adults to perform better on challenging cognitive tasks” (p. 156). He contends that researchers have demonstrated that older adults can improve their performance on intelligence tests through self-directed practice and formal training on higher-level tasks. In addition, those adults who have received this formal training can also perform more effectively on some cognitive tasks in everyday life. Based on these studies, Dixon goes on to observe: “Theoretically this implies that some degree of normally observed decline in intellectual aging may be the result of disuse and that potential for improvement may be present in older adults” (p. 157).

Compensation is among the most promising expansions to the nature of intelligence. Embedded in the individual differences and in the information processing approaches to intelligence, *compensation* refers to ways that adults adapt to losses in cognitive processes that may affect their intelligence as they age, and can take many forms. For example, adults can invest more time and effort in a task, learn new ways to perform the same task, and adjust their goals and criteria for success to accommodate any losses or deficits. For example, one of the authors has a ninety-one-year-old friend who has chosen to live in her own apartment rather than in another, alternative living arrangement available to her in the complex where she lives. Due to severe arthritis this woman can no longer use her hands to complete many household tasks, so, instead, she has learned to do these tasks, like making a bed, with her feet. She has also chosen to play bridge every day versus only twice a week so she does not lose her competitive edge, and she makes sure she takes a cocktail before dinner in a common lounge with other residents to maintain her contact with those who live in the same area. “Compensation may occur automatically at the level of the brain or may be trained deliberately in impaired individuals” (Dixon, 2003, p. 157).

PARAMETERS OF AGING

The question of directionality—that is, whether we gain or lose our intellectual abilities as we age—is also addressed when we discuss how scholars define the parameters of aging. Whether or not one

believes intelligence declines with age depends on the ages of the adults included in the study. Are we talking about adults in early, middle, or later adulthood? In reviewing data on early and middle adulthood, our response would be that intelligence does not decline with age. In fact, some intellectual functions, no matter what testing procedures are employed, seem to increase over the course of the years. Our response to whether intelligence declines in later adulthood is not as clear-cut (Baltes, 1993; Schaie, 1996a, 2005). Most agree that some decline in functioning occurs between age sixty and the early seventies, but the precise nature of that decline, and more important, its practical effect on learning ability are still in question.

In line with this observation, although there have been numerous studies of older adults (Schaie & Hofer, 2001), only a few have addressed the intellectual abilities of healthy adults after age 70. In one longitudinal comparison of subjects ranging in age from 73 to 99, researchers found that although many of the subjects showed some decline in abilities, more than half displayed no such changes, even at the older ages (Field, Schaie, & Leino, 1988). In a more recent study of eighteen people between the ages of 100 and 106, these “centenarians reported rich late-life learning experiences, the majority of [which] occurred through social interactions” (Fenimore, 1997, p. 57).

RESEARCH DESIGNS AND MEASURES

The questions that surround the issues of directionality and universality are important issues raised by those who discuss how research designs and measures affect our thinking about intelligence and aging. The research designs employed in investigations of changes in intelligence over the life span also are a major point of discussion in the literature. Results from the two most often used designs, cross-sectional and longitudinal, usually provide very different findings. Data from cross-sectional studies, which compare onetime test scores of different age groups (for example, twenty-year-olds and sixty-year-olds) predominately show that as we age our intelligence declines (Schaie, 1994, 1996a; Schaie & Hofer, 2001). Findings from longitudinal studies, however, usually support a very different conclusion. Based primarily on readministration of intelligence tests over time and to the same group of

people, various longitudinal investigations demonstrate that intellectual abilities of groups of older people are remarkably stable over time (Rabbitt, Donlan, Brent, McInnes, & Abson, 1993; Schaie, 1996b, 2005).

Cross-sectional designs only allow inferences about differences of intellectual abilities for specified age groups, such as adults in their twenties and those in their sixties. In addition, even in the claims that are made based on these data there are numerous limitations inherent to this design. For example, cohort differences, such as level of formal education and health status, may cloud results. In addition, "as the 20th century progressed, the whole population's scores on some well-known mental tests were improving when compared with same-age people generations earlier" (Deary, 2001, p. 104), which further confounds these cross-sectional comparisons between the young and the old.

In contrast, longitudinal studies permit scholars to draw a broader picture of intellectual development through the adult life span. By providing information on both cohort-age-specific and individual differences in adults as they age, they allow researchers to explore more complex issues and questions. For example, researchers are able to address whether there are individual differences or similarities in intellectual abilities as adults age. They also are able to investigate how other factors, such as health, social interactions, and psychological attributes, may contribute to the continued stability or decline in intellectual functioning. As with cross-sectional designs, longitudinal studies also have built-in limitations, such as selective attrition and dropout, and retaking the same or similar performance tests over time. In addition, "effects thought to be age-dependent must be carefully disaggregated from those due to historical limited events and environmental impacts" (Schaie & Hofer, 2001, p. 56).

In response to the limitations and problems associated with both cross-sectional and longitudinal designs, researchers have adopted alternative designs to control for some of the biases inherent when only a cross-sectional or longitudinal design is used. Schaie and his associates, as part of the Seattle Longitudinal Study, provide the best example of the work using one of these alternative designs (Schaie, 1994, 1996b, 2005; Schaie, Willis, & O'Hanlon, 1994). The primary variables for this study were the five factors that represent the primary mental abilities of adults. The data for

the study were collected from more than five thousand subjects over a thirty-five-year period in six testing cycles. With six cross-sectional studies, in addition to longitudinal data, the researchers were able to do a number of different forms of analysis. In essence, the cross-sectional data showed a typical pattern of intellectual decline, while the longitudinal data suggested little if any decline of any practical consequence until after the mid- to late sixties. Even “this decrement is modest until the 80s are reached, and for most individuals it is not a linear phenomenon but occurs in stair-step fashion” (Schaie, 1994, p. 308). Schaie and others attributed the differences in findings between the two research designs to cohort variation—differences between the generations versus differences in the ages of subjects. These cohort variations are, in turn, attributed to higher educational levels of succeeding generations and overall better nutrition and health care.

In addition to providing answers to the question of directionality, the findings from the Seattle Longitudinal Study and studies of like nature (Schaie & Hofer, 2001) also offer helpful insights into whether these changes in intelligence as we age are universal or occur differently in normal aging, and are progressive or regressive in nature. Schaie and his associates, for example, “emphasized that considerable individual differences exist in both degrees of intellectual decline and the age of onset” (Dixon, 2003, p. 153). Seven variables were identified that reduce the risk of cognitive decline in old age: absence of cardiovascular and other chronic diseases, living in favorable environmental circumstances, substantial involvement in activities, maintenance of high levels of perceptual processing speed into old age, being married to a spouse of high cognitive status, and rating one’s self as satisfied with one’s life. We would conjecture that health, economic means, and feeling good about life are central to continued intellectual vitality and that the other variables might just be a plus, or perhaps go with having economic means.

In exploring the other side of the question—which factors predict earlier-than-average decline—four were identified: significant decrease in being flexible in one’s approach to life, low educational attainment, being male, and a low satisfaction with life success (Schaie, 1994). Except for gender, of course, some of these variables may be amenable to change using the typical interventions recommended to offset and even possibly restore decreases

in intellectual capabilities (Dixon, 2003). They may also suggest different kinds of interventions, like personal counseling and enrolling in formal educational programs.

Most research on the effects of intelligence and aging has been conducted using either the Weschler scales (WAIS-III or the earlier WAIS-R) or a form of the PMA test. One big question, still strongly debated today, is whether either of these two measures, and others of this nature, capture more than the academic or “mental abilities” versus intelligence in everyday life. Sternberg and associates (Sternberg, 2000b; Sternberg et al., 2000) would respond with a resounding *no*, although Sternberg does see the value of tests of this nature used in concert with measures of practical intelligence. Scholars like Gardner (1999b, 2003) and Tennant and Pogson (1995) would argue that these tests do not capture the more complex nature of intelligence.

A second question raised on both of these tests, and others like them, has been their inclusion of timed items. All of the PMA subtests, and about half of the subtests in the WAIS-III are timed. Are timed tests, particularly ones involving perceptual motor functions, valid measures of adult intelligence, especially for older adults? Some scholars strongly argue that speeded tests should be eliminated in assessing adult intelligence, whereas others make compelling arguments that timed items should be included, because mental speed is a critical component of intellectual functioning (Deary, 2001).

In summary, our answer to the fundamental question “Does intelligence decline with age?” leads us back to our discussions of the concept of intelligence, age parameters, and research designs and measures. With these factors in mind, our response to this question is that intelligence may decline, remain relatively stable until late adulthood, or even be enhanced as we age. One school of thought contends that intellectual functioning is a process of irreversible decline in the adult years, although the hypothesized onset and the extent of that decline are still unknown. The majority of those who argue this position are relying on data from cross-sectional studies or are firmly entrenched in the belief that intelligence is an inheritable trait.

Others say that intelligence is relatively stable through the adult years, with substantial intellectual changes occurring only very late in life, and then primarily “in abilities that were less central to the individual’s life experience and thus perhaps less practiced”

(Schaie, 1996b, p. 2). In essence, we have enough brain capacity to do almost anything we choose, until serious illness or when we are in highly challenging, complex, or stressful situations. Still others argue that intelligence declines in some respects, remains stable in others, and may even increase in some functions, depending on a person's educational level, life experiences, overall health, and outlook on life (Dixon, 2003; Kaufman, Kaufman, Chen, & Kaufman, 1996; Raykov, 1995). Those who assert the latter two points of view primarily point to longitudinal or mixed-design studies on aging and intelligence and define intelligence as multifaceted.

As will be discussed in the next section, it is hoped that more recent and future research on different approaches to adult intelligence will provide further insight into whether the individual differences approach can continue to be used as the best predictor of how intelligence changes with age. Or, might these alternative ways of thinking about adult intelligence possibly provide a clearer and perhaps even a more complex picture of the effects of aging on intellectual functioning?

CHALLENGES TO THE MORE TRADITIONAL CONCEPTS OF INTELLIGENCE

Major challenges about the nature of intelligence have been made by a number of scholars in the past twenty years. These critiques have come from numerous sources, but they center on three main issues. The first is the major focus on the individual, and more specifically, differences between individuals as measured by psychometric tests. Second, there is, in the words of Sternberg, Lautrey, and Lubart (2003), "a fighting for the 'truth' . . . with the underlying notion . . . that only one model or theory could be correct" (p. 11). Third, the majority of these traditional ways of thinking about intelligence in adulthood do not take into account "real-world" or "everyday" intelligence. Theorists who advocate that the basic nature of intelligence has to be reframed most often view intelligence as a combination of biological, psychological, social, cultural, life experiences, and environmental factors. Rather than focusing on just one or two of these frames, scholars from this tradition argue that intelligence consists of multiple domains and most often is conceived as an interaction among three or more of them.

Tennant and Pogson (1995) have provided a thoughtful treatise on why these challenges to intelligence have been overlooked for so long, especially by scholars representing Western culture. They assert that “historically, Western culture has taken a lower view of manual work than of cognitive activity” (p. 37), which has led to “the exaltation of the theoretical or contemplative over the practical” (p. 39). More specifically, they cite the attributes of verbal, abstract, and complex thinking as far more valued than either those of concrete and sensual thought or the active use of knowledge.

In discussing these alternative ways of defining the nature of intelligence, we focus on Gardner’s theory of multiple intelligences (the MI theory); practical intelligence, illustrated by the work of Sternberg and his colleagues; and emotional intelligence. We also explore the way culture affects how intelligence is viewed. We chose these specific theories and studies to illustrate these alternative stances because educators of adults have gravitated to these viewpoints of intelligence, considering them more applicable to adult learners.

GARDNER’S THEORY OF MULTIPLE INTELLIGENCES

Gardner is representative of theorists who broke away from the psychometric tradition of intelligence during the early 1980s. From Gardner’s perspective, the concept of intelligence has been too narrowly limited to the realm of logical and linguistic abilities, primarily by the way intelligence has been measured. He argues that “there is persuasive evidence for the existence of several relatively autonomous human intellectual competencies that can be fashioned and combined in a multiplicity of adaptive ways by individuals and cultures” (Gardner, 1993, pp. 8–9). From a number of unrelated sources, such as studies of prodigies, brain-damaged patients, and normal children and adults, Gardner originally identified seven different forms of intelligence, with an eighth added in the mid-1990s. The original seven forms of intelligence include “not only the standard academic ones of linguistic, logical-mathematical, and spacial (the visual skills exhibited by a painters or architect) but also musical, “bodily-kinesthetic,” and two “personal” intelligences involving a fine-tuned understanding of oneself and others” (Levine, 1987, p. 54). Gardner’s eighth form of intelligence, naturalist intelligence, takes us to a different realm. The

intelligence of naturalists is in recognizing and categorizing natural objects and patterns in their environment. This type of intelligence is exemplified in the work of formal scientists, such as biologists and environmentalists, but also people who are highly skilled in applying “folk taxonomies,” such as natural healers, and other abilities, like farming and hunting (see Gardner, 1983, 1993, 1999b, for a complete description of his eight intelligences). Gardner has also discussed another possible form of intelligence—“existential intelligence.” Adults who exhibit existential intelligence capture and ponder “the fundamental questions of existence”: spiritual leaders and philosophical thinkers are among such people (Gardner, 1999a, p. 22). Gardner has not yet added this form of intelligence to his current eight due to its perplexing nature and its distance from the other intelligences. “At the most, I am willing, Fellini-style, to joke about ‘8 and 1/2 intelligences’” (Gardner, 1999b, p. 66).

In introducing the theory of multiple intelligences, Gardner (1993) emphasized that the idea has a rich history, recognized even in early Greek times. He makes only two strong claims about the theory. The first is that all humans possess all of these intelligences: indeed, they can collectively be considered a definition of *Homo sapiens*, cognitively speaking. The second claim is that just as we all look different and have unique personalities and differences, we also have different patterns of intelligence (Gardner, 1999a). Therefore, in Gardner’s framework, our tendency to label people as being generally bright, average, or dull just does not fit. Rather, a person may exhibit high intelligence in one or more areas, such as music and math, and yet demonstrate only average intelligence in other respects. In other words, you can be very talented in specific areas and have some or little capacity in others. In addition, Gardner views MI theory as presenting a critique of the predominant model of “psychometrics-as-usual” in measuring intelligence. Therefore, although scholars have made some attempts to develop and use tests that measure multiple intelligences (for example, Rosnow, Skleder, Jaeger, & Rind, 1994; Shearer & Jones, 1994), Gardner (1995) himself argues that any assessments of multiple intelligences must be “‘intelligent fair’; that is, in ways that examine the intelligence directly rather than through the lens of linguistic or logical intelligence (as ordinary pencil and paper tests do)” (p. 202).

When Gardner proposed his MI theory, he was interested in both promoting theory building on the nature of intelligence with his fellow psychologists and having scholars examine the educational implications of his theory. His work has stirred a great deal of theoretical debate among scholars, but what Gardner was unprepared for was the almost overwhelming positive response among educators of preschool and elementary-school-age children, which then spread even to the secondary and college levels (Gardner, 1993, 1995, 1999b; Rosnow, Skleder, Jaeger, & Rind, 1994; Shearer & Jones, 1994). For example, MI theory was almost immediately put into practice and whole curricula for school-age children have been developed using the theory. The conclusion that Gardner (1999a) himself has reached “is that the MI theory is best thought of as a tool rather than an educational goal” (p. 21).

The use of MI theory has been much more limited in applications to situations of adult life. Gardner (1999b) noted that, more recently, “a growing number of businesses have been attracted to the themes of MI: as input to the human resources department, as a means for creating or marketing products, or as training for a more effective learning environment” (p. 202). But Gardner also cautions that, although there are some applications to individuals and perhaps even to organizations, in the work world “what is important is whether people can do their jobs, not what particular intelligences they happen to be applying” (p. 198).

One example of a highly systematic use of the MI theory has been with programs of adult literacy. The Adult Multiple Intelligences (AMI) study was a project under the auspices of the National Center for the Study of Adult Learning and Literacy (NCSALL) at Harvard University (Viens & Kallenbach, 2004). In Phase 1 of the study, ten teachers of ESOL, ABE, GED, or diploma preparation programs from five New England states “took on the challenge to help their students identify and use diverse pathways to learning English, basic skills, and content utilizing the MI theory” (p. ix). One result of their work was a draft sourcebook for adult literacy teachers who wanted to learn about and use MI theory in their classrooms. In Phase 2, twelve additional adult literacy teachers from four diverse locations around the United States piloted a first draft of this sourcebook. One of the most important outcomes of that pilot study is *Multiple Intelligences and Adult Literacy: A Sourcebook for Practitioners* (Viens & Kallenbach, 2004). This

sourcebook provides a very clear description of MI theory and its promises and challenges; useful resources on how to develop various learning strategies that can tap into students' strengths; and "stories" from students and teachers, some of whom found using the MI theory very helpful as part of the learning process and others who found it rather cumbersome to their central tasks.

We do see significant value in integrating Gardner's MI theory into our research and practice of learning in adulthood. But we are also well aware that there is a major need for more systematic validation studies of the basic dimensions of the MI theory, and more specifically, whether this theory is applicable to adults, and if so, for whom, where, and how. We recommend paying heed to Gardner's (1995) position that there is no "single educational approach based on the MI theory, [and] that educators are in the best position to determine the uses to which MI theory can and should be used" (p. 206).

PRACTICAL INTELLIGENCE

Sternberg and his associates have been the most active and prolific scholars responding to the challenge to reframe the concept of intelligence. Like Gardner, they too have broken from the tradition of framing intelligence as primarily a measure of what they have come to call "academic intelligence" to one that includes problem solving for everyday life. More specifically, they argue that "the problems faced in everyday life often have little relationship to the knowledge and skills acquired through formal education or the abilities used in classroom activities" (Sternberg et al., 2000, p. 32). Consider, for example, an adult who returns to school to earn his RN license. He does extremely well in his classes and clinical experiences. Yet he finds through his first job as a nurse in an acute care hospital that his overall performance is less than adequate. He has great difficulty keeping up with all the demands of the doctors and the needs of his patients, and even worse, he panics in emergency situations.

The theoretical framework used most often by Sternberg and his associates, and also by other scholars who study practical intelligence, is the triarchic theory of intelligence. According to Sternberg (1985, 1986a, 1988), the triarchic theory is composed of three subtheories: a componential subtheory, describing the

internal analytical mental mechanisms and processes involved in intelligence; an experiential subtheory, focusing on how a person's experience combined with insight and creativity affects how she thinks; and a contextual subtheory, emphasizing the role of the external environment in determining what constitutes intelligent behavior in a situation. The first part of the subtheory, the mental mechanisms of intelligence, is posited as universal: "Although individuals may differ in what mental mechanisms they apply to a given task or situation, the potential set of mental mechanisms underlying intelligence is claimed to be the same across all individuals, social classes, and cultural groups" (Sternberg, 1986a, pp. 23–24). The other two parts of Sternberg's theory, which emphasize the experience of the learner and the real-world context, are seen as having both universal and relativistic components. The universal aspect has to do with areas being studied within each of these subparts of the theory (such as the processes of automation, environmental adaptation, and shaping). These processes are seen as important no matter what the cultural milieu or the person's experience with the tasks or situations chosen to measure these aspects. The relativistic nature of these parts of the theory comes from the recognition that what constitutes intelligent behavior is not the same for all groups of people. As Sternberg puts it, "Parts of the theory are culturally universal, and parts are culturally relative" (1986a, p. 24).

Sternberg and colleagues are still in the process of validating an empirical test of the triarchic theory of intelligence. A revised version of Sternberg's Triarchic Abilities Test (STAT) has been developed, focusing on additions to the measurements used for creative and practical intelligence. In addition to the presentation of problems through verbal, quantitative, and figural representations, they have added other types of items. For example, they are now asking participants "to write and tell stories or captions for cartoons, and [to solve] everyday problems presented in films, and by an office-based situational judgment inventory" (Sternberg, 2003a, p. 61). Studies of this revised edition are still in progress, and it is our understanding that the STAT is still not being used beyond the experimental phase of test validation (Brody, 2003; Sternberg, 2003a; Sternberg, Castejón, Prieto, Hautamäki, & Grigorenko, 2001). In addition, we could locate only one study in which adults were the audience for this continuing evaluation of the STAT (Sternberg, 2003a).

Sternberg (1997, 2003b) has expanded on the triarchic theory further through his research on “successful intelligence.” His view of successful intelligence is grounded in the same basic components as those in his triarchic theory, although these underlying components are labeled a bit differently, and also, the basic meaning of those components has changed somewhat. “To be successfully intelligent is to think well in three ways: analytically, creatively, and practically” (Sternberg, 1997, pp. 126–128). Sternberg highlights that it is not enough just to have these three abilities; rather, people are successfully intelligent when they are able to choose how and when to use these abilities effectively. For example, students in graduate programs often develop research studies that meet the test of being highly analytical in nature. Nonetheless, the problems they choose to study may not be important to their fields (lack creative intelligence) or have little practical significance (something valued in educational research).

Sternberg and associates (Sternberg, 1996b, 1997; Sternberg et al., 2000; Sternberg & Horvarth, 1999; Wagner, 2000) have further delineated one of the three components that compose the theories of triarchic and successful intelligence by exploring in more depth the concept of contextual or practical intelligence. These scholars argue that tacit knowledge is a central component of practical intelligence. Tacit knowledge is defined as “knowledge that reflects the practical ability to learn from experience and to apply that knowledge in the pursuit of personally valued goals” (Sternberg et al., 2000, p. 104). In their opinion, it is this tacit knowledge that allows adults to successfully adapt to, select, or shape real-world environments.

Sternberg et al. (2000) present a clear and cogent discussion of how tacit knowledge has been measured with adults, ranging from critical incidents and simulations to the initial development and testing of tacit knowledge inventories. The research on building tacit knowledge inventories was conducted with a variety of adult populations (for example, academic psychologists, business managers, people who enroll in general leadership training programs, and military leaders). Among their findings are “that individuals who exhibit the ability to acquire and use tacit knowledge are more effective in their respective performance domains” (Sternberg et al., 2000, p. 223). In addition, “although the acquisition of tacit knowledge appears to be influenced, to some extent,

by 'g' and by the amount of experience, tacit knowledge inventories are not simply new measures of these constructs" (p. 223). Overall, Sternberg et al. conclude that "tacit knowledge appears to reflect a single underlying ability, which [they] label practical intelligence" (p. 223). Sternberg et al. do caution that although there is excitement about the promise of this new generation of measures of practical intelligence, they "are the first to admit that existing evidence for the new measures does not yet match that available for traditional cognitive-academic tests. Consequently, the use of both kinds of measures explain more variance in performance than reliance on either kind alone" (p. 224).

The work of Sternberg and his colleagues has provided the most useful insights over time into different ways of framing intelligence in adulthood. First, although the work discussed is more widely used with children, the theory building, research, and applications have also been used with a variety of adult groups in systematic ways. Therefore, there is a twenty-year research history that provides a different level of credibility to this work than to that of Gardner, or, as we next explore, to the concept of emotional intelligence. For educators of adults it provides rich evidence that adult intelligence is much more than academic abilities and measures on the more traditional IQ tests, but also encompasses what many of us have believed it to include all along: everyday or practical intelligence. Second, Sternberg and his colleagues have provided us with initial inventories of both successful and practical intelligence. Although, as was discussed previously, additional validation studies need to be completed on these inventories, we hope that at some point they will be as accepted as the current traditional battery of tests of intelligence in adults. And finally, Sternberg and his colleagues have added their voices to those who have said that intelligence can be taught (see Grotzer & Perkins, 2000, for an overview) and offer resources that can be used with adults in the instructional process (for example, Sternberg, 1986a, 1988, 1997).

EMOTIONAL INTELLIGENCE

The term emotional intelligence became almost a household word with the publication of Goleman's popular book *Emotional Intelligence* (1995). Goleman's suggestion that "emotional intelligence can be as powerful and at times more powerful than IQ" (p. 24)

created excitement especially among practitioners. Grounding his work in the new discoveries of the emotional architecture of the brain, Goleman asserts that we have two very different ways of knowing—the rational and the emotional—which are, for the most part, intertwined and “exquisitely coordinated; feelings are essential to thought, thought to feelings” (p. 9). Yet, in Goleman’s beliefs, it is the emotional mind—in his terms, emotional intelligence—that is the major determiner of success in life. His model of emotional intelligence has five primary domains, which he attributes to the earlier model of Salovey and Mayer (1990): knowing one’s emotions, managing one’s emotions, motivating oneself, recognizing emotions in others, and handling relationships. Goleman believes that self-awareness of one’s feelings is the key to emotional intelligence, but one must also be attuned to the emotions of others.

Both Salovey and Mayer’s (1990) and Goleman’s (1995) descriptions of how adults might display their emotional intelligence are similar to Gardner’s concept of personal intelligence. For example, all the authors speak to the need for people to make personal connections and be empathetic as well as to have access to their own internal feelings. In addition, their ideas about emotional intelligence are echoed in Sternberg’s list of the characteristics and attributes of people who display successful intelligence.

Although Goleman’s work has been quoted and used most often as a base for practice with both children and adults, there is little if any empirical evidence to support the majority of his basic assertions about emotional intelligence. Rather, as observed by Mayer, Salovey, and Caruso (2000) and Brody (2004), Goleman’s very strong claims on emotional intelligence are based primarily in proprietary research and not published in peer-review journals. In addition, Goleman ascribes his five-domain model of emotional intelligence as one that was conceptualized by Salovey, citing an earlier work of Salovey and Mayer (1990), as his source. However, in our review of the original source for that model it was our observation that Goleman’s model is not a good representation of the work of either the original model Salovey and Mayer proposed (1990) or of their more recent work (Mayer & Salovey, 1997; Mayer, Salovey, & Caruso, 2000). In essence, the Mayer and Salovey model has four branches: “(a) perceiving emotions, (b) using emotions to facilitate thought, (c) understanding emotions, and (d) managing emotions”

(Mayer & Salovey, 1997, as cited by Salovey & Pizarro, 2003, p. 263). Although some of the language is similar to that of Goleman's description of emotional intelligence, the actual meanings are quite different. First, Mayer and Salovey's work is situated in a rich body of both theory and research. Second, the Mayer and Salovey model has become foundational for some highly sophisticated work on emotional intelligence that both these authors and other scholars continue to revise and use in their research (Mayer, Salovey, & Caruso, 2000; Palmer, Gignac, Manocha, & Stough, 2005; Salovey & Pizarro, 2003).

In addition to the work completed on building theories and models of emotional intelligence, there is also work done in developing measures of this construct (Bar-On, 1997; Simmons & Simmons, 1997; Mayer, Salovey, & Caruso, 2002, 2003). The Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) has received the greatest scrutiny. For example, Palmer, Gignac, Manocha, and Stough (2005) have recently completed a psychometric evaluation of the MSCEIT Test Version 2. Two major conclusions resulted from their study: (1) "the reliability of the MSCEIT at the total scale, area, and branch levels was found to be good" (p. 1); and (2) there is a need for the "addition of valid items to the current subscales, as well as the creation of more subscales in general" (p. 21).

Still others have explored the practical application of emotional intelligence in the workplace (Weisinger, 1998; Opengart, 2005; McEnrue & Groves, 2006). Opengart (2005) conducted a literature search on two very different but related concepts: emotional intelligence and emotional work. She concluded that employees need to have both the capacity to act in emotional situations (that is, emotional intelligence) and in-depth knowledge of how their specific place of employment allows for the expression of emotion and in what ways. McEnrue and Groves (2006) have provided an excellent review and critique on current tests on emotional intelligence used in the workplace. They are advocating using the MSCEIT "on the basis of its psychometric properties and HRD application potential" (p. 38) as the test of choice at this time, although they acknowledge the test is still undergoing further refinement.

Even though the writings and research on emotional intelligence in adulthood have made us think about the importance of

emotion to learning, we need to be mindful that this concept of intelligence has little empirical evidence to support it as a separate construct of intelligence. Therefore, we should not consider emotional intelligence as a given fact, nor design programs that teach others how to develop and use a certain “type” of emotional intelligence. Rather, we should continue to critically explore the many ways that emotional intelligence has been presented and reflect on how these might enhance our practice as educators of adults.

We move next in this section to a discussion of the contextual perspective of intelligence. There is some overlap among researchers who include contextual components in their theories and models. Representative theories and models of intelligence where this overlap can easily be seen are successful intelligence (Sternberg, 1997), practical intelligence (Sternberg et al., 2000; Wagner, 2000), and emotional intelligence (Mayer & Salovey, 1997; Salovey & Pizarro, 2003)

THE CONTEXTUAL PERSPECTIVE OF INTELLIGENCE

Acknowledging the contextual dimension of intelligence in adulthood moves our thinking beyond the realm of individual learners. Inside the broad framework of this perspective, two main threads emerge. The first thread is that intellectual abilities lie at the intersection of the mind and the many changes we experience over time in our everyday lives. For example, many of us have wondered why some people can be successful in more than one employment setting, even when those settings are radically different, while others fail miserably when they change their places of employment, even when they are doing similar work. One explanation that is often given is that people who succeed across settings have the capacity to scan and adapt to new environments. Unless an individual is able to understand and actively participate in new situations, a contextual theorist would observe, being cognitively competent internally may make little, if any, difference in that person’s success in most realms. In essence, the contextual perspective captures the adaptive functions of intelligence—being able to act intellectually in a number of different contexts, based on the accumulation of both generalized and specialized knowledge and abilities (Berg, 2000). Berg (2000) advocates that this process of adaptation should be dynamic, in which individuals’ intellectual

“abilities and processes as well as the context are simultaneously shaped” (p. 127). Berg also observes that research on the intersection of the mind and our everyday experiences within the contextual framework “is in its relative infancy compared with the work on individual abilities and processes that reside within the individual” (p. 128).

The second thread in the contextual framework is based on the assumption that intelligence often has different meanings to different social, ethnic, and cultural groups (Davidson & Downing, 2000; Luttrell, 1989; Serpell, 2000; Sternberg, 2004). As Davidson and Downing (2002) state: “What is considered to be intelligent behavior in one culture is sometimes thought to be rather idiotic in other cultures” (p. 40).

In line with this thinking, Kohl de Oliveira (1995, p. 245) notes: “Individuals, growing up in their cultural settings, develop their own conceptions about intellectual competence, acquisition and use of cognitive abilities, and organization of these abilities within different situations.” For example, respondents in Luttrell’s study (1989, p. 37) of working-class Black women and White women judged people as intelligent by their ability “to cope with everyday problems in an everyday world.” In other words, they saw using common sense as an important intellectual skill. But even in their definitions of common sense, each group described the formulation and value of this commonsense know-how very differently. White women valued the commonsense knowledge of working-class men, such as manual and craft knowledge, more highly than their own intuitive knowledge springing from their domestic responsibilities. In contrast, Black women viewed as important the knowledge and abilities they gained through caretaking and domestic work. In addition, working-class Black women considered their racial identity and relationships with “extended kin” and the Black community as critical to both what they knew and how they used this knowledge.

Serpell (2000) has raised a very different kind of cultural issue: the culture of academic scholars who possess incredible power over those who try to break out of the mainstream way of conceptualizing and studying intelligence. More specifically, he addresses how a “culturally particular” conception of intelligence, in this case one that is dominant in contemporary Western, industrialized societies, continues to be the prevailing view of how intelligence is defined

and researched. Troubling are Serpell's (2000) observations, similar to ones made earlier in this chapter, that this cultural paradigm, for example, "informs the development of most of the standardized tests in the United States, which in turn have emerged from a tradition that has dominated the design of intelligence tests elsewhere around the world" (pp. 567–568). In his discussion of an editorial with fifty-two signatures published in the journal *Intelligence* (Gottfredson, 1997), Serpell critiques three significant cultural themes raised in the editorial that, from the perspective of the editorial's signatories, drive the majority of the research in intelligence: "decontextualization, quantification, and biologization" (Gottfredson, 1997, as cited by Serpell, 2000, p. 568). We agree with Serpell's intriguing critique of these themes, and also offer our own observations. We find the first theme especially problematic because there are researchers, especially in the last two decades, who have argued that historical, sociocultural, and biographical contexts are central to the study of intelligence in adulthood (Schaie, 1994; Sternberg, 2003b; Sternberg et al., 2000). We also question the second theme of whether all forms of intelligence can or even should be quantifiable. In addition, although the biological perspective, the third theme, may hold great promise for a better understanding of intelligence, we cannot state for sure that this knowledge will be useful in our practice as educators of adults.

Other scholars have crossed the boundaries of Western culture, through cross-cultural studies, to gain a clearer understanding of how culture affects the way intelligence is defined. Sternberg et al. (2000), for example, describe a number of studies Sternberg and others conducted in Asia and Africa. The groups studied were quite varied in their backgrounds, countries of origin, and the type of environments in which they lived, ranging from adults residing in cities in Taiwan to villagers in rural areas of Africa. Although the populations differed in so many aspects, there was one main similarity among these groups—a stronger emphasis in both African and Asian cultures on social aspects of intelligence "to a much greater extent than in the conventional Western view" (p. 17). Even though this greater emphasis existed, "these cultures still recognize the importance of the cognitive aspects" (p. 17) of intelligence.

Issues of race, ethnicity, and social class, in addition to culture, are also studied. Kohl de Oliveira (1995, p. 262), for example, in

her longitudinal study of how adults in a *favela* (squatter settlement) in the city of São Paulo, Brazil, understand intelligence is one example of a study that takes into account social class as well as culture. She found that her respondents “characterized intelligent people as those who are able, basically, to ‘make things,’ to create concrete products with their own hands: build houses, do woodwork, do mechanical work, paint, make objects in straw, ceramics, and so on.” These people, who were living in a squatter settlement, defined intelligence as the ability to cope with their everyday lives, which in essence meant possessing the skills to make things with their own hands and having the ability to learn easily and quickly things that could assist them in their daily survival.

Sternberg (2004), as editor of a recent handbook, *The International Handbook of Intelligence*, has provided us with a wide variety of examples of cross-cultural studies on intelligence from many regions of the world. He includes studies that focus on theory, research, and testing in the Nordic countries, Israel, Turkey, and Japan. In addition, other authors explore whether it is possible to study intelligence without using the concept of intelligence, if diligence can make people smart, and the validity and usefulness of local versus universal models and theories of intelligence.

INTELLIGENCE, AGING, AND ADULT LEARNING

Among the many new ideas about intellectual functioning in adulthood, four surface as the most intriguing and useful to educators. The first is that the individual differences approach to intelligence continues to be the dominant paradigm in the study of adult intelligence. In essence, most of our knowledge about intelligence in adulthood, including the effects of the aging process on intelligence, is still grounded in the more traditional measures of IQ. Our hypothesis, as stated earlier, is that many educators of adults may not be aware of the enormous influence that intelligence, as defined from the individual differences approach, has had on adult lives. For example, some adults were tracked into ability groups early in their schooling days through these types of IQ tests, which may have lifetime effects on how they and others perceive their ability to learn. In addition, other educators and adults alike

have believed for a long time that, as adults age, they really cannot think as well as they once did. For these people this premise may be a “fact of life” that becomes a self-fulfilling prophecy, no matter what evidence is presented to the contrary.

The second development is the expansion of alternative conceptions of adult intelligence. Adults are especially attracted to the work of Gardner on multiple intelligences and Sternberg’s notion of practical intelligence, because these ideas resonate with their adult lives. These alternative perspectives on adult intelligence have great potential for assisting adult educators and learners to think differently about what it means to be intelligent. For example, “unschooled adults” often view themselves as not very bright. Yet, in telling stories of some of their favorite activities they often describe hobbies or other tasks that are quite complex and require higher-order thinking. Assisting these individuals in understanding what practical intelligence is all about might change their own self-image as learners.

Third, Sternberg (1996c, 1997) has also challenged us to think in very different ways about how individuals and the circumstances in which they find themselves interact to shape intellectual functioning in adulthood. He offers a novel illustration to help us gain a clearer picture of what he means by “the mind in context”: the “luck” and “whoops” factors (Sternberg, 1994b). Each of us is born with different gifts and into different circumstances. Some of us are lucky enough to find ourselves in places where our gifts have been prized and nurtured (the luck factor), while others, no matter what their individual efforts, are never recognized or are blocked by circumstances beyond their control (the whoops factor). As the world around us becomes more complex, so does the entanglement of the whoops with the luck factors. What may be termed a luck factor one day may often without warning become a whoops factor the next. The truly intelligent adult must be able to grapple with these often paradoxical situations, which can become highly frustrating and even daunting to those caught up in tragic events. We think of the many families who were left homeless and jobless as a result of Hurricane Katrina. Many of them have had to progress up a very steep learning curve to get back on their feet, often in circumstances that were at best tolerable, but often horrible. Those who have made their way back to a

life of some normalcy are excellent examples of adults who display high levels of intellect—and also, perhaps, have a little luck along the way.

Fourth, researchers such as Schaie (1994, 1996a, 1996b) and Sternberg (1986a, 1986b; Sternberg et al., 2000) are creating a clearer understanding of how adults can both retain and even enhance their intellectual abilities as they age. These researchers view adult intelligence as consisting of a number of factors or components. Sternberg, for example, identifies people who really “shine”—that is, are highly intelligent—as those who can weave their academic know-how, however it was learned, their creativity, and their “street smarts” into meeting life “head-on,” no matter the circumstances. Based on this definition, very different strategies for keeping one’s intelligence intact are needed than when intelligence is viewed primarily as academic or mental ability. Therefore, based on the varying definitions of intelligence, adult educators need to think carefully about which intellectual abilities might be the most useful for adults, both young and old, to have addressed by educational interventions.

To ensure that they continue to maintain their intellectual functioning, learners themselves can take part in both informal and formal educational programs aimed at keeping their intellectual capacities intact. Adult educators can offer formal learning experiences, grounded in a solid knowledge base about intelligence and aging, while also providing advice to learners on useful resources they might consult. In addition, Peterson and Masunaga (1998) and Ramey and Ramey (2000) advocate that we need to expand our role in educational policies related to learning in adulthood, and more specifically, in policies that speak directly to the intellectual functioning of adults. A basic assumption that influences Ramey and Ramey’s commitment in this arena is that all citizens in a democratic society are responsible for acting intelligently in their roles as voters, members of governing boards, and spokespeople for specific causes related to intellectual functioning in adulthood. Examples of specific issues are to ensure that IQ tests used as part of a major policy initiative for adults are appropriate and valid and that public funding is adequate to meet the needs of older adults for specific interventions to maintain their intellectual capacities.

SUMMARY

In this chapter we discussed the more traditional approaches to intelligence, including the biological, the individual differences, and the cognitive processes approaches, which have been foundational to our thinking about adult intelligence. The most often used paradigm among these traditional approaches is the individual differences approach, which assumes that intelligence is a measurable quantity. First conceptualized from this approach as a single factor of general ability, the construct has broadened to include the notion that there are multiple factors of intellectual ability, such as those proposed by Horn and Cattell (1967), and Thurstone and Thurstone (1941). Commonly used tests of adult intelligence that fit into this psychometric tradition include the Wechsler Adult Intelligence Scale and the Primary Mental Abilities test. The three issues that have surfaced with the use of these types of tests are what they measure, the inclusion of timed items, and the social and policy implications of IQ scores.

The question of whether adults retain their intellectual abilities as they age has not yet been definitively answered. Set primarily within the individual differences perspectives, three key factors on which the age and intelligence controversies center are defining the concept of intelligence, delineating the parameters of aging, and choosing which research designs and tests to use to measure intelligence. Some researchers contend that intellectual functioning is a process of irreversible decline. However, most scholars agree that intelligence either remains relatively stable through the adult years, with substantial intellectual changes occurring only very late in life, or that intelligence declines in some respects, remains stable in others, and may even increase in some functions, depending on a person's educational level, life experiences, and overall health. In addition, a number of variables reducing the risk of intellectual decline in old age have been isolated, such as living in favorable circumstances and maintaining substantial involvement in activities.

Challenges to the individual differences approach have come primarily from scholars who question whether what is measured as intelligence through this tradition presents a comprehensive picture of intellectual abilities, has any relationship to real-world or

practical intelligence, and the effects that context has on intelligence. Three of the most prominent theorists who represent this alternative view of intelligence are Gardner (1999b), Sternberg (1985, 1997, 2003b), and Mayer and Salovey (1997). The contextual perspective on intelligence, which often includes the notion of practical and emotional intelligence, recognizes the importance of the intersection of the mind and the outside world as critical in gaining a clearer understanding of intelligence. Acknowledging this perspective means that intelligence has been defined differently by people of varying cultural backgrounds, social classes, and ethnicity.

The chapter concluded with an exploration of four ideas about intellectual functioning in adulthood that are particularly important for educators of adults: the continued predominance of the individual differences approach to the study of intelligence in adulthood; the expansion of alternative conceptions of adult intelligence; how individuals and the circumstances they find themselves in interact to shape intellectual functioning in adults; and a clearer understanding of how adults can retain and enhance their intellectual abilities, including the roles learners and adult educators can play using instructional and policy interventions.

CHAPTER FIFTEEN

MEMORY, COGNITION, AND THE BRAIN

One of the predominant views about adult learning is that learning is an internal process; it involves something happening inside our heads. Cognitive scientists, primarily from the discipline of psychology, have had the longest history of research in this arena. What cognitive scientists do is “attempt to discover the mental functions and processes that underlie observed behavior” (Bruer, 1997, p. 10). These mental functions and processes include, but are not limited to, the study of how people receive, store, retrieve, transform, and transmit information. Neurobiologists, in contrast, “study the anatomy, physiology, and pathology of the nervous system” (Taylor, 1996, p. 301), including the brain and related systems. They are primarily interested in the structures of the brain and how the brain actually works, including its electrical and chemical systems. With more recent technological advances, like magnetic resonance imaging (MRI) and positron emission tomography (PET), neurobiologists are generating actual pictures of how the brain operates.

Care must be taken in using work from both the cognitive and neurobiological sciences to talk about learning in adulthood, because the majority of studies in these two areas have been done with children (in the cognitive sciences) or with animals and people with severe brain damage (in the neurosciences). Still, there are some intriguing ideas that have informed the study of adult learning from both perspectives. With the advent of more sophisticated technology and a trend in the sciences toward interdisciplinary research, the knowledge base in these two areas has already expanded immensely. Although at this stage most of what we know

about memory and how our brains function is laboratory-based, this ever expanding knowledge base has enormous potential for the study of adult learners and the way we practice our craft.

The work with adult populations related to cognition has been primarily in the area of memory and aging. This chapter first highlights that work, presenting an overview of the information processing framework. Next, we explore the concept of knowledge structures or schemas, the effect of prior knowledge and experience on learning, and cognitive and learning styles. These three topics, which are grounded in the cognitive sciences, are important for educators of adults to understand. Key ideas relating to neurobiology and learning are then reviewed. A description of how the brain has been viewed differently through the ages is followed by a discussion of the structures and the functions of the brain. As part of this discussion we describe how cognitive psychologists, neurobiologists, and scientists from other disciplines have joined forces in the study of the brain, with the result being a new field of study: cognitive neuroscience. We explore next connecting what we know about the brain to our practice as adult educators. The chapter concludes by raising some intriguing questions of what we are discovering about the brain from the perspective of the cognitive neurosciences and how this knowledge might change the way we think about adult learning and our practice as adult educators.

HUMAN MEMORY

Fear of memory loss is a common concern of people as they age. Parents often observe how much more easily their children can remember such simple things as telephone numbers and computer access codes, while many older adults seem to remember childhood events vividly but sometimes have difficulty remembering the names of people they just met. These observations and images foster the idea that memory loss is a normal result of aging and thus is something we all must accept. Are these perceptions of memory loss accurate, and if so, what effects do they have on learning in adulthood? Often, memory functions are equated with learning or are seen as one of the primary mental processes associated with learning (Hoyer & Roodin, 2003). If adults do suffer

major changes, especially decline, in their memory functions, it follows that the learning process may also be impaired. To understand how memory can be affected by the aging process, we first need to examine how the process of memory from the cognitive framework is conceptualized.

Since the 1960s, human memory has been studied primarily from the information processing approach. The mind was until recently visualized as a computer, with information being entered, stored, and then retrieved as needed. Conceptualizing where people store or file what they learn, termed the *structural aspect of memory*, was the first major focus of study from this perspective. Three categories have been traditionally used to describe the different structures of memory: sensory memory, short-term memory, and long-term memory. More recently there has been a movement away from dividing up the structure of memory in such a definitive manner. This change in thinking has stemmed primarily from the study of *working memory*, and our knowledge of how the brain functions, which is discussed later in this chapter. Working memory has been conceptualized in three different ways: as part of long-term memory, as part of or the same as short-term memory, or as the mediator between sensory memory and either long- or short-term memory (Anderson, 2005; Ormrod, 1999). For the purposes of our discussion, we discuss human memory within the framework of sensory, working, and long-term memory. What is important to keep in mind when discussing memory as a process is that the different forms of memory do not exist in specific “places” in the brain, but rather are metaphors for each of the main processing components.

Sensory memory, also called the sensory register, “holds incoming information long enough for it to undergo preliminary cognitive functioning” (Ormrod, 1999, p. 179). Primarily through the senses of vision, hearing, and touch, images, sounds, and vibrations are entered into our memory systems. Sensory memory has a very brief storage time of only milliseconds before it either enters our working memory system or is lost. *Working memory*, or what some label short-term memory, entails “the active and simultaneous processing and storing of information” (Hoyer & Roodin, 2003, p. 277). Hoyer and Roodin compare working memory to a desktop:

During the course of a day, new pieces of information (memos, reports, work requests, and maybe empty pizza boxes) constantly accumulate on an individual's desk. The individual has to determine (1) which information is the most important, (2) which pieces of information require further processing, (3) which processing strategy to use, and (4) which pieces of information are cluttering up the desktop and should either be discarded or stored. Working memory tasks require individuals to simultaneously select, coordinate, and process incoming information. [pp. 277–278]

The storage capacity of working memory is estimated to be from five to thirty seconds. *Long-term memory*, however, has an enormous capacity for storage and is that part of the memory structure that retains information for long periods of time. “It includes memory for specific events and general knowledge that has been gleaned from those events over the years” (Ormrod, 1999, p. 192). Long-term memory has been conceptualized as the most complicated component of the memory system, and therefore has received the most attention in the research literature.

In recent years our understanding of long-term memory has moved from viewing it as one monolithic system “to one that is less hierarchical, involving several different kinds of memory, each playing a significant role” (Taylor, 1997b, p. 263). Most of the research on long-term memory has involved *explicit* (or declarative) memory, which is “the term used to describe knowledge that we can consciously recall” (Anderson, 2005, p. 234). “This form of memory is more sensitive and prone to interference, but it is also invaluable, providing the ability for personal autobiography and cultural evolution” (Taylor, 1997b, p. 263). *Implicit* (or nondeclarative) memory, in contrast, “concerns memories that we are not conscious we have” (Anderson, 2005, p. 234). Although these memories are developed unconsciously and thus form a hidden world we know little about, “people are influenced by [these types of memories] without any awareness they are remembering” (Schacter, 1996, p. 161). Classic examples of implicit memories are riding a bike, using a computer keyboard, and the “acquisition of rules often found in grammar [involving categorical knowledge]. Grammar is a particularly good example of implicit memory, where people have acquired abstract rules, but are unable to articulate what guides their speech and writing” (Taylor, 1997b, p. 264).

How we process information is integrally related to the cognitive processes involved in memory. Usually the memory process is divided into three phases (Anderson, 2005; Ormrod, 1999; Schacter, 1996). The *encoding* or *acquisition phase* is the initial process in which the information is entered into the system. Filing this material for future use is termed the *storage* or *retention phase*. The final phase, *retrieval*, describes how we get material out of storage when needed. Two of the most common methods of retrieval are *recall*, or bringing forth “to-be-remembered” information, and *recognition*, which involves choosing from a group of possible answers. As we well remember from our school testing days of essay versus multiple-choice exams, recalling the “correct” answer is considered to be more difficult than recognizing the correct answer among other possibilities presented (Hoyer & Roodin, 2003). Research has demonstrated that as we get older, we have more problems encoding and retrieving memories; the actual retention or storage of our memories remains fairly constant, however.

Memory from the information processing perspective works as follows: Information from our environment is registered within sensory memory through our visual, auditory, and tactile senses. Material is then selectively transferred or encoded into working memory. The control system of selective attention determines what is important enough to be moved into working memory. There is considerable flexibility with what can be done with the information in working memory. It “can be used as a cue to retrieve other information from long-term memory, it can be elaborated, it can be used to form images, it is used in thinking, it can be structured to be placed in long-term or secondary memory, or if nothing is done with it, it can be discarded” (Di Vesta, 1987, p. 211).

Because the functions of working memory are complex and its time and capacity are limited, two major control processes are used to sort and file the data: *chunking* and *automatization*. Chunking essentially is organizing the information in groups or patterns (a phone number in three chunks: 970-351-2119, for example), while automatization allows for a chunk of information to become so familiar that a person can handle it without recall thinking (Ormrod, 1999). The material structured in working memory for long-term memory is then encoded into that memory bank for permanent storage. Because individuals organize information received in different ways, attending to different cues, and associating

similar pieces of information together, what is stored is not likely to be exactly what was received. “As a result, several people witnessing the same event often store very different things in their long-term memories” (Ormrod, 1999, p. 208). This type of processing is sometimes referred to as deep processing versus the shallow processing done at the working memory level. The information is then retrieved as needed from this long-term storage.

MEMORY AND AGING

A great deal of research from the information processing framework has been conducted on the topic of memory and aging. The general consensus from that work is that certain memory functions do decline with age. Nevertheless, a number of authors have cautioned that because of methodological considerations and the variables being studied, this work must be interpreted with care. The great majority of it has focused on comparing young adults (usually college students) with older adults by using cross-sectional designs. These two factors combined make it difficult to generalize across age groups because of subject and cohort bias. Subject bias comes from using people in a study who do not necessarily represent the general population (such as college students versus the broad population of young adults). Cohort bias or effect “is any difference between groups of adults of varying ages that is due not to any maturation or developmental process, but simply to the fact that the different age groups have grown up under different historical and cultural circumstances” (Bee & Bjorklund, 2004, p. 10). In addition, although the focus of the research is memory and aging, some of the authors of these memory and aging studies do not define *older adult*, not even in terms of age ranges (Naveh-Benjamin, Hussain, Guez, & Bar-On, 2003; Rodgers & Fisk, 2001). Rodgers and Fisk, for example, provide a very thorough review and critique of the literature on understanding how age may affect the role of attention in older adults. However, except for one of many studies included in their review, they neither describe nor critique the study participants. What is especially interesting, but also ironic, is that in that particular study the age range of the older adult group was from fifty to eighty. Moreover, most of this research has been conducted primarily in laboratory settings using memory tasks and activities,

such as repeating back nonsense words and lists of random numbers. The primary criticism leveled against this type of research on memory is that these tasks and skills are generally artificial and taken out of the context of everyday life. A response to this criticism in recent years has been to design “ecologically valid” research that takes into account the everyday learning demands of adults (Anderson, 2005; Hoyer & Roodin, 2003; Langer, 1997; Rodgers & Fisk, 2001). With these limitations in mind, we offer a summary of this research on memory in adulthood.

SENSORY AND WORKING MEMORY

In general, few clearly defined changes have been found in sensory memory as people age. Because there are fairly major changes with age in both vision and hearing, one would expect to see these changes reflected in sensory memory. If you do not hear someone’s name in an introduction, for example, there is no way it can be registered for recall later. However, it is often difficult with testing procedures to distinguish between age-related physiological decline in the senses *themselves*, especially hearing, and actual decrements in the process of sensory memory.

Working memory, in contrast, is more problematic as we age, especially “if people are asked to do anything with the information they are holding in short-term memory—to rearrange it, or recall it in some order other than the one in which it was given, or repeat back only the words of a particular type” (Bee & Bjorklund, 2004, p. 143). Bee and Bjorklund suggest three reasons for a decline in working memory. One possibility is that older adults “don’t have the mental energy or attentional resources that younger people do and their short-term memory system becomes overloaded as tasks become more complex” (p. 143). A second possibility is that older adults do not employ the same strategies for dealing with working memory tasks as do younger people. The third commonly cited reason for this decline in working memory is that older adults appear to process materials more slowly, especially ones that are more complex in nature. One of the explanations for this slowing of the processing of information seems to be the “older adults’ capacity to simultaneously perform a cognitive task while trying to remember some of the information for a later memory task”

(Smith, 1996, p. 241). In other words, it appears to be more difficult for older adults to both respond immediately to whatever stimulus triggered working memory and store pertinent information in long-term memory. Finally, older adults are less likely to even attempt to deal with “irrelevant and confusing information” (Bee & Bjorklund, 2004, p. 143).

LONG-TERM MEMORY

As with working memory, age deficits are also more commonly found in long-term memory. Three major differences have surfaced in long-term memory for older versus younger learners: changes in the encoding or acquisition of material, the retrieval of information, and the speed of processing. Few changes have been noted in the storage or retention capacity of long-term memory over the life span.

The question that often surfaces in reviewing the process related to long-term memory is whether it is more difficult for adults as they age to get information into the system (to encode it) or to get it out (to retrieve it). The response to this question appears to be both. It is not yet clear which part of the process creates more difficulty (Bee & Bjorklund, 2004; Ormrod, 1999). Encoding problems are most often associated with the organization of information. Specifically, older adults appear to be less efficient at organizing new material. Possible explanations of why organization is a problem relates to the amount and type of prior knowledge they already possess. While it is clear that the more we can relate new information to already stored information, the better we will remember it, it may also be that “storage of new information sometimes affects previously learned information. . . . Learners sometimes distort new material to fit their existing beliefs. Yet in other situations, a new piece of information may help learners recognize that something they stored earlier is inaccurate or that two previously learned pieces of information are related in a way they have not previously recognized” (Ormrod, 1999, p. 228). Further, information that is so at odds with a person’s belief system may be ignored. In other words, this type of information may never enter long-term memory because it is incompatible with what the person already knows.

On the retrieval side, changes are most often noted in the recall versus recognition of information. In tests of recall, for example, major differences have been demonstrated for older and younger people, whereas in recognition activities, the differences are small or nonexistent, although the retrieval time may be slower. However, if older adults “are given some type of *environmental support* such as strategy instructions at encoding or cues at retrieval (or both), their recall performances increase and approach the levels of the younger adults’ recall ability” (Bee & Bjorklund, 2004, p. 143; italics in original). Another aspect of retrieval that is often taken as a given is that older persons can retrieve “ancient memories” better than younger people, along with the accompanying myth that older people can clearly remember events in their distant past but have trouble recalling recent events. Rather, it appears that this reversal of memory strengths—remote memories are stronger than recent memories—may be a natural phenomenon that occurs at all ages, not just with older people. Further, we all “possess varying amounts of knowledge in selected domains of work, sports, hobbies, music, and other areas. Access to such knowledge is unaffected by aging. Individuals maintain their ability to use well-learned knowledge, strategies, and skills throughout middle age and into old age (Rybash, Hoyer, & Roodin, 1986). Tests of factual knowledge (e.g., vocabulary or news events) typically show no decline from young adulthood to old age (Hoyer & Tournon, 2002)” (Hoyer & Roodin, 2003, p. 295).

In summary, in relation to long-term memory it appears that older adults may not acquire or retrieve information as well as do younger adults, nor organize information as effectively. This line of research may have limited generalizability because of the research designs, the subjects, the memory activities tested, and the separation of the research from the real world of the adult learner.

MEMORY IN CONTEXT

In response to some of the criticisms of memory research just cited, a different approach has been taken by placing memory tasks in the context of everyday adult lives, called *functional memory* by some researchers. This strand of research, which fosters what has been

termed *ecological validity*, has received little attention, primarily because it is affected by so many different variables and is still considered controversial by some researchers. The term ecological validity assumes that the tasks being studied are meaningful to the person and accurately reflect real-life adult experiences. These studies use a variety of memory tests, from “memory for text” formats, which include reviews of sentences, paragraphs, and stories versus single words and symbols, to memory skills for everyday activities, such as keeping appointments and remembering what items to buy at the grocery store (Anderson, 2005; Knopf, 1995; Ormrod, 1999). These studies also address some of the other concerns voiced by scholars of the contextual approach, such as the person’s needs and motivation, the specificity of the task, and situational variables. Other factors that might affect differences in memory are the person’s “attitudes, interests, health status, intellectual abilities, and style of learning” (Hoyer & Roodin, 2003, p. 302). However, in sum, the extent to which noncognitive factors such as health and level of education affect age and memory is not as clear; the effect of cognitive factors such as speed of processing have more research support (Hoyer & Roodin, 2003).

FOSTERING MEMORY CAPACITY AND SKILLS

The assumption underlying the research on memory is that memory capacity and skills form one of the keys to how adults learn. Formal memory training, the most structured approach to building memory skills, has been shown to be useful in helping older adults cope with memory deficits (Bee & Bjorklund, 2004; Hoyer & Roodin, 2003). This training has most often focused on the teaching of encoding strategies, such as practicing rehearsal information or using mnemonics (devices for helping people improve their memory; Carney & Levine, 1998).

Adult educators have suggested ways to integrate training in memory skills into formal learning programs for adults: providing both verbal and written cues, such as advance organizers and overheads, when introducing new material to learners; using mnemonics and rehearsal strategies; and giving opportunities to apply the new material as soon after the presentation as possible. Adults learning on their own may also find it helpful to use memory aids in their learning activities. These can come in many forms, from

structured checklists for learning a new skill to personal note taking on items of interest. Bee and Bjorklund (2004) report on a study by Burack and Lachkman (1996) that there were no significant differences between young and older adults for those who made lists in word recognition and recall tests. Interestingly, participants who were told they could use their lists, but were “actually not allowed to use them” benefited as much as subjects who made lists and used them—“suggesting that the activity of list making improves memory even when the list is not available at recall” (Bee & Bjorklund, 2004, p. 145).

Cognitive psychologists, in addition to their work on memory and aging, have provided us with a number of other important concepts related to learning in adulthood. Three of those concepts—knowledge structures, the role of prior knowledge and experience, and learning and cognitive styles—are discussed next in the chapter.

KNOWLEDGE STRUCTURES

Within the cognitive framework, the emphasis is on what learners know versus how they behave. This knowing involves both the acquisition of knowledge, discussed in the section on human memory, and the actual structure of that knowledge (Anderson, 2005; Bruer, 1993). In this perspective, considerable importance is placed on prior knowledge as well as on new knowledge being accumulated. Since it is assumed that most adults have a greater store of prior knowledge than children, understanding the role that this knowledge plays in learning is critical. In thinking through the possible connections of prior knowledge to learning in adulthood, the concept of schemas provides a useful framework.

Schemas “represent categorical knowledge . . . [that is,] what specific things tend to have in common” (Anderson, 2005, p. 158). “People often form schemas about events as well as objects; such event schemas are often called scripts. . . . For example, what things usually happen when people go to a doctor’s office?” (Ormrod, 1999, p. 255). These schemas, which may be embedded within other schemas or may stand alone, are filled with descriptive materials and are seen as the building blocks of the cognitive process. Schemas are not just passive storehouses of experience, however; they are also active processes whose primary function is to facilitate the use of knowledge.

We all carry around with us our own individualized set of schemata that reflect both our experiences and our worldview. Therefore, as adult learners, each of us comes to a learning situation with a somewhat different configuration of knowledge and how it can be used. For example, some participants in a workshop on diversity in the workplace may bring to that experience firm beliefs that achieving diversity is a worthwhile goal based on their positive experiences with women and people of color. Others may not believe in the principle of diversity at all, and view it as an easy way for “some people” to get hired. And still others may be downright angry, believing they have either been discriminated against or passed over for a promotion because they were of the “wrong color” or gender. Therefore, each learner in the workshop not only comes with different schema sets but also departs having learned very different things—even though all were exposed to basically the same material.

In categorizing schema types, two kinds of knowledge are most often distinguished: declarative knowledge and procedural knowledge. Anderson (1993) describes declarative knowledge as “factual knowledge that people can report or describe”; procedural knowledge, by contrast, “is knowledge people can only manifest in performance” (p. 18). We may be able to describe two or three different models for instruction (declarative knowledge), for example, but when we try to put these models into action (procedural knowledge), we may fail miserably. Because the question is open whether learning facts or knowing how to perform comes first, the scenario just described could also be reversed: a person may be an excellent instructor and yet have no specific knowledge of instructional models.

Educators, however, are well aware that most learning in adulthood goes far beyond the simple memorization of facts. The expectation is that adults will be able to put those facts to good use in their everyday living, whether as workers, parents, spouses, friends, and so on. Therefore, the processes of tuning and restructuring of information, as well as both declarative and procedural knowledge, become vital in adult learning. The general processes of problem solving and critical thinking are good examples of the importance of these constructs. Specifically, in most problem-solving situations, we are trying to fit new ideas (declarative knowledge) and ways of

acting (procedural knowledge) into earlier patterns of thinking and doing (our current schemas). If we are unable to change our earlier thought patterns (that is, fine-tune or restructure them), our chances of being able to frame and act on problems from a different perspective are remote, if not impossible.

Cognitive scientists also cite the importance of *metacognition*, defined as “people’s knowledge of their own learning and cognitive processes and their consequent regulation of those processes to enhance learning and memory” (Ormrod, 1999, p. 319). A related term, *metamemory*, refers to the self-ratings of memory performance, or the self-appraisal or self-monitoring of memory. “Some studies have found that older persons’ metamemory is mostly accurate, whereas other studies have found that older adults exaggerate their memory failures (Hertzog & Hulstsch, 2000)” (Hoyer & Roodin, 2003, p. 274). Researchers have speculated, though, that the discrepancies between people’s opinion of their memory performance and their actual ability may be largely due to older adults assuming memory loss or failure as they age.

PRIOR KNOWLEDGE AND EXPERIENCE

Many writers, as discussed in Chapter Seven, have spoken about the importance of acknowledging adults’ prior knowledge and experience as integral to the learning process. In exploring the role of prior knowledge and experience in learning, two ideas are important: the *amount* of prior knowledge and experience and the *nature* of that knowledge and experience.

In terms of the amount of prior knowledge and experience one possesses, the difference between those who know a great deal about what they are experiencing (termed experts) and those who know very little (novices) is key. A person can be an expert in a variety of areas, from growing tomatoes to skiing. According to Sternberg and Horvath (1995, p. 10), “Perhaps the most fundamental difference between experts and novices is that experts bring more knowledge to solving problems . . . and do so more effectively than novices.” In addition, experts are able to solve problems faster and in a more economical way, have stronger self-monitoring skills, and are able to view and solve problems at a deeper level than novices (Ferry & Ross-Gordon, 1998; Sternberg &

Horvath, 1995; Tennant & Pogson, 1995). Similar to Ferry and Ross-Gordon, Sternberg and Horvath, and Tennant and Pogson, Anderson (2005) has observed that experts “learn to perceive problems in ways that enable more effective problem-solving procedures to apply” (p. 295). Further, experts learn strategies to organize problem solving that are “optimally suited to problems in a particular domain” (p. 295). And “as people become more expert in a domain, they develop a better ability to store problem information in long-term memory and to retrieve it” (p. 302). Finally, “no one develops expertise without a great deal of hard work . . . [and] the difference between relative novices and relative experts increases as we look at more difficult problems” (p. 280).

As Anderson (2005) and others have pointed out, being an expert is related to certain domains or subject matter areas. Educators have often observed that being an expert in one area does not necessarily translate into being an expert in another, no matter what the learner’s motivation or background. Many graduate students, for example, although very perceptive and advanced in their own fields of study, may have a great deal of trouble completing statistical and advanced research design courses that are quantitatively based. This issue is especially true of students who are not mathematically inclined. Moreover, some people become experts in carpentry or tracing genealogy, while others view these tasks as beyond their capabilities.

Therefore, in helping adults connect their current experience to their prior knowledge and experience, we need to be knowledgeable about the amount of prior knowledge they possess in a particular area and design our learning activities accordingly. For example, in teaching a group of expert instructors of adults, it probably does little good to outline just one instructional model, even when this model is the newest and supposedly the most complete model. They will probably think of every exception under the sun as to why this model will not work with all of their learners. It would make more sense to ask these instructors to look at alternative models, including this new model, and then have them problem-solve which of these models or parts of these models have worked best for them in what type of situations. By following this plan, the participants’ level of expertise would be acknowledged, they would be asked to think more deeply about the many situations they have faced in teaching, and they would need to use their

problem-solving abilities related to their prior knowledge and experience as instructors.

It would be helpful, in addition, to know how the transition between being a novice and being an expert takes place in order to facilitate learning from prior knowledge and experience. To this end, Anderson (2005), Lajoie (2003), Pillay and McCrindle (2005), and Sternberg and Horvath (1995), among others, have provided comprehensive descriptions of the development of expertise that are useful in designing learning activities to assist adults in moving along the continuum from novice to expert. Although there are differences among these authors' portrayals of expertise, there are also a number of commonalities in their descriptions of what constitute its main dimensions. Using primarily the framework of expert knowledge in the professions (for example, teaching, veterinarians) these scholars agree that experts:

- Require extensive knowledge in one or more specific domains (content areas).
- Recognize the importance of the sociocultural context of their work, including, as applicable, their own professions.
- Are challenged by complex and novel situations and problems.
- Process complex information quickly.
- Arrive faster at more creative and accurate solutions.

Additional research is needed to distill further the main dimensions of expertise, which would be helpful to educators in planning programs that would assist novices not to become just "more experienced novices" but indeed experts in areas that are significant to who they are and also significant to the common good.

In an example of what such a program might encompass, Lajoie (2003) has identified two different approaches to fostering expertise development. The first, dynamic assessment, is "defined as a moment-by-moment assessment of learners during problem solving so that feedback can be provided in the context of the activity" (p. 22). This approach, framed in the concept of situated cognition, was explored in more depth earlier in Chapter Seven. Second, Lajoie advocates "making the expertise trajectory visible to learners through models of expertise, feedback, or examples that promote the active transfer of knowledge and self-monitoring. This requires openness on the part of experts to share what they

know, rather than having novices “learn the ropes” by trial and error, although that might be part of the learning process. For example, in some professions many of the experts do not have the time to share their expertise with novice learners on any meaningful level, nor are the organizations they work for willing to change the workday to allow for that time. Unfortunately, there are also experts in every field who are unwilling to pass along their “trade secrets” because doing so might erode their power and dominant positions in their organizations.

COGNITIVE STYLE AND LEARNING STYLE

Another important aspect of cognition related to learning in adulthood is the notion of *cognitive style*. Cognitive styles are characterized as consistencies in information processing that develop in concert with underlying personality traits. They are reflected in “how individuals typically receive and process information” (Joughin, 1992, p. 4) and encompass the ways people see and make sense of their world and attend to different parts of their environment. Some people tend to look at problems from a global perspective, while others are more interested in taking in the detail (Flannery, 1993). The latter types, which Flannery labels *analytical information processors*, want information in a step-by-step manner and tend to perceive information in an abstract and objective manner. In contrast, “the global learners process information in a simultaneous manner. The ideas or experiences are seen all at once, not in any observable order” (Flannery, 1993, p. 16). In addition, global learners perceive information in a concrete and subjective manner.

A number of cognitive-style dimensions, including the concepts of global and analytical processing styles, have been identified through research (Cassidy, 2004; Joughin, 1992; Messick, 1996). The outstanding feature of these varying dimensions is their tendency to be bipolar. In contrasting people’s cognitive styles, we tend to label people as being at either end of the continuum, and for the most part, cognitive styles are considered relatively stable.

Although a great deal of research has been conducted on cognitive styles, much of it has been done with children, and “no style has led to clear implications with respect to adult learning” (Joughin, 1992, p. 4). Therefore, it is still unclear how this work may relate to helping adults learn more effectively. Hiemstra and Sisco (1990)

have conjectured that knowledge about cognitive styles might assist instructors in predicting how learners are “likely to form typical learning tasks such as remembering, selecting, comparing, focusing, reflecting, and analyzing” information (p. 241). In addition, Flannery (1993) has asserted that “teaching, texts and structures can be adapted to teach to different” cognitive styles (p. 19).

A related yet somewhat different phenomenon is the concept of *learning style*. The literature describing cognitive and learning style is rather confusing; some authors use the two terms interchangeably, others view cognitive style as the more encompassing term, and still others see learning style as the more inclusive term. Clearly there is no common definition of learning style, nor is there a unified theory on which this work is based (Cassidy, 2004; Desmedt & Valcke, 2004; Hall & Moseley, 2005). Learning style “attempts to explain learning variation between individuals in the way they approach learning tasks” (Toye, 1989, pp. 226–227). More specifically, Cranton (2005, p. 362) defines learning styles as “preferences for certain conditions or ways of learning, where learning means the development of meaning, values, skills, and strategies.” Although this definition and other parallel definitions of learning style are quite similar to cognitive style, it appears that the real difference between these two concepts lies in the emphasis placed by learning style researchers on the practical learning situation versus the more general notion of how people perceive, organize, and process information. Therefore, those who study learning style usually place the emphasis on both the learner and the learning environment. Desmedt and Valcke (2004, p. 459), after reviewing the voluminous literature on cognitive style and learning style, summarize the differences as follows:

Most cognitive style models are developed in laboratory or clinical settings to explain individual differences in cognitive processing, and they are applied in various fields. The recurrent features of the concept seem to be stability, pervasiveness, bipolarity and a strong interdependence with personality.

The learning style models are developed and used in various educational contexts to explain and accommodate individual differences in learning. Learning styles are generally defined as relatively stable and consistent. It is however acknowledged that the characteristics of the learning environment and learning experiences influence their development.

Cranton (2005, p. 362) has identified “at least six approaches to learning style in the adult education literature: (a) experience, b) social interaction, c) personality, d) multiple intelligences and emotional intelligence, e) perceptions, and f) conditions or needs.” The experience, personality, and the perception preferences approaches have received the most attention in the literature in adult education, as well as the various learning style instruments that are associated with each of these approaches. The experience approach addresses the issue that “learners have different styles or preferences when it comes to making meaning out of and learning from experiences” (pp. 362–363). Kolb’s Learning Style Inventory, which is the most often used instrument to assess learning styles in adult education, classifies learning styles into four different categories: accommodators, divergers, convergers, and assimilators (see Kolb, 1984, and Kolb & Kolb, 2005, for a more complete description of each style). The personality approach is a more encompassing way of assessing learning style in that it gives a broader and more in-depth picture of individual learners. The Myers-Briggs Type Indicator (Myers, 1985, as cited by Cranton, 2005) is the most often used measure to assess learning styles based on psychological type preferences. Learners’ visual, auditory, and kinesthetic learning preferences are the central focus of the perceptions approach to determining learning styles. Often practitioners think that this approach constitutes what they mean by learning styles.

It is also important to acknowledge that learning styles may be in part culturally based. Anderson (1988, p. 4), for example, asserts that “it would seem feasible that different ethnic groups, with different cultural histories, different adaptive approaches to reality, and different socialization practices, would differ concerning their respective learning styles.” He goes on to observe that “there is no such thing as one style being ‘better than another,’ although in our country [the United States] the Euro-American style is projected by most institutions as the one which is most valued” (p. 6). Anderson characterizes the Euro-American style as primarily field-independent, analytic, and nonaffective, which to him reflects primarily male and acculturated minority views. In contrast, he views a non-Western style (meaning such groups as American Indians, African Americans, and many Euro-American females) as

field-dependent, relational and holistic, and affective. Bell's (1994) research with African Americans confirms some of Anderson's thinking on learning styles. Bell's findings support "a holistic African American learning style . . . which consistently reflects a relational style. . . . The relational style has been defined as a preference for a whole-to-parts (rather than parts-to-whole) analysis of information, a perceptual vigilance for person social cues over object cues, and a preference for contextually 'rich' over contextually 'sterile' (abstract) learning/problem-solving structures" (p. 57). As learning style inventories are primarily Euro-American in their orientation, researchers "need to question the usefulness of conducting cross-cultural comparisons using assessment strategies based on Western conceptualizations of learning style" (Cranton, 2005, p. 365).

Despite the lack of uniform agreement about which elements constitute a learning style, it seems apparent that learning-style inventories, unlike most cognitive-style instruments, have proved useful in helping learners and instructors alike become aware of their personal learning styles and their strengths and weaknesses as learners and teachers. What must be remembered in using these instruments, however, is that each inventory measures different things, depending on how the instrument's author has defined learning style. In using the variety of learning-style inventories available, it is important that learners understand how the author(s) of the instrument has conceptualized learning style. It is also important to remember that "learning style instruments are best used as tools to create awareness that learners differ and as starting points for individual learners' continued investigation of themselves as learners" (Hiemstra & Sisco, 1990, p. 240). For those who use learning style instruments regularly as part of their education and training must impress upon their learners that their learning styles are not the only, nor necessarily "the best way" for them learn. In addition, they also need to dispel the myth that these styles are "fixed and" change very little. This careful use of learning-style inventories, especially in making programming decisions about learners, is especially crucial. James and Blank (1993, p. 55) have observed that "although various authors claim strong reliability and validity for their instruments, a solid research base for many of these claims does not exist." Their analysis is confirmed by Cassidy's (2004) recent review of more than twenty learning

style measures. For each instrument Cassidy presents the model or theory upon which it is based, a description of the measurement itself, and comments about the instrument and research conducted on the instrument. He concludes that “what is necessary is further empirical work to provide evidence to assess the validity of many of the proposed models” (p. 440). Coffield, Moseley, Hall, and Ecclestone (2004, as cited by Della Porta, 2006), using similar procedures as Cassidy (2004), found that just three instruments, the Allison and Hayes Cognitive Style Index, Apter’s Motivational Style Profile, and Vermunt’s Inventory of Learning Styles came close to demonstrating “both internal consistency and test-retest reliability *and* construct and predictive validity” (Coffield et al., 2004, p. 56, as cited by Porta, 2006). Della Porta went on to observe that “most surprising is the fact that some of the most widely used instruments, including the Myers-Briggs’ Type Indicator and Kolb’s Learning Style Inventory did not meet the minimum criteria for a psychometric instrument” (p. 10).

Sternberg (1994a, 1996a) has proposed a new term, *thinking styles*, which seems very similar, if not identical, to learning styles. Sternberg (1994a) defines a thinking style as “a preferred way of using one’s abilities. It is not in itself an ability but rather a preference. Hence, various styles are not good or bad” (p. 36). Although Sternberg has described his theory of thinking styles primarily in the context of children, and more specifically childhood education, many components of his theory would also be useful in understanding the thinking patterns of adults. His work on thinking styles is grounded in ten general characteristics of styles, such as “styles can vary across tasks and situations, people differ in strengths of stylistic preferences, styles are socialized, and styles can vary across the life span—they are not fixed” (Sternberg, 1996a, pp. 349–350). He uses the concept of mental self-government, patterned after the kind of governments and government branches that exist worldwide, to describe his theory of thinking styles: “According to this theory, people can be understood in terms of the functions, forms, levels, scope, and leanings of government” (p. 351). Sternberg (1994a, p. 39) emphasizes the importance of taking into account people’s thinking styles in designing learning programs and cautions that most instructors are best at teaching people “who match their own

styles of thinking and learning . . . and tend to overestimate the extent to which their students share their own styles.”

In summary, scholars studying learning from a cognitive perspective have added a great deal to our knowledge about learning in adulthood. Some of the major contributions described thus far in this chapter are our understanding of memory and how aging may affect memory processes, how our knowledge is organized into schemas, what effect prior knowledge and experience have on learning, and the concepts of cognitive and learning style. We reviewed in Chapter Seven another view of learning, situated cognition, to which cognitive scientists have also contributed. We now turn to a discussion of one of the newest research arenas related to adult learning: the neurobiology of learning.

NEUROBIOLOGY AND THE BRAIN

It is hard not to miss the latest goings-on in brain research. Stories about what researchers are finding about how our brain functions abound in popular outlets, such as *Time*, *Newsweek*, and our daily papers and newscasts. For example, *Time* magazine in 2004 and 2005 carried three very different stories about how brain imaging could assist “corporate America” and politicians to better get their messages across (McCarthy, 2005), what a brain “in love” looks like (Fisher, 2004), and how the brains of men and women differ in size and the processing of emotion (Ripley, 2005). Although these stories are certainly interesting, the data for these stories come from experiments in laboratories. Thus, much of our knowledge about the brain is currently only in the form of working hypotheses. On a more serious note, what we might learn from scientists who study the physical functions of the brain and its related systems has the possibility of moving our understanding of learning significantly forward. For example, recent research has shown “how a particular protein in the brain is responsible for converting short-term memories into long-term memories (Frankland et al., 2001)” (Hoyer & Roodin, 2003, p. 300). Viewing the devastation of the memory and learning capacity of a person with advanced Alzheimer’s disease or a massive stroke brings home to each of us the innate and yet almost mystical ways in which the brain functions.

DIFFERING VIEWS OF THE BRAIN

Restak (2000) observes that when we “speak of the mind—making up our mind, improving our mind, changing our mind—we are actually referring to activities carried out by our brain” (p. 6). However, this assumption that the brain and the mind are one and the same has not always been the way that philosophers, religious scholars, and scientists conceptualized the mind-body relationship. “The ancient Egyptians thought so little of the brain matter that they made a practice of scooping it out . . . of the dead leader before packing the skull with cloth before burial. This practice was grounded in the belief that “consciousness resided in the heart” (Shreeve, 2005, p. 4). Aristotle, and a legacy of medieval thinkers, shared a very similar belief in that they “attributed all life forces to the heart and considered the brain to be nothing more than a cooling system for the blood” (Restak, 2000, p. 6).

In contrast, the Greek physician Hippocrates, considered the Father of Medicine, argued that the brain was the centrality of all thought. In his words, “Not only the pleasure, our joy, and our laughter but also our sorrow, pain, grief, and tears arise from the brain and the brain alone. With it we think and understand, see and hear, and we discriminate between . . . what is pleasant and unpleasant, and between good and evil” (Hippocrates, as cited by Restak, 2000, p. 8). The meaning of the phrase “the brain is center of our thinking” took on many forms, involved many winding roads, detours, and blind alleys, and has become a continuous journey, joined by scholars from many disciplines. For example, scientists and philosophers debated whether the actual brain tissues, which can be seen, or the fluid-filled cavities, which lie deep within, are more relevant to the operation of the brain; others believed that a person’s character could be determined from bumps and other irregularities of the skull (phrenology). In addition, research focused on what parts of the brain are “in charge” of specific behavioral and cognitive functions, which originated in latter part of the eighteenth century, remains a hot topic of debate among scholars (Albert & Killiany, 2001; Albright & Neville, 1999; Restak, 2000).

THE STRUCTURES AND FUNCTIONS OF THE BRAIN

The way the brain is structured and functions has captured, as noted earlier, the notice of the general public, in addition to study among the scientific community. “For good reason, the brain is sometimes hailed as the most complex object in the universe. It comprises a trillion cells, 100 billion of them neurons linked in networks that give rise to intelligence, creativity, emotion, consciousness and memory” (Fischback, 1992, p. 51). Since the 1950s, the study of the structures and functions of the brain, including how underlying electrical and chemical processes carry messages throughout the brain, has been dominated by neurobiologists, cognitive psychologists, and physicians. Although most of this work until recently has used animals as subjects, there have also been studies of people with a wide range of brain disorders. The studies on humans have relied primarily on what could be observed during brain surgery, the behavior and abilities of people with severe brain damage, or postmortem examinations. With the advent of noninvasive imaging techniques, researchers are also beginning to include healthy humans as subjects (Albert & Killiany, 2001).

These newer noninvasive techniques allow scientists “to see into the brain,” with little risk to humans, whether they are well or in need of medical care. “These imaging techniques can loosely be divided into two basic types: structural scans and functional scans. The structural scans, using computerized tomography (CT) and magnetic resonance imaging (MRI), “produce highly detailed images of the brain” (Albert & Killiany, 2001, p. 163). With the more advanced forms of these technologies the images produced “look very similar in detail to that . . . seen on postmortem examination of brain tissue. . . . Functional scans, on the other hand, provide an indication of the activity of the brain, but do not tend to produce anatomical detail” (p. 163). Protein emission tomography (PET) and functional MRI (fMRI) are the scanning procedures used most often to gather functional data about the brain. Although these newer scanning methods have shown that “while it’s true that certain areas [of the brain] are specialized for specific purposes, this organ can only be understood as one highly complex and integrated functional unit” (Restak, 2000, p. 25). For

example, rather than each hemisphere of the brain operating separately, when the processing of information “within each hemisphere commences, the hemispheres rapidly send signals back and forth” (Robertson, 2005, p. 21). The result is a lot of “cross-talk” among the neurons rather than a direct response from one side or the other. “The large association cortex [the corpus callosum] is responsible for this information flow from one part of the brain to another” (Restak, 2000, p. 25).

These newer forms of technology have also allowed us to gain a clearer picture of the architecture of the brain. One of the most striking structures of the brain “are the large, seemingly symmetric cerebral hemispheres” (p. 48) that sit on a central core or base. The two hemispheres are connected by the corpus callosum, a large band of nerve fibers that, as just described, allows the two hemispheres to collaborate on many tasks.

Other structures of the brain that have generated more interest in recent years are those connected to emotion. “Emotion was largely neglected by neuroscience during most of the twentieth century, but it is now the focus of intense scrutiny, and not a moment too soon considering its importance in human lives. The neurobiological underpinning of the emotions have begun to be elucidated and it has become clear that the brain handles different emotions with the help of different components” (Damasio, 2000, p. 14). These components [structures] include the amygdale, the ventral and medial prefrontal cortex, and the hypothalamus. This “discovery offers important clues in the investigation of diseases such as depression and mania” (p. 16). In addition, Damasio argues that gaining further knowledge about what the interactions are among these parts of the brain underscore “the degree to which emotion and feeling are inextricably interwoven with the mechanisms that ensure the maintenance of life” (p. 16).

Pert (1997), although in agreement with Damasio’s basic assumptions, has challenged researchers on the idea that the brain is the only part of us that can gather, process, and share information related to emotions. Based on her findings that chemical substances and their receptors are found in the body’s nerves of all kinds, she argues that emotions could be stored and mediated by other parts of the body. This fairly recent discovery is important for appreciating how memories are stored not only in the brain but in

a psychosomatic network that “can extend out to the very surface of our skin” (Pert, 1997, p. 143). This recognition that emotion and memory are clearly linked—whether these functions are based primarily in the brain or throughout our bodies—could have enormous implications for how we understand learning in adulthood.

Three other structures—the hypothalamus, the pituitary gland, and the pineal gland—control bodily functions, such as temperature regulation, hormone production, and sleep and wakefulness. In addition, two other crucial structures form the central core or base of the brain. These are the medulla, which contributes to the control of central life functions (including respiration, circulation, and digestion), and the cerebellum, which coordinates movement and plays a vital role in the processing of information (Restak, 2000). We hypothesize that all of these deeper structures of the brain, depending on their operational effectiveness, could affect how adults learn.

There has also been a change in the last twenty-five years, albeit a slow one, of adding cognitive scientists to the mix of researchers who study brain functions, including the addition of the new field cognitive neuroscience. “The term alone suggests a field that is pregnant and full of promise. It is a large field of study, uniting concepts and techniques from many disciplines, and its boundaries are rangy and often loosely defined. At the heart of cognitive neuroscience, however, lies the fundamental question of knowledge and its representation by the brain—characterized not inappropriately by William James (1842–1910) as ‘the most mysterious thing in the world’ (James, Vol. 1, 216)” (Albright & Neville, 1999, p. li.). Thus, rather than relying on either neurobiology or cognitive sciences, the promise of connecting what we know about how the brain functions and learning comes primarily from the merger of the two sciences. Bruer (1997) has used the metaphor of the bridge to illustrate this point. On the one hand, we have a “well-established bridge” of knowledge about learning from the cognitive sciences. On the other hand, we have a newer bridge between cognitive psychology and neuroscience. “This newer bridge is allowing us to see how mental function maps onto brain structures.” When neuroscientists are able to “provide useful insights for educators about instruction and educational practice, those insights will be the extensive traffic over the second bridge” (p. 4).

Even though the cognitive neurosciences have amassed an amazing amount of information about the structures and functions of the brain, this information has generated more questions than answers. As Albright and Neville (1999) observe, “[T]he applications of new experimental techniques [in this case, more sophisticated, noninvasive imaging techniques] have often raised more questions than they have answered. But such are the expansion pains of a thriving science” (p. lvii). In addition, because the primary research in this field is laboratory-based and involves experimental designs, direct applications of this knowledge to educational practice may still be in the far future. Rather, the breakthroughs that have been made as a result of research in the cognitive neurosciences appear to relate more indirectly to learning in adulthood. For example, Shreeve (2005) tells the fascinating story of how, before removing a cancerous tumor from a young woman, the physicians and a neuropsychologist needed to find the exact “address” for Corina’s language abilities. In doing so they had a good chance of being able to retain her language functions, which are a vital dimension of the learning process. However, this search is not an easy one because “every person’s brain is as unique as their face” (p. 9). In this case the surgery was a marvelous success, and as the main surgeon observed: “Corina’s brain is the most beautiful object that exists, for it allows her to perceive beauty, have a self, and know about existence in the first place” (p. 8).

CONNECTIONS TO LEARNING IN ADULTHOOD

Connecting what we know about the brain and related systems to learning in adulthood is at best a set of working hypotheses. Although some educators have tried to make very direct correlations by devising what they term *brain-based learning programs* (for example, Caine & Caine, 1994; Jensen, 2000), we still have a long way to go before we can make any really useful linkages that are theoretically and empirically sound. This gap between the theoretical and empirical knowledge of how the brain and related systems work and practical applications of that knowledge has created a number of questionable educational practices.

Two main practices have surfaced related to how educators have applied this knowledge to their practice. The first is the

applications some educators have made based on supposed factual knowledge about the brain. As Bruer (1997, p. 4) argues, “Currently we do not know enough about brain development and neural function to link that understanding directly, in any meaningful, defensible way, to instruction and educational practice.” He goes on to observe that even neuroscientists, “while interested in how their research might find application outside the laboratory and clinic, are more guarded in their claims. Often they are puzzled by the neuroscientific results educators choose to cite, by the interpretations educators give those results, and by the conclusions educators draw from them” (p. 4). For example, one of these applications of brain research to learning in adulthood has been educators designing programs that purport to increase the functions of the left or right brain. By the end of these programs, sponsors claim that participants will have fully developed their untapped potential of the right or left brain. Although, indeed, there is localization of functions that different parts of the brain support, more current research definitely debunks the myth that our brains are divided neatly into two halves, with the left brain being the seat of logic while the right brain houses our creative and artistic abilities. In fact, there are no definitive maps, as discussed earlier, that provide guides to which of the many structures of the brain controls what. Rather, what has been hypothesized is that it is the interactions among various structures that may be the key to understanding how our brain functions.

The second practice is the linking of specific instructional techniques to the knowledge we have of the brain. Vella (2002), for example, bases her argument for “teaching as dialogue” in the notion of quantum learning. She defines quantum learning as learning “which uses all of the neural networks in the brain, putting them together in personal ways to make significant meaning” (p. 73). Although we are intrigued with her discussion of the principles and practices that are necessary for the dialogue approach to learning to work well, we can see no real connections between how she defines quantum learning as a neurological function and the actual outcomes of what she terms quantum learning. As educators of adults we would be on more solid ground if we provided excellent descriptions of different kinds of learning processes, as Vella did, rather than attributing those processes to unproven neurological assumptions about learning.

NEW DIRECTIONS AND DISCOVERIES

Until the theoretical and empirical knowledge from the cognitive neurosciences on the brain have moved out of the laboratory and into the context of everyday life, educators of adults would be better off not using our limited knowledge of the brain as a source of information for understanding adult learning. Because these types of arguments are not yet available, we suggest that information of this nature be framed as hypotheses or new discoveries that may someday lead to a greater understanding of learning in adulthood. However, research into the link between cognitive neuroscience and learning in adulthood offers some promising discoveries and new directions that may well have direct links to adult learning. A sampling of some of these intriguing ideas and questions are summarized as follows:

- Could our increasingly fast-paced lives have the potential to limit our capacity in our information processing systems to the point that they will create bottlenecks in our ability to process information? More specifically, Marois (2005) focuses on three areas in which our capacities as learners could be negatively affected: conscious visual perception, short-term memory, and action and decision making.
- Are there actual differences in male and female brains that affect both what and how we learn (Baron-Cohen, 2005)? If so, how might taking these differences into consideration change our current practices as educators?
- Will brain injury no longer be considered hopeless based “on the plasticity model of brain function and repair” (Restak, 2000)? If so, what are the roles of adult educators in assisting these adults to become the normal learners they once were?
- Do the techniques that Buddhists have employed for over twenty-five hundred years “to guide their mental state away from destructive emotions and towards a more compassionate, happier frame of being” change how the mind works (Shreeve, 2005)? If so, how can using these techniques change our way of thinking and being as educators of adults?

- Are there interdependent relationships that exist between emotion and reason, exhibited in how the brain functions, that are crucial components of how adults learn? If so, what are the impacts of these relationships on learning, and how can adult educators best facilitate these impacts?

In closing, one of the authors remembers well a lecture given by Professor Houle in the early 1980s at a meeting of the Commission of Professors of Adult Education. Houle was a very strong believer that all adults could learn. In this lecture he related a personal story that had changed these beliefs. Two of his colleagues at the University of Chicago had recently been diagnosed with Alzheimer's disease. What he recognized, with great sadness, is that there are times in the lives of adults when they cannot learn and that the foundations of our knowledge of adult learning need to add another dimension. Houle urged adult educators to join hands with the biological sciences to expand our understanding of learning in adulthood. Houle's argument, given over twenty-five years ago, has indeed proven prophetic, and it promises in the future to enhance our understanding of learning in adulthood and our practice as educators.

SUMMARY

The internal workings of the learning process have fascinated scientists for decades. Researchers from the cognitive sciences have the longest history of research in this important arena, and more recently scholars from the neurobiological sciences are offering new hypotheses about how the brain and related systems are involved in learning. Perhaps the most exciting new arena of study, with the greatest potential for expanding our knowledge base of the internal processes of learning, are the combined efforts of cognitive scientists and neuroscientists working together to address how and where learning happens in the brain.

Cognitive scientists, primarily from the discipline of psychology, describe how people receive, store, retrieve, transform, and transmit information. Most of this work has focused on memory and aging, with the resulting conclusion that there are some

apparent losses as people age in both working and long-term memory. How this loss affects the everyday learning activities of adults is still an unanswered question, although we know that most older adults take a longer time to process complex information. Other important aspects of cognition reviewed in this chapter are the concepts of schemas, the effect of prior knowledge and experience on learning, and cognitive and learning-style theories. The concept of schemas has provided a useful framework for thinking about both the forms of knowledge (declarative and procedural) adults have accumulated over time and how that knowledge is transformed and used. In exploring the effects of prior knowledge and experience on learning, the concepts of novice and expert learners were stressed. The differences between cognitive and learning styles were discussed as well, with the resulting observation that learning styles seem to be a more useful concept. The learning-style inventories, although many have questionable reliability and validity from a research standpoint, appear to have proved effective in helping both learners and instructors gain some basic understanding of their strengths and weaknesses as learners and instructors.

Cognitive neuroscience, a new field that bridges the gap between the cognitive sciences and neurobiology, as well as added other disciplines to the mix, has provided some fascinating descriptions of how the brain is organized and functions. Especially with the newer imaging techniques, such as CT, PET, and fMRI scans, we can catch glimpses of how our brains are structured and operate during differing types of learning episodes. Direct connections between what we see and have learned about the brain and learning interventions are yet to come. What we have now are tentative hypotheses about the neurobiology of learning.

With this caveat in mind, we described how the brain has been viewed differently throughout the ages, and discussed how the brain is structured and organized and information is exchanged inside the structures of the brain. We then commented on how educators have tried to apply this knowledge, with limited, if any, success because of the lack of definitive knowledge about the relationships between brain functioning and learning. We concluded by outlining some intriguing questions being raised about the brain from the perspective of the cognitive sciences and how this knowledge could inform the way we think about adult learning and our practice as adult educators.

CHAPTER SIXTEEN

REFLECTIONS ON LEARNING IN ADULTHOOD

This book is testimony to the fact that we know quite a lot about learning in adulthood. Each chapter speaks to some aspect of learning, whether it be the context, the learner, the process, or some combination of these factors. In the process of reviewing and reflecting on all of this material, we arrived at our own understanding of learning in adulthood. This last chapter is our opportunity to articulate what we ourselves have learned about this phenomenon.

Many who have written on the topic of adult learning have tried to delineate principles summarizing what has been learned from research or observed in practice and axioms that can be applied to practice. Knowles's (1980) assumptions underlying andragogy, discussed in Chapter Four, are a good example of a set of principles about adult learners that has implications for practice. Others have advanced similar lists, often with a distinctive orientation. Smith (1982) distinguishes the learning process from the learners. He presents six observations about learning, such as "learning is a personal and natural process" and "learning has its intuitive side" (p. 35), and notes four critical characteristics of adult learners: a different orientation to education and learning, an accumulation of experience, special developmental trends, and anxiety and ambivalence. In a popular version of this approach, Zemke and Zemke (1995) in an update of their 1981 article, listed "thirty things we know for sure about adult learning" dividing these

“thirty things” into the three categories of adult motivation, curriculum design, and classroom practice. MacKeracher (1996), who makes sense of adult learning through looking at the complex interaction of cognitive, affective, physical, social, and spiritual aspects of learning, offers practical advice to both learners and facilitators for enhancing the learning activity. Learners, for example, should “trust the process,” be willing to take risks, and be “open to new ideas and experiences” (p. 243). Instructors should be reflective, passionate, responsive, and “keep in mind that you are a model for learners whether you want to be or not” (p. 253).

A few more recent publications reflect the orientation of the authors. For example, Taylor, Marienau, and Fiddler’s (2000) book focuses on developmental goals for adult learners, including toward knowing as a dialogical process, toward a dialogical relationship to oneself, toward being a continuous learner, toward self-agency and self-authorship, and toward connection with others. Writing from a critical theory perspective, Brookfield (2005b) has identified the following “series of learning tasks” that are central to becoming critical learners:

Learning to recognize and challenge ideology that attempts to portray the exploitation of the many by the few as a natural state of affairs, learning to uncover and counter hegemony, learning to unmask power, learning to overcome alienation and thereby accept freedom, learning to pursue liberation, learning to reclaim reason, and learning to practice democracy. [p. 39]

We considered doing a meta-analysis of the principles, concepts, and characteristics found in these sources as well as those delineated elsewhere in this book and in some of our own work. That undertaking, however, would probably have resulted in another set of principles that would not truly capture what we have come to understand about learning in adulthood. Furthermore, there is some question in our minds as to the usefulness of any one set of principles for guiding either research or practice. If, as we have tried to bring out in previous chapters, learning in adulthood is embedded in its context, a single set of principles is not likely to hold true for the wide-ranging diversity of learners and learning situations.

What we have done, therefore, is to step back and think about

how learning in adulthood can be distinguished from learning in childhood. This was, after all, the question that stimulated much of the research, writing, and debate in the field's early efforts to distinguish itself from other subfields of education. Our answer, in essence a summary of the book, is that learning in adulthood can be distinguished from childhood in terms of the learner, the context, and to some extent, the learning process. Furthermore, it is not just that differences can be seen in these areas. Equally important, the configuration of learner, context, and process together makes learning in adulthood distinctly different from learning in childhood. In this chapter we first explore these differences and then discuss how well our understanding of the phenomenon is addressed by theory and practice. Finally, we speculate on the next steps in furthering our understanding of adult learning.

THE LEARNER

The focus on the individual learner, grounded primarily in the psychological paradigm, drove research and practice in adult learning until the 1990s. Representative lines of inquiry from this perspective include the ways we have traditionally framed the life experiences of individual learners, the linking of the psychological frame of development to learning, much of our research on motivation and participation, the information processing framework of cognition and memory, and the neurobiology of learning.

The comparatively richer life experiences of individual adults have been cited by nearly all writers as a key factor in differentiating adult learning from child learning. As Kidd (1973) noted over thirty years ago, "Adults have more experiences, adults have different kinds of experiences, and adult experiences are organized differently." It is these experiences that set adults "off from the world of children" (p. 46). If accumulated life experiences differentiate children from adults, they also differentiate one adult from another. A group of sixty-year-olds will have less in common than a group of twenty-year-olds.

Experience is an assumption "that can arguably lay claim to be viewed as a 'given' in the literature of adult learning" (Brookfield, 1986, p. 98). Knowles (1980, p. 44) conceives of it in terms of a "growing reservoir of experience" that functions as "a rich resource for learning." It also establishes a person's self-identity: "Adults derive

their self-identity from their experience. They define who they are in terms of the accumulation of their unique sets of experiences.” And “because adults define themselves largely by their experience, they have a deep investment in its value” (p. 50).

Experience, however, can be quite varied as Fenwick (2003, p. 13) points out, including the following:

Direct embodied experience, an immediate encounter in the here-and-now, planned or unplanned, involving us physically, emotionally, sensually, mentally, and perhaps spiritually; . . . *vicarious experience* [in which we] . . . imagine ourselves immersed in the encounter. We sometimes are exposed to *simulated experience*, a direct experience planned to be like something real. . . . We can experience through *reliving* a past encounter. . . . There is also *collaborative experience*, joining others in a shared community of experience whose meaning is constructive together amid conversation and joint action. . . . [Finally], *introspective experience*, such as mediation or dreaming, or reading, are powerful forms of experience occurring in a special psychic space. . . . All of these dimensions suggest different ways to understand whatever is construed to be learning in each context.

Whatever the type of experience, it functions in several ways that are particular to adult learning. First, as Knowles observed, adult learners themselves become important resources for learning. Adults can call on their experiences in the formulation of learning activities, as well as serve as resources for others in a learning event. Second, the need to make sense out of one’s life experiences is often an incentive for engaging in a learning activity in the first place. Third, the actual engagement of past experiences with learning is somewhat different for adults than for children. An adult’s major use of experience in learning is on reintegrating or transforming meanings and values, while children tend to use their experiences in accumulating new knowledge and skills. As Mezirow (2000, p. 5) points out, “[L]earning is understood as the process of using a prior interpretation to construe new or revised interpretation of the meaning of one’s experience as a guide to future action.” Finally, it should be noted that an adult’s past experiences can become obstacles to new learning. Some may have to unlearn negative attitudes toward learning, old ways of doing things, prejudicial views, and so on.

The arena of development from a psychological perspective is

another way in which adults are differentiated from children. While it is true that both adults and children are involved in developmental processes, the nature of the processes is qualitatively different. This difference can be clearly illustrated with Havighurst's (1972) developmental tasks for different life stages. From infancy through adolescence, the tasks reflect physical maturation (learning to walk, getting ready to read) or preparatory activities needed for future adult roles. Beginning with the tasks of young adulthood, there is a shift to functioning well as an adult—bringing up young children, managing a home, achieving adult civic and social responsibilities, and so on. Erikson's (1963) life stages also reflect a shift from childhood dependence to adult-oriented dilemmas. In the first five stages of infancy through adolescence, the child deals with establishing trust, autonomy, initiative, industry, and identity. Adults struggle with intimacy, generativity, and integrity, characteristics manifested in adult roles of spouse, parent, worker, and citizen. In at least one developmental theory, the notions of adult experience and development converge. Part of Kohlberg's (1973) theory of moral development stipulates that one cannot attain the higher stages of development until one has experienced irrevocable moral decision making. Fowler (1981), whose stages of faith build on Kohlberg's idea, also maintains that later stages cannot be attained until adult life. Even some models of cognitive change and development assume an accumulation of experience with age. Mezirow (1991, p. 193), for example, asserts that "transformations likely to produce developmentally advanced meaning perspectives usually appear to occur after the age of thirty," while Kegan (1994) asserts that most people do not even enter the highest levels of consciousness until their forties.

In addition to a sequential stage-phase view of development, life events and transitions differentiate adult learning from child learning. Many of the life events and transitions that adults face are peculiar to adulthood and require adjustments—adjustments often made through systematic learning activity. It is these transitions and life events that are likely to result in significant, meaningful learning (Merriam & Clark, 2006). They are also what motivate many adults to seek out learning. Aslanian and Brickell (1980), for example, found that 83 percent of adult learners in their study were involved in learning to cope with a transition. The transitions were primarily career related (56 percent), followed by family life tran-

sitions (35 percent). “To know an adult’s life schedule,” they concluded, “is to know an adult’s learning schedule” (pp. 60–61).

There is little doubt that there is a strong link between the motivation to participate in a learning activity and an adult’s life experiences and developmental issues. From studies of participation and motivation that document that adult roles, especially that of worker, are prime motivators for learning, to Mezirow’s (1991) process of perspective transformation that is precipitated by a “disorienting dilemma”—that is, one’s familiar patterns of coping with life events prove ineffective—learning in adulthood is a function of social roles and developmental issues.

Research on human memory and how the brain functions also has the learner center stage in understanding learning. From these perspectives learning has been conceived as something that primarily goes on inside the heads of individual learners. Through studying memory we continue to try to decipher how adults receive, store, transform, and retrieve information and how these processes are affected as we age. We have even tried to see if we could improve these processes through formal learning activities, and more recently, by using various forms of pharmaceutical interventions. One of the most intriguing knowledge bases on which to draw about learning in adulthood in the last few years is neurobiological. By discovering more about how the brain actually functions, we have a better chance of unlocking lifelong learning disabilities and such disastrous diseases as Alzheimer’s and Parkinson’s, which can render adults incapable of learning even at a rudimentary level. There is a great deal of potential to enhance what we know about individual learners, especially when we merge the ideas from the cognitive and neurobiological sciences.

In addition to what is happening in the mind of an adult learner, there is a burgeoning literature looking at learning as an embodied, emotional, perhaps spiritual occurrence (see Chapter Eight). While this research and writing still focuses on the individual learner, it is at the same time expanding our understanding of learning beyond an information processing, cognitive activity.

Just being an adult is thus a crucial factor in distinguishing between learning in adulthood and learning in childhood. The accumulation of experience, the nature of that experience, the developmental issues adults address, how the notions of development and experience relate to learning, and how aging affects our

memory and the more general neurological basis for learning—all of these differentiate adult learners from children.

THE CONTEXT

Historically, adult educators in social action and community-based learning programs have taken the context into account in their work. From Jane Adams's Hull House immigrant programs to Highlander's Research and Education Center's involvement in labor movements, civil rights, and environmental action, the adult learner was seen as affected by, and having an effect on, his or her social context. However, it has not been until the last fifteen years or so that context has received more systematic attention in the literature on adult learning. There are at least two ways to think about context in this more recent work. The first is the notion that learning is a product of the individual *interacting* with the context. Recent theories of situated cognition, reflective practice, and cognitive development are representative of this interactive view. A second way to view the importance of context in learning is to consider how the structures and institutions of society affect learning. These *structural* dimensions include factors such as race, class, gender, cultural diversity, and power and oppression.

The interactive dimension of the context acknowledges that an adult's life situation is quite different from that of a child. A child's life situation is usually characterized by dependency on others for his or her well-being. The majority of adults, in contrast, are adults because they have assumed responsibility for managing their own lives. As Paterson (1979, p. 10) reminds us, "To say that someone is an adult is to say that he [sic] is entitled, for example, to a wide-ranging freedom of life-style and to a full participation in the making of social decisions; and it is also to say that he is obliged, among other things, to be mindful of his own deepest interests and to carry a full share of the burdens involved in conducting society and transmitting its benefits. His adulthood consists in his full employment of such rights and his full subjection to such responsibilities." The taking on of social roles characteristic of adulthood—roles such as worker, spouse or partner, voting citizen, and parent—differentiates adults from children better than chronological age does.

This difference in the social position of adults and children is reflected in contextual differences in their lives and their learning.

A child's life is bounded by home and school, whereas an adult's life situation is defined primarily by work, family, and community. Through home and school, children learn to be adults; going to school is a full-time job. Theoretically at least, both home and school are sites where young people learn how to function as adults. The curriculum in both settings is determined primarily by others, who decide what is important to know in order to become responsible members of society. Education, even undergraduate education for traditional-age students, is basically preparatory— young people are “prepared” for the world of work.

Adults, in contrast, typically add the role of learner to other full-time roles and responsibilities. The learning that adults do arises from the context of their lives, which is intimately tied to the sociocultural setting in which they live. As Jarvis (1992, p. 11) has observed: “Learning . . . is about the continuing process of making sense of everyday experience.” Jarvis also draws a connection between motivation and context: “The reason for participation does not always lie within the learner but in the dynamic tension that exists between the learner and [the] socio-cultural world” (1983, p. 67). The potential for learning occurs “at the intersection of us and our world” (Jarvis, 2006, p. 10). For example, an assembly-line worker whose job has been outsourced will need to retrain for other employment; a nurse will need to keep up with changes in the health care system and technology. Zoning and tax laws, waste disposal management, and so on that affect citizens' lives in communities also lead to new learning. Thus learning in adulthood is characterized by an interaction between the adult and his or her lifeworld and the duties and responsibilities inherent in the adult roles of worker, spouse, partner, parent, and citizen.

The differences in context between the lives of children and adults and how these differences influence learning are highlighted in an article by Resnick (1987) contrasting learning in school and outside school. She writes that “school is a special place and time for people—discontinuous in some important ways with daily life and work” (p. 13). There are several ways that school learning differs from other (mostly adult) learning. First, in school, individual cognition has, until recently, been primarily rewarded, whereas outside school shared cognition is the norm. In school “a student succeeds or fails at a task independently of what other students do. . . . In contrast, much activity outside school is socially

shared. Work, personal life, and recreation take place within social systems, and each person's ability to function successfully depends on what others do and how several individuals' mental and physical performances mesh" (p. 13). Second, "school is an institution that values thought that proceeds independently, without aid of physical and cognitive tools," at least in testing situations (p. 13). In the real world, people use all sorts of tools on a regular basis, such as books, notes, calculators, and computers, to solve problems and function more effectively. Resnick points out that it is the use of tools that allows "people of limited education to participate in cognitively complex activity systems" and cites Brazilian black market bookies' use of prepared probability tables for functioning in a demanding mathematical system (p. 14). In our own society, personnel in fast food restaurants ring up orders on a computer where the food items are keyed by picture and word.

Resnick also points out that too often school learning is decontextualized, resulting in little transfer between school and real-world reasoning. Finally, generalized learning occurs in school, but situation-specific competencies are needed out of school: "Schools aim to teach general, widely usable skills and theoretical principles. . . . Yet to be truly skillful outside school, people must develop situation-specific forms of competence" (p. 15). What people in all settings (including, Resnick points out, adult technical training, management, and continuing professional education) need to learn is "to be good adaptive learners, so that they can perform effectively when situations are unpredictable and task demands change" (p. 18). Resnick's analysis underscores the contextual differences between learning in childhood and in adulthood and acknowledges the importance of the more recent work on situated cognition and reflective practice (see Chapter Seven).

In delineating differences between children and adults regarding the context, we note that these differences have ramifications with regard to social and ethical issues. Since children's education is preparatory, for example, they are expected to learn certain social and moral values as well as specific bodies of knowledge. Adult education struggles with issues of provision and access to learning opportunities, perhaps because adult education is primarily a voluntary activity, whereas schooling for children is compulsory. Similarly, the ethical issues involved in adult learning differ somewhat in that an adult's learning is often intimately

tied to his or her life situation and status as an adult. Questions thus arise regarding agency and responsibility in the learning activity, as well as the outcomes of that interaction. Daloz's (1988) now famous article titled "The Story of Gladys Who Refused to Grow: A Morality Tale for Mentors" explores this very issue of how much adult educators should "push" the development of their adult students.

The context, then, in which adult learning takes place generally differs from the context of most childhood learning. Moreover, every adult learning situation differs from every other situation, whether the learning is done in a formal or nonformal setting or on one's own. Certainly informal learning contexts, including social action and community-based learning, are where much of adult learning takes place. While these contexts vary from individual to individual, they all hold the potential for learning and in fact organize our learning. We need only see them as sites for learning. In a delightful and insightful book on the integration of learning and living, Bateson (1994, p. 9) writes, "When the necessary tasks of learning cannot be completed in a portion of the life cycle set aside for them, they have to join life's other tasks and be done concurrently. We can carry on the process of learning in everything we do, like a mother balancing her child on her hip as she goes about her work with the other hand or uses it to open the doors of the unknown. Living and learning, we become ambidextrous." At another point, she comments on the unfortunate tendency of our society to compartmentalize: "If only for tax purposes, we are forced to label activities as work, or play, or learning, or therapy, or exercise, or stress reduction, missing the seriousness of play, the delight of good work, the healing that happens in the classroom. For adults, learning is rarely the only activity going on. . . . By emphasizing a single thread of activity, we devalue the learning running throughout" (p. 108).

The importance of context is not just that it is interactive with one's learning. There are structural dimensions to our social context, often unseen and unacknowledged, that subtly affect learning. This aspect of context recognizes that our society has become highly multicultural and diverse, and that political and economic conditions often shape the learning experience. It is no longer a question of *whether* in adult learning situations we need to address issues of race, class, gender, culture, ethnicity, and sexual orientation but rather a question of *how* we should deal with these issues,

the power dynamics involved, and so on. We are beginning to recognize that it is important to know the backgrounds and experiences of our learners not only as individual learners but also as members of social and culturally constructed groups such as women and men; poor, middle-class, and rich; black, white, and brown. These socially constructed notions of who our learners are and who we are as educators and the subsequent power dynamics should be given the same attention in teaching and learning, planning, and administrative functions as the “technology” (that is, program design, instructional strategies) of our practice. (See Alfred, 2002, Hansman & Sissel, 2001, and St. Clair & Sandlin, 2004, for discussions of sociocultural and political contexts and their impact on adult learning.)

Further, exposure to other groups of people and cultures has been greatly expanded through travel, participation in the global marketplace, and technological wonders such as the World Wide Web. These changes afford all adults opportunities to learn from others and to expand their worldviews. Bateson (1994, p. 17) explains how this kind of exposure can lead to learning: “Each person is calibrated by experience, almost like a measuring instrument for difference, so discomfort [in encountering difference] is informative and offers a starting point for new understanding.” She goes on to say that “it is contrast that makes learning possible” (p. 27). The inclusion in this edition of *Learning in Adulthood* of a chapter on non-Western perspectives on learning and knowing acknowledges the still-nascent but growing influence of other epistemological systems on our understanding of adult learning.

THE LEARNING PROCESS

Of the three areas of learner, context, and process, in the learning process there are fewer dramatic differences between adults and children. Houle (1972), one of the field’s most respected adult educators, maintained that the process of learning is fundamentally the same for adults and children. Research, however, has uncovered some differences—differences that when linked with context and learner help distinguish adult learning from child learning.

Two process factors in particular—speed and meaningfulness—have been shown to affect adult learning. Speed refers to the time

a person has to examine a problem or respond to a situation. An adult's ability to respond slows with age, and time limits and pressures have a negative effect on learning performance. With regard to meaningfulness, perhaps because an adult's learning is so closely tied to his or her life situation, adults are not inclined to engage in learning unless it is meaningful. Adults are thus likely to do poorly on recall of nonsense syllables, for example, compared with younger learners, who are more conditioned by school experiences to learn material that may not be immediately relevant. Linked to the meaningfulness of material is the variable of motivation. MacKeracher (1996, p. 80) defines motives as "the needs that learners feel when starting a learning activity. They may relate to unmet needs or unwanted conditions in life and to the pursuit of positive growth toward desired goals. As learners proceed toward meeting unmet needs, resolving unwanted conditions, or reaching desired goals, motives for learning tend to change in relation to any feelings and experiences of success/failure and satisfaction/dissatisfaction." In summarizing the literature on motivation, MacKeracher observes that "the tendencies which are labeled 'motives' arise from within the learner. Despite encouragement from some writers to 'motivate learners,' facilitators cannot do this directly" (p. 79).

In addition, there are other age-related factors that may affect learning in adulthood. Adults are more likely than children to have health problems. Fatigue, medication, interference from previous learning, environmental conditions, and so on certainly affect new learning. Acquisition of information may become more difficult, because the rate at which working memory processes information seems to be slower with age. The point to be made here is that the nature of the learning process in adulthood is likely to be different from a child's because of the greater incidence of these occurrences and the greater impact of these factors on older learners.

By linking an adult's greater experiential base to learning, a case can be made that cognitive functioning in adulthood may also be qualitatively different from childhood. Recognizing that the prior accumulation of knowledge is crucial to the integration of new learning, and that adults have accumulated more knowledge than children, by extension, learning potential, at least in some areas, would naturally increase with age. Research on fluid and crystallized intelligence bears this generalization out. Other scholars, espe-

cially those writing from a transformational learning perspective, do not focus so much on the accumulation of knowledge as on the *transformation* of experience as a characteristic of adult learning.

Finally, it should be noted that those who posit stages of cognitive development in adulthood that are different from those unfolding in childhood contribute to our understanding of how the learning process may be different for adults. Kegan (1994), for example, proposes a level of consciousness model in which dialectical thinking becomes the hallmark, or highest level, of mature adult thinking. Framed from the assumption that our postmodern world necessitates this form of thinking in order to respond effectively to the demands of adult life, Kegan asserts that adults rarely expand their thinking to this level until in their forties or fifties. As Kegan observes, "I suggest that we are gradually seeing more adults working on a qualitatively different order of consciousness than did adults one hundred years ago because we live twenty or more years longer than we used to" (p. 352).

THE CONFIGURATION OF LEARNER, CONTEXT, AND PROCESS

We believe that learning in adulthood can be distinguished from childhood learning by the way in which learner, context, and some aspects of the learning process blend in adulthood. The configuration looks different than it does in childhood. In our discussion of each component, we noted how adults are different from children, how the context of adult learning is different from the context of child learning, and how certain features of the learning process are unique to adults. Although we have attempted to discuss these components separately, our discussion reflects their natural interaction. An adult's life experiences, for example, are a function of the sociocultural environment and the learner's personality. We can think about this interaction with regard to an adult's work experiences. As everyone is aware, the context of work has changed dramatically with the emergence of a global marketplace, advances in technology, and the shift from an industrial to a service and knowledge-based economy. Some adults are training for jobs that did not exist five years ago, many are changing jobs often, and a growing number are experimenting with alternative job structures, such as consulting, telecommuting, and job shar-

ing. Previous experiences as well as one's personality will determine how these changes are accommodated, which in turn affects both one's self-concept as a worker and notions of career development.

How an adult processes information from the sociocultural context, and even what an adult *attends* to in the environment, is wrapped up with the developmental concerns of the moment. A parent of teenagers, for example, is much more likely to notice and perhaps attend a workshop on teenagers and drugs than someone not involved with that age group. And the state of the economy is likely to be of great interest to someone nearing retirement, who might then design a learning project on the topic. In both examples, the sociocultural context, the accumulated life experiences, developmental concerns, and presumably the nature of ensuing learning experiences converge to make learning in adulthood qualitatively different from learning in childhood.

In summarizing the material on learning in adulthood, we also asked ourselves to what extent theory and practice might reflect this integrated perspective of adult learning. The work on self-directed learning or participation, for example, by definition focuses on a particular aspect of the phenomenon. The self-directed learning frameworks emphasize the process, and to a lesser extent, the context and the learner. Similarly, the research on participation does not deal with the learning process per se; rather, the context and the learner are the most important variables.

Some theories or models of adult learning focus on adult characteristics (for example, Knowles, 1980), some emphasize an adult's life situation (for example, McClusky, 1970), and others center on changes in consciousness (for example, Freire, 1970; Mezirow, 2000). These three emphases can be loosely equated with the adult, the context, and the learning process. Knowles's (1980) still-popular notion of andragogy is almost entirely focused on how the adult learner is different from a preadult learner. McClusky (1970) attends to the adult's life situation and social context from which the need or motivation to learn arises.

For both Freire (1970) and Mezirow (2000) learning in adulthood is a transformative rather than an additive process. It requires the ability to reflect critically on one's thoughts and assumptions—a particularly adult skill. Both theories also account for adult characteristics, and in particular, life experiences and developmental concerns unique to adulthood. And in both theories the sociocul-

tural context is a critical component. It is in the sociocultural context that adults have experiences that must be processed. The two differ, however, in the notion of being emancipated through this learning process. Mezirow, while not discounting social change as an outcome of perspective transformation, emphasizes personal psychological change. And while Mezirow's theory of perspective transformation perhaps comes closest to taking into account our notions of context, learner, and process, there are still some questions as to just how comprehensive his theory is. Is the process he outlines unique to adulthood? What about adults who do not reflect critically? Can transformations occur through other mechanisms? His theory seems most appropriate for informal, self-directed learning situations, although several have sought application in more institutionally based settings (Cranton, 1996, 1997; Mezirow & Associates, 1990, 2000; Taylor, Marienau, & Fiddler, 2000).

For Freire, in contrast, being emancipated from false consciousness requires political action aimed at changing society. Critical theory and feminist pedagogy share with Freire their emphases on emancipation and empowerment. Further, both of these orientations begin with the sociopolitical context of people's lives. Critical theory attends to socioeconomic class as the major variable creating inequities and oppression, while feminists look to gender as well as the intersection of race, class, and gender. Both perspectives call for adults to reflect critically on power and oppression and engage with other like-minded adults in a radical restructuring of society.

How well does practice account for the uniqueness of adult learning? This question is difficult to answer without looking at a specific learning situation. Furthermore, it is basically a question of the relationship between theory and practice. To what extent is the knowledge that we have accumulated about adult learning—knowledge reviewed in this book—reflective of what actually happens in practice? Moreover, to what extent is the knowledge that we do have derived from practice, and to what extent does it inform our practice? Cervero (1991) has delineated four positions relative to the interaction between knowledge and practice, each of which can be applied to adult learning. His framework allows us to see how the knowledge presented in this book and practice are related.

The first position posits that the practice of adult learning has been carried out without reference to what is known about how

adults learn. This position in fact characterizes much of adult learning, since only a small percentage of teachers, administrators, program developers, and others have had any formal training in adult education. From this position, those working with adult learners rely on common sense and trial-and-error learning, a less formal but certainly no less valuable source of guidance for practice.

The second position is that a systematically collected knowledge base illuminates practice. It is thought that if this knowledge is disseminated through professional preparation, in-service staff development, and so on, practice will be strengthened. Lists of principles and guidelines, for example, such as those reviewed at the beginning of the chapter, are often disseminated through workshops and in-house publications, ostensibly to improve one's practice in adult learning. There are also numerous publications that attempt to show how knowledge about context, learner, and process could be put into practice. *Andragogy in Action* (Knowles & Associates, 1984), for example, presents thirty-six case studies of how characteristics of adult learners can be incorporated into the planning of learning activities in settings ranging from business and government to universities and volunteer organizations. In another publication, *Improving Higher Education Environments for Adults* (1989), Schlossberg, Lynch, and Chickering show how adult life experiences and adult developmental theory can form the basis for programs and support services for learners in higher education. Finally, Cranton's *Transformative Learning in Action: Insights from Practice* (1997) and Mezirow and Associates' *Fostering Critical Reflection in Adulthood* (1990) and *Learning as Transformation* (2000) review exemplary programs and suggest methods "for precipitating and fostering transformative learning in the context of the classroom, in special workshops, in informal group settings, in collective social action, in counseling sessions, and in the workplace" (Mezirow & Associates, 1990, p. xv).

The third position on the relationship between knowledge and practice is that educators operate intuitively with an understanding of adult learning whether or not that knowledge is articulated. This theory-in-practice position holds that "practitioners actually do operate on the basis of theories and knowledge" and that "theory can be derived from practice by systematically articulating the subjective meaning structures that influence the ways that real individuals act in concrete situations" (Cervero, 1991, pp. 26–27). This

notion has been investigated with regard to professional practice (Schön, 1987, 1991, 1996) and is now being promoted in adult education, especially in the work of Cervero and Wilson (1994, 2005). With regard to the learning situation and other aspects of adult education, the central task of this approach is to “describe educational practice and help practitioners become more reflective about their own individual actions” (Cervero, 1991, p. 29). The orientation of our book—in particular, our attending to context and exploring social issues—reflects the critical stance toward practice inherent in this position.

The fourth position on theory and practice is that they are indivisible. Here the focus is on “what counts as knowledge and how, where, and by whom this knowledge is produced” (Cervero, 1991, p. 31). Understanding the production of knowledge is emancipating. This perspective is best illustrated by critical theory, post-modernism, and feminist theoretical assumptions about knowledge and learning. More than the first three positions, this perspective—that theory and practice are indivisible—takes into account the political, economic, and sociocultural context in which learning occurs. Examples of adult education practice from this perspective are community-based literacy programs, feminist pedagogy, critical pedagogy, popular education programs and movements, and participatory research activities (Merriam, 1991). Participatory research “has faith in people’s ability to produce their own knowledge through collective investigation of problems and issues, collective analysis of the problems, and collective action to change the conditions that gave rise to the problems in the first place” (Gaventa, 1988, p. 19). This method of producing knowledge, indeed this perspective on the relationship between theory and practice, makes space for alternative knowledge systems that have been excluded from the “official” body of knowledge. While we recognize that, for the most part, the material presented in this book is representative of “official” knowledge, we hope that some of the less mainstream information that we have included will stimulate further research to make such unconventional knowledge more visible.

SOME CONCLUDING THOUGHTS

In this final chapter, we have articulated our understanding of

learning in adulthood and assessed how well learner, context, and process as a unique configuration in adulthood are reflected in theory and in practice. We conclude with some observations and suggestions. First, we think the field has developed a significant knowledge base about learning in adulthood, much of it fairly recent. We are optimistic that learning in adulthood will continue to interest researchers and educators and that we will know quite a bit more within the next several years. Second, the nature of contributions in this area is changing. Adult educators are moving from description to theory building and looking at adult learning more holistically, as attested to by our two new chapters: “Embodied, Spiritual, and Narrative Learning” and “Learning and Knowing: Non-Western Perspectives.” The field is also considering the sociocultural context in which learning takes place, how race, class, gender, able-bodiedness, sexual orientation, and so on affect learning, thus shifting from a primarily psychological orientation to a broader contextual view. We are indeed more cognizant of the social issues and dilemmas involved in the provision and practice of adult learning. And we are examining notions about how knowledge about adult learning itself is produced and legitimized.

We are hopeful that learners themselves will be a great source of our understanding of learning in adulthood. In fact, we suggest that future research in adult learning be collaboratively designed with adults who are learning on their own or in informal ways, as well as with participants in formal and nonformal learning activities. Focusing on adults would counter some of the research on the learning process itself, which more often than not employs nonadults or select populations such as college students. We also suggest that research that takes into account the sociocultural and political context of adult learning might well advance our understanding of the problems of access and opportunity that continue to trouble the field. While this book has drawn from a voluminous literature base, we still feel there is much to be learned about learning in adulthood. We hope that readers will be inspired to think about their practice with adult learners and contribute in some way to our further understanding of this very complex phenomenon.

REFERENCES

- Abdullah, A. (1996). *Going glocal: Cultural dimensions in Malaysian management*. Kuala Lumpur: Malaysian Institute of Management.
- Ahmad, N., & Seidman, M. (2004). Tinnitus in the older adult: Epidemiology, pathophysiology and treatment options. *Drugs & Aging, 21*(5), 297–305.
- Ahteenmaki-Pelkonen, L. (1994). From self-directedness to interdependence? An analysis of Mezirow's conceptualization of self-directed learning. In S. Tosse, B. Wahlgren, J. Manninen, & M. Klasson (Eds.), *Social change and adult education research: Adult education research in Nordic countries 1992/93* (pp. 173–183). Linköping, Sweden: Linköping Adult Education Research Group, Linköping University. (ERIC Document Reproduction Service No. ED 374 213)
- Albert, M. S., & Killiany, R. J. (2001). Age-related cognitive change and brain-behavior relationships. In J. E. Birren & K. S. Schaie (Eds.), *Handbook of psychology and aging* (5th ed., pp.161–185). San Diego, CA: Academic Press.
- Albright, T. D., & Neville, H. J. (1999). Neurosciences. In R. A. Wilson & F. C. Keil (Eds.), *The MIT encyclopedia of the cognitive sciences* (pp. li–lxxii). Boston: Massachusetts Institute of Technology Press.
- Alderson, K. G. (2003). The ecological model of gay male identity. *The Canadian Journal of Human Sexuality, 12*(2), 75–85.
- Alfred, M. V. (2000). Philosophical foundations of andragogy and self-directed learning: A critical analysis from an Africentric feminist perspective. . . . In M. Glowacki-Dudka (Ed.), *Proceedings of the 19th Annual Midwest Research to Practice Conference in Adult, Continuing, and Community Education* (pp. 21–26). Madison: University of Wisconsin.
- Alfred, M. V. (Ed.). (2002). *Learning and sociocultural contexts: Implications for adults, community, and workplace education*. New Directions for Adult and Continuing Education, No. 96. San Francisco: Jossey-Bass.
- Alfred, M. V. (2004). Immigration as a context for learning: What do we know about immigrant students in adult education? In E. E. Clover (Ed.), *Proceedings of the Joint International Conference of the 45th Annual Adult Education Research Conference and the Canadian Association for the*

- Study of Adult Education* (pp. 13–18). Victoria, Canada: University of Victoria.
- Allen, I. E., & Seaman, J. (2004). *Entering the mainstream: The quality and extent of online education in the United States, 2003 and 2004*. Needham, MA: Sloan Center for Online Education.
- Amann, T. (2003). Creating space for somatic ways of knowing within transformative learning theory. In C. A. Wiessner, S. R. Meyer, N. L. Pflhal, & P. G. Neaman (Eds.), *Proceedings of the Fifth International Conference on Transformative Learning* (pp. 26–32). New York: Teacher's College, Columbia University.
- Amstutz, D. D. (1994). Staff development: Addressing issues of race and gender. In E. Hayes & S.A.J. Colin III (Eds.), *Confronting racism and sexism* (pp. 39–51). New Directions for Adult and Continuing Education, No. 61. San Francisco: Jossey-Bass.
- Anderson, J. R. (1988). Cognitive styles and multicultural populations. *Journal of Teacher Education*, 39(1), 2–9.
- Anderson, J. R. (1993). *Rules of the mind*. Hillsdale, NJ: Erlbaum.
- Anderson, J. R., Reder, L. M., & Simon, H. A. (1996). Situated learning and education. *Educational Researcher*, 25(4), 5–11.
- Anderson, J. R. (2005). *Cognitive psychology and its implications* (6th ed.). New York: Freeman.
- Anderson, N. H. (1996). *A functional theory of cognition*. Hillsdale, NJ: Erlbaum.
- Andruske, C. L. (2000). Self-directed learning as a political act: Learning projects of women on welfare. In T. Sork, V. Chapman, & R. St. Clair (Eds.), *Proceedings of the 41st Annual Adult Education Research Conference* (pp. 11–15). Vancouver: University of British Columbia.
- Antone, E. M., & Gamlin, P. (2004). Foundations for Aboriginal adult literacy. In D. E. Clover (Ed.), *Proceedings of the 45th Adult Education Research Conference and the Canadian Association for the Study of Adult Education* (pp. 25–30). Victoria, Canada: University of Victoria.
- Argyris, C., & Schön, D. A. (1978). *Organizational learning: A theory of action perspective*. San Francisco: Jossey-Bass.
- Argyris, C., & Schön, D. A. (1996). *Organizational learning II—Theory, method, practice*. Reading, MA: Addison-Wesley.
- Arlin, P. K. (1975). Cognitive development in adulthood: A fifth stage? *Developmental Psychology*, 11, 602–606.
- Arlin, P. K. (1984). Adolescent and adult thought: A structural interpretation. In M. L. Commons, F. A. Richards, & C. Armon (Eds.), *Beyond formal operations: Late adolescent and adult cognitive development* (pp. 258–271). New York: Praeger.
- Aslanian, C. B. (2001). *Adult students today*. New York: College Board.

- Aslanian, C. B., & Brickell, H. M. (1980). *Americans in transition: Life changes as reasons for adult learning*. New York: College Entrance Examination Board.
- Association for Clinical Pastoral Education. (n.d.). *Assessment tool description and definition*. <http://www.ncracpe.org>. Accessed September 22, 2003.
- Ausubel, D. P. (1967). A cognitive structure theory of school learning. In L. Siegel (Ed.), *Instruction: Some contemporary viewpoints* (pp. 207–260). San Francisco: Chandler.
- Bagnall, R. G. (1995). Discriminative justice and responsibility in post-modernist adult education. *Adult Education Quarterly*, 45(2), 79–94.
- Bagnall, R. G. (1999). *Discovering radical contingency: Building a postmodern agenda in adult education*. New York: Peter Lang.
- Baltes, P. B. (1982). Life-span development psychology: Some conveying observations on history and theory. In K. W. Schaie & J. Geiwitz (Eds.), *Readings in adult development and aging* (pp. 12–25). Boston: Little, Brown.
- Baltes, P. B. (1987). Theoretical propositions of life-span developmental psychology: On the dynamics between growth and decline. *Developmental Psychology*, 23, 611–626.
- Baltes, P. B. (1993). The aging mind: Potential and limits. *Gerontologist*, 33(5), 580–594.
- Baltes, P. B., & Lindenberger, U. (1997). Emergence of a powerful connection between sensory and cognitive functions across the adult life span: A new window to the study of cognitive aging? *Psychology and Aging*, 12(1), 12–21.
- Baltes, P. B., & Smith, J. (1990). Toward a psychology of wisdom and its ontogenesis. In R. J. Sternberg (Ed.), *Wisdom: Its nature, origins, and development* (pp. 87–120). Cambridge, MA: Harvard University Press.
- Bandura, A. (1976). Modeling theory. In W. S. Sahakian (Ed.), *Learning: Systems, models, and theories* (2nd ed., pp. 391–409). Skokie, IL: Rand McNally.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Banks, J. A., & Banks, C.A.M. (1997). *Multicultural education: Issues and perspectives* (3rd ed.). Needham Heights, MA: Allyn & Bacon.
- Baptiste, I. (1998). Towards a pedagogy of disempowering our enemies. In J. Kimmel (Ed.), *Proceedings of the 39th Annual Adult Education Research Conference* (pp. 13–18). San Antonio: University of the Incarnate Word and Texas A&M University.
- Baron, C. E. (2003). The study of the intersection of Perry's scheme of intellectual development and women's ways of knowing epistemological perspectives. *Dissertation Abstracts International*, 64(02), 415A. (UMI No. 3080570)

- Bar-On, R. (1997). *The Emotional Quotient Inventory (EQ-i)*. Technical manual. Toronto: Multi-Health System.
- Baron-Cohen, S., (2005). The essential difference: The male and female brain. *Phi Kappa Phi Forum*, 85(1), 23–27.
- Barrett, A. E. (2005). Gendered experiences in midlife: Implications for age identity. *Journal of Aging Studies*, 19(2), 163–183.
- Basseches, M. (1984). *Dialectical thinking and adult development*. Norwood, NJ: Ablex.
- Bassett, C. (2005). Emergent wisdom: Living in widening circles. *ReVision: A Journal of Consciousness and Transformation*, 27(4), 6–11.
- Bateson, M. C. (1994). *Peripheral visions: Learning along the way*. New York: HarperCollins.
- Baum, J. (1980). Testing the Theory of Margin using a population of widows. In *Proceedings of the 21st Annual Adult Education Research Conference* (pp. 17–21). Vancouver: University of British Columbia.
- Baumgartner, L. M. (2001). An update on transformative learning. In S. Merriam (Ed.), *The new update on adult learning theory* (pp. 15–24). New Directions for Adult and Continuing Education, No. 89. San Francisco: Jossey-Bass.
- Baumgartner, L. M. (2002). Living and learning with HIV/AIDS: Transformative tales continued. *Adult Education Quarterly*, 53(1), 44–59.
- Baumgartner, L. M., & Merriam, S. B. (1999). *Adult development and learning: Multicultural stories*. Malabar, FL: Krieger.
- Baxter Magolda, M. (1992). *Knowing and reasoning in college: Gender-related patterns in students' intellectual development*. San Francisco: Jossey-Bass.
- Baxter Magolda, M. (2004). Evolution of a constructivist conceptualization of epistemological reflection. *Educational Psychologist*, 39(1), 31–42.
- Baxter Magolda, M. B., & King, P. M. (Eds.). (2004). *Learning partnerships: Theory and models of practice to educate for self-authorship*. Sterling, VA: Stylus.
- Beard, C., & Wilson, J. P. (2002). *The power of experiential learning: A handbook for trainers and educators*. London: Kogan Page.
- Beauty at Every Age Is the Maxim. (2005, March 7). *Business and Industry MMR*, 22(5), 14. <http://www.highbeam.com/library/doc3.asp?DOCID=1G1:130722681&num=1&ctrlInfo=Round19%3AProd%3ASR%3AResult&ao=1&FreePremium=BOTH>. Accessed July 29, 2005.
- Beckett, D., & Morris, G. (2001). Ontological performance: Bodies, identities and learning. *Studies in the Education of Adults*, 33(1), 35–48.
- Becvar, R. J. (2005). On wisdom and becoming wise. *ReVision: A Journal of Consciousness and Transformation*, 27(4), 28–32.
- Beder, H. (1987). Dominant paradigms, adult education, and social justice. *Adult Education Quarterly*, 37(2), 105–113.

- Beder, H., & Darkenwald, G. (1982). Differences between teaching adults and pre-adults: Some propositions and findings. *Adult Education, 32*(3), 142–155.
- Bee, H. L. (1996). *The journey of adulthood* (3rd ed.). Englewood Cliffs, NJ: Prentice Hall.
- Bee, H. L., & Bjorkland, B. R. (2004). *The journey of adulthood*. (5th ed.). Englewood Cliffs, NJ: Prentice Hall.
- Belanger, P. (1996). Trends in adult education policy. *Adult Education and Development, 47*, 19–29.
- Belenky, M. F., Clinchy, B. M., Goldberger, N. R., & Tarule, J. M. (1986). *Women's ways of knowing: The development of self, voice, and mind*. New York: Basic Books.
- Bell, Y. R. (1994). A culturally sensitive analysis of Black learning style. *Journal of Black Psychology, 20*(1), 47–61.
- Belzer, A. (2004). "It's not like normal school": The role of prior learning contexts in adult learning. *Adult Education Quarterly, 55*(1), 41–59.
- Benack, S., & Basseches, M. A. (1989). Dialectical thinking and relativistic epistemology: Their relation in adult development. In M. L. Commons, J. D. Sinnott, F. A. Richards, & C. Armon (Eds.), *Adult Development: Vol. 1: Comparisons and applications of developmental models* (pp. 95–109). New York: Praeger.
- Benally, H. J. (1997). The pollen path: The Navajo way of knowing. In R. P. Foehr & S. A. Schiller (Eds.), *The spiritual side of writing* (pp. 84–94). Portsmouth, NH: Boynton/Cook.
- Benn, R. (1997). Participation in adult education: Breaking boundaries or developing inequalities? In P. Armstrong, N. Miller, & M. Zukas (Eds.), *Crossing Borders, Breaking Boundaries: Proceedings of the 27th Annual SCUTREA Conference* (pp. 31–34). London: Birbeck College, University of London.
- Benson, H., Corliss, J., & Cowley, G. (2004, September 27). Brain check. *Newsweek*, pp. 45–47.
- Berg, C. A. (2000). Intellectual development in adulthood. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 117–137). New York: Cambridge University Press.
- Berger, K. S. (1998). *The developing person through the life span* (4th ed.). New York: Worth.
- Berger, N. (1990). *A qualitative study of the process of self-directed learning*. Unpublished doctoral dissertation, Virginia Commonwealth University, Richmond.
- Beswick, D. M., Chuprina, L., Canipe, J. B., & Cox, B. (2002). *Investigating self-directed learning in culture, learning styles, and creativity*. Columbus, OH: ERIC Clearinghouse on Adult and Vocational Education. (ERIC Document Reproduction Service No. ED 473 804)

- Bierema, L. L. (2005). Critical human resource development education: A review of the literature and recommendations for teaching. In D. Vlosak, G. Kielbaso, & J. Radford (Eds.), *Proceedings of the 6th International Conference on Transformative Learning* (pp. 35–46). East Lansing: Michigan State University.
- Bierema, L. L., & Cseh, M. (2003). Evaluating HRD research using a feminist research framework. *Human Resource Development Quarterly*, 14(1), 5–26.
- Bills, D. B. (2004). *The sociology of education and work*. Malden, MA: Blackwell.
- Binet, A. (1916). *The development of intelligence in children* [the Binet-Simon Scale]. Baltimore: Williams & Williams.
- Bishop, R., & Glynn, T. (2003). *Culture counts: Changing power relations in education*. London: Zed Books.
- Blacksher, B. (2001). Education to self-knowledge: Students' self-awareness through reflection in response to literature by African American women. *Dissertation Abstracts International*, 62(07), 2356A. (UMI No. 3021249)
- Bolhuis, S. (2003). Towards process-oriented teaching for self-directed lifelong learning: A multidimensional perspective. *Learning and Instruction*, 13(3), 327–347.
- Bolman, L., & Deal, T. E. (1995). *Leading with soul: An uncommon journey of spirit*. San Francisco: Jossey-Bass.
- Boshier, R. (1991). Psychometric properties of the alternative form of the education participation scale. *Adult Education Quarterly*, 41(3), 150–167.
- Boshier, R. (2005). Lifelong learning. In L. M. English (Ed.), *International encyclopedia of adult education* (pp. 373–378). New York: Palgrave Macmillan.
- Boshier, R., & Collins, J. B. (1985). The Houle typology after twenty-two years: A large-scale empirical test. *Adult Education Quarterly*, 35(3), 113–130.
- Boucouvalas, M. (1988). An analysis and critique of the concept of self in self-directed learning: Toward a more robust construct for research and practice. In M. Zukas (Ed.), *Papers from the transatlantic dialogue: SCUTREA 1988* (pp. 56–61). Leeds, England: School of Continuing Education, University of Leeds.
- Boucouvalas, M. (1993). Consciousness and learning: New and renewed approaches. In S. Merriam (Ed.), *An update on adult learning theory* (pp. 57–70). New Directions for Adult and Continuing Education, No. 57. San Francisco: Jossey-Bass.
- Boud, D., Keogh, R., & Walker, D. (1985). *Reflection: Turning experience into learning*. New York: Kogan Page.
- Boud, D., Keogh, R., & Walker, D. (1996). Promoting reflection in learning: A model. In R. Edwards, A. Hanson, & P. Raggatt (Eds.), *Boundaries of adult learning* (pp. 32–56). New York: Routledge.

- Boud, D., & Walker, D. (1991). *Experience and learning: Reflection at work*. Geelong, Victoria: Deakin University Press.
- Boudard, E., & Rubenson, K. (2003). Revisiting major determinants of participation in adult education with a direct measure of literacy skills. *International Journal of Educational Research*, 39(3), 265–281.
- Bowles, D. D. (1993). Bi-racial identity: Children born to African American and White couples. *Clinical Social Work Journal*, 21(4), 417–428.
- Bowman, S. L., Rasheed, S., Ferris, J., Thompson, D. A., McRae, M., & Weitzman, L. (2001). Interface of feminism and multiculturalism: Where are the women of color? In J. G. Ponterotto, J. M. Casas, L. A. Suzuki, & C. M. Alexander (Eds.), *Handbook of multicultural counseling* (2nd ed., pp. 779–798). Thousand Oaks, CA: Sage.
- Boyd, R. D. (1989). Facilitating personal transformations in small groups: Part I. *Small Group Behavior*, 20(4), 459–474.
- Boyd, R. D. (1991). *Personal transformations in small groups: A Jungian perspective*. New York: Routledge.
- Boyd, R. D., & Myers, J. G. (1988). Transformative education. *International Journal of Lifelong Education*, 7(4), 261–284.
- Brady, E. M., & Sky, H. Z. (2003). Journal writing among older learners. *Educational Gerontology*, 29, 151–163.
- Brandt, B. L., Farmer, J. A. Jr., & Buckmaster, A. (1993). Cognitive apprenticeship approach to helping adults learning. In D. Flannery (Ed.), *Applying cognitive learning theory to adult learning* (pp. 69–78). San Francisco: Jossey-Bass.
- Brennan, B. (1997). Reconceptualizing non-formal education. *International Journal of Lifelong Education*, 16(3), 185–200.
- Briskin, A. (1996). *The stirring of soul in the workplace*. San Francisco: Jossey-Bass.
- Brockett, R. G. (1985). Methodological and substantive issues in the measurement of self-directed learning readiness. *Adult Education quarterly*, 36(1), 15–24.
- Brockett, R. G. (1994). Resistance to self-direction in adult learning: Myths and misunderstandings. In R. Hiemstra & R. G. Brockett (Eds.), *Overcoming resistance to self-directed adult learning* (pp. 5–12). New Directions for Adult and Continuing Education, No. 64. San Francisco: Jossey-Bass.
- Brockett, R. G. (2000). Is it time to move on? Reflections on a research agenda for self-directed learning in the 21st century. In T. Sork, V. Chapman, & R. St. Clair (Eds.), *Proceedings of the 41st Annual Adult Education Research Conference* (pp. 543–544). Vancouver: University of British Columbia.
- Brockett, R. G., & Hiemstra, R. (1991). *Self-direction in adult learning: Perspectives on theory, research, and practice*. New York: Routledge.

- Brockman, J. (2001). A somatic epistemology for education. *Educational Forum*, 65(4), 328–334.
- Brody, N. (2003). Construct validation of the Sternberg Triarchic Abilities Test. *Intelligence*, 31(4), 319–329.
- Brody, N. (2004). Review of the book *Emotional intelligence: Science and myth*. *Intelligence*, 32(1), 109–111.
- Bronfenbrenner, U. (2001). Human development, bioecological theory of. In N. J. Smelser & P. B. Battles (Eds.), *International encyclopedia of the social and behavioral sciences* (pp. 6963–6970). Washington, DC: American Psychological Association.
- Bronfenbrenner, U. (2005). Is 80% of intelligence genetically determined? In U. Bronfenbrenner (Ed.), *Making human beings human: Bioecological perspective on human development* (pp. 234–245). Thousand Oaks, CA: Sage.
- Brookfield, S. (1984). Self-directed adult learning: A critical paradigm. *Adult Education Quarterly*, 35(2), 59–71.
- Brookfield, S. (1985). Self-directed learning: A critical review of research. In S. Brookfield (Ed.), *Self-directed learning: From theory to practice* (pp. 5–16). New Directions for Continuing Education, No. 25. San Francisco: Jossey-Bass.
- Brookfield, S. (1986). *Understanding and facilitating adult learning*. San Francisco: Jossey-Bass.
- Brookfield, S. (1987). *Developing critical thinkers*. San Francisco: Jossey-Bass.
- Brookfield, S. (1993). Self-directed learning, political clarity, and the critical practice of adult education. *Adult Education Quarterly*, 43(4), 227–242.
- Brookfield, S. (1994). Tales from the dark side: A phenomenography of adult critical reflection. In M. Hyams, J. Armstrong, & E. Anderson (Compilers), *Proceedings of the 35th Annual Adult Education Research Conference* (pp. 55–60). Knoxville: University of Tennessee.
- Brookfield, S. (1996). Breaking the code: Engaging practitioners in critical analysis of adult educational literature. In R. Edwards, A. Hanson, & P. Raggatt (Eds.), *Boundaries of Adult Learning* (pp. 57–81). New York: Routledge.
- Brookfield, S. (2000). Transformative learning as ideology critique. In J. Mezirow & Associates (Eds.), *Learning as transformation: Critical perspectives on a theory in progress* (pp. 125–148). San Francisco: Jossey-Bass.
- Brookfield, S. (2001). Repositioning ideology critique in a critical theory of adult learning. *Adult Education Quarterly*, 52(1), 7–22.
- Brookfield, S. (2002). Overcoming alienation as a practice of adult education: The contribution of Erich Fromm to a critical theory of adult learning and education. *Adult Education Quarterly*, 52(2), 96–111.

- Brookfield, S. (2005a). Overcoming impostership, cultural suicide and lost innocence: Implications for teaching critical thinking in the community college. In C. M. McMahon (ed.), *Special issue: Critical thinking: Unfinished business* (pp. 49–57). New Directions for Community Colleges, No. 130. San Francisco: Jossey-Bass.
- Brookfield, S. (2005b). *The power of critical theory: Liberating adult learning and teaching*. San Francisco: Jossey-Bass.
- Brooks, A. K. (2000). Cultures of transformation. In A. L. Wilson & E. R. Hayes (Eds.), *Handbook of adult and continuing education* (pp. 161–170). San Francisco: Jossey-Bass.
- Brooks, A. K., & Clark, C. (2001). Narrative dimensions of transformative learning. In R. O. Smith, J. M. Dirkx, P. L. Eddy, P. L. Farrell, & M. Polzin (Eds.), *Proceedings of the 42nd Annual Adult Education Research Conference* (pp. 65–70). East Lansing: Michigan State University.
- Brown, A. H., Cervero, R. M., & Johnson-Bailey, J. (2000). Making the invisible visible: Race, gender and teaching in adult education. *Adult Education Quarterly*, 50(4), 273–288.
- Brown, A. J. (2000). Social influences on individual commitment to self-directed learning at work. In G. A. Straka (Ed.), *Conceptions of self-directed learning* (pp. 23–36). New York: Waxmann.
- Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18(1), 32–42.
- Bruce, L., Aring, M., & Brand, B. (1998). Informal learning: The new frontier of employee & organizational development. *Economic Development Review*, 15(4), 12–18.
- Bruer, J. T. (1993). *Schools for thought: A science of learning in the classroom*. Cambridge, MA: MIT Press.
- Bruer, J. T. (1997). Education and the brain: A bridge too far. *Educational Researcher*, 26(8), 4–16.
- Bruner, J. (1965). The art of discovery. In R. C. Anderson & D. P. Ausubel (Eds.), *Readings in the psychology of cognition* (pp. 606–620). New York: Holt, Rinehart.
- Bruner, J. (1986). *Actual minds, possible worlds*. Cambridge, MA: Harvard University Press.
- Brysk, A. (2003). Globalization and human rights: It's a small world after all. *Phi Kappa Phi Forum*, 83(4), 21–24.
- Burack, O. R., & Lachkman, M. E. (1996). The effects of list-making on recall in young and elderly adults. *Journal of Gerontology: Psychological Sciences*, 51(4), 226–233.
- Cabeza, R., Anderson, N. D., Locantore, J. K., & McIntosh, B. R. (2002). Aging gracefully: Compensatory brain activity in high-performing older adults. *NeuroImage*, 17, 1394–1402.

- Caffarella, R. S. (1992). *Psychosocial development of women: Linkages to teaching and leadership in adult education*. Information Series No. 350. Columbus, OH: ERIC Clearinghouse of Adult, Career, and Vocational Education.
- Caffarella, R. S. (1993). Self-directed learning. In S. B. Merriam (Ed.), *An update on adult learning theory* (pp. 25–36). New Directions for Adult and Continuing Education, No. 57. San Francisco: Jossey-Bass.
- Caffarella, R. S. (2000). Goals of self-directed learning. In G. A. Straka (Ed.), *Conceptions of self-directed learning: Theoretical and conceptual considerations* (pp. 37–48). Berlin, Germany: Waxmann.
- Caffarella, R. S., & O'Donnell, J. M. (1987). Self-directed adult learning: A critical paradigm revisited. *Adult Education Quarterly*, 37, 199–211.
- Caffarella, R. S., & O'Donnell, J. M. (1989). *Self-directed learning*. Nottingham, England: Department of Adult Education, University of Nottingham.
- Caine, R. N., & Caine, G. (1994). *Making connections: Teaching and the human brain*. Reading, MA: Addison-Wesley.
- Cajete, G. (1994). *Look to the mountain: An ecology of indigenous education*. Skyland, NC: Kivaki Press.
- Cameron, S. W. (1983). The Perry Scheme: A new perspective on adult learners. In R. Cervero, M. Collins, M. Even, & N. Robbins (Eds.), *Proceedings of the 24th Annual Adult Education Research Conference* (pp. 38–43). Montreal: Université de Montreal, Faculté de l'Éducation Permanente.
- Candy, P. C. (1987). Evolution, revolution or devolution: Increasing learner control in the instructional setting. In D. Boud & V. Griffin (Eds.), *Appreciating adults learning: From the learner's perspective* (pp. 159–178). London: Kogan Page.
- Candy, P. C. (1991). *Self-direction for lifelong learning*. San Francisco: Jossey-Bass.
- Canipe, J. B., & Fogerson, D. L. (2004, February). *The literature on self-directed learning: Dissertations*. Paper presented at the meeting of the 18th International Self-Directed Learning Symposium, Cocoa Beach, FL.
- Canipe, J. B., Fogerson, D. L., & Duffley-Renow, P. (2005, February). *A content analysis of articles on self-directed learning in ERIC: 1993–2003*. Paper presented at the meeting of the 19th International Self-Directed Learning Symposium, Cocoa Beach, FL.
- Capps, D. (2004). The decades of life: Relocating Erikson's stages. *Pastoral Psychology*, 53(1), 3–32.
- Carey, J. R. (2003). Theories of life span and aging. In P. Timiras (Ed.), *Physiological basis of aging and geriatrics* (pp. 85–95). New York: CRC Press.
- Carney, R. N., & Levine, J. R. (1998). Mnemonic strategies for adult learners. In M. C. Smith & T. Poucot (Eds.), *Adult learning and development: Perspectives from educational psychology* (pp. 159–175). Mahwah, NJ: Erlbaum.

- Carroll, J. B. (1993). *Human cognitive abilities: A survey of factor analytic studies*. Cambridge, UK: Cambridge University Press.
- Carter, T. J. (2000). The voice of relationship: Transformative learning through developmental relationships in the lives of mid-career women. *Dissertation Abstracts International*, 61(12), 4976A. (UMI No. 9999877)
- Cass, V. C. (1979). Homosexual identity formation: A theoretical model. *Journal of Homosexuality*, 4(3), 219–235.
- Cassidy, S. (2004). Learning styles: An overview of theories, models, and measures. *Educational Psychology*, 24(4), 419–444.
- Cattell, R. B. (1963). Theory of fluid and crystallized intelligence: A critical experiment. *Journal of Educational Psychology*, 54, 1–22.
- Cattell, R. B. (1987). *Intelligence: Its structure, growth and action*. Amsterdam: Elsevier.
- Caudron, S. (1999). Free agent learner. *Training & Development*, 53(8), 26–30.
- Cavaliere, L. A. (1992). The Wright brothers' odyssey: Their flight of learning. In L. A. Cavaliere & A. Sgroi (Eds.), *Learning for personal development* (pp. 51–60). New Directions for Adult and Continuing Education, No. 53. San Francisco: Jossey-Bass.
- Cervero, R. M. (1988). *Effective continuing education for professionals*. San Francisco: Jossey-Bass.
- Cervero, R. M. (1991). Relationships between theory and practice. In J. Peters & P. Jarvis (Eds.), *Adult Education: Evolution and Achievements in a Developing Field of Study* (pp. 19–41). San Francisco: Jossey-Bass.
- Cervero, R. M., & Wilson, A. L. (1994). *Planning responsibly for adult education: A guide to negotiating power and interests*. San Francisco: Jossey-Bass.
- Cervero, R. M., & Wilson, A. L. (2005). *Working the planning table: Negotiating democratically for adult, continuing and workplace education*. San Francisco: Jossey-Bass.
- Chapman, V. (2002). "Knowing one's self": Selfwriting, power and ethical practice. In J. M. Pettitt (Ed.), *Proceedings of the 43rd Annual Adult Education Research Conference* (pp. 73–78). Raleigh: North Carolina State University.
- Chene, A. (1983). The concept of autonomy: A philosophical discussion. *Adult Education Quarterly*, 34, 38–47.
- Cheville, J. (2005). Confronting the problem of embodiment. *International Journal of Qualitative Studies in Education*, 18(1), 85–107.
- Cho, D. (2002). The connection between self-directed learning and the learning organization. *Human Resource Development Quarterly*, 13(4), 467–470.
- Choi, J., & Hannafin, M. (1995). Situated cognition and learning environments: Roles, structures, and implications for design. *Educational Technology Research and Design*, 43(2), 53–69.

- Chua, A. (2003). Globalization and ethnic hatred. *Phi Kappa Phi Forum*, 83(4), 13–16.
- Clancey, W. J. (1997). *Situated cognition: On human knowledge and computer representations*. New York: Cambridge University Press.
- Clardy, A. (2000). Learning on their own: Vocationally oriented self-directed learning projects. *Human Resource Development Quarterly*, 11(2), 105–126.
- Clark, M. C. (1997). Learning as a non-unitary self: Implications of post-modernism for adult learning theory. In P. Armstrong, N. Miller, & M. Zukas (Eds.), *Crossing Borders, Breaking Boundaries: Proceedings of the 27th Annual SCUTREA Conference* (pp. 108–111). London: Birbeck College, University of London.
- Clark, M. C., & Caffarella, R. S. (1999). Theorizing adult development. In M. C. Clark & R. S. Caffarella (Eds.), *An update on adult development theory: New ways of thinking about the life course* (pp. 3–8). New Directions for Adult and Continuing Education, No. 84. San Francisco: Jossey-Bass.
- Clark, M. C., & Dirkx, J. M. (2000). Moving beyond a unitary self: A reflective dialogue. In A. L. Wilson & E. R. Hayes (Eds.), *Handbook of adult and continuing education* (pp. 101–116). San Francisco: Jossey-Bass.
- Clark, M. C., & Wilson, A. L. (1991). Context and rationality in Mezirow's theory of transformational learning. *Adult Education Quarterly*, 41(2), 75–91.
- Clinchy, B. M. (2002). Revisiting women's ways of knowing. In B. K. Hofer & P. R. Pintrich (Eds.), *Personal epistemology: The psychology of beliefs about knowledge and knowing* (pp. 63–88). Hillsdale, NJ: Erlbaum.
- Cobb, P. (1994). Where is the mind? Constructivist and sociocultural perspectives on mathematical development. *Educational Researcher*, 23(7), 13–20.
- Coffield, F., Moseley, D., Hall, E., & Ecclestone, K. (2004). *Should we be using learning styles? What research has to say about practice?* London: Learning & Skills Center.
- Cognition and Technology Group at Vanderbilt. (1990). Anchored instruction and its relation to situated cognition. *Educational Researcher*, 19(6), 2–10.
- Cognition and Technology Group at Vanderbilt. (2000). Adventures in anchored instruction: Lessons from beyond the ivory tower. In R. Glaser (Ed.), *Advances in instructional psychology: Educational design and cognitive science* (Vol. 5, pp. 35–100). Hillsdale, NJ: Erlbaum.
- Cohen, N. H. (1995). *Mentoring adult learners: A guide for educators and trainers*. Melbourne, FL: Krieger.
- Cole, T. B., & Glass, R. M. (2004). Learning associated with participation in journal-based continuing medical education. *Journal of Continuing Education in the Health Professions*, 24(4), 205–212.

- Colin, S.A.J. III, & Preciphs, T. K. (1991). Perceptual patterns and the learning environment: Confronting white racism. In R. Hiemstra (Ed.), *Creating environments for effective adult learning* (pp. 61–70). New Directions for Adult and Continuing Education, No. 50. San Francisco: Jossey-Bass.
- Collard, S. (1995). Remapping adult education: Beyond social movement and professionalization. In P. Collette, B. Einsiedel, & S. Hobden (Eds.), *Proceedings of the 36th Annual Adult Education Research Conference* (pp. 63–68). Edmonton, Alberta: University of Alberta.
- Collins, J. F. (2000a). Biracial-bisexual individuals: Identity coming of age. *International Journal of Sexuality and Gender Studies*, 5(3), 221–253.
- Collins, J. F. (2000b). Biracial Japanese American identity: An evolving process. *Cultural Diversity and Ethnic Minority Psychology*, 6(2), 115–133.
- Collins, M. (1988). Self-directed learning or an emancipatory practice of adult education: Re-thinking the role of the adult educator. In C. Warren (Ed.), *Proceedings of the 29th Annual Adult Education Research Conference* (pp. 61–66). Calgary, Canada: University of Calgary.
- Collins, M. (1991). *Adult education as vocation*. New York: Routledge.
- Collins, M. (1994). From self-directed learning to post-modernist thought in adult education: Relocating our object of theory and practice. In M. Hyams, J. Armstrong, & E. Anderson (Eds.), *Proceedings of the 35th Annual Adult Education Research Conference* (pp. 97–102). Knoxville: University of Tennessee.
- Collins, M. (1995a). Critical commentaries on the role of the adult educator: From self-directed learning to postmodernist sensibilities. In M. R. Welton (Ed.), *In defense of the lifeworld* (pp. 71–98). Albany: State University of New York Press.
- Collins, M. (1995b). In the wake of postmodernist sensibilities and opting for a critical return. In M. R. Welton (Ed.), *In defense of the lifeworld* (pp. 195–201). Albany: State University of New York Press.
- Collins, M. (1996). On contemporary practice and research: Self-directed learning to critical theory. In R. Edwards, A. Hanson, & P. Raggatt (Eds.), *Boundaries of adult learning: Adult learners, education and training* (pp. 109–127). New York: Routledge.
- Collins, M. A., Brick, J. M., & Kim, K. (1997). The measurement of participation in adult education. In R. Nolan & H. Chelesvig (Eds.), *Proceedings of the 38th Annual Adult Education Research Conference* (pp. 61–66). Stillwater: Oklahoma State University.
- Collins, M., & Collard, S. (1995). Examining the case for class analysis in adult education research. In P. Collette, B. Einsiedel & S. Hobden (Eds.), *Proceedings of the 36th Annual Adult Education Research Conference* (pp. 69–76). Edmonton, Alberta: University of Alberta.

- Comings, J. P. (2003). *Establishing an evidence-based adult education system*. NSCALL Occasional Paper. Cambridge, MA: National Center for the Study of Adult Learning and Literacy.
- Commission for a Nation of Lifelong Learners. (1997). *A nation learning: Vision for the 21st century*. Albany, NY: Commission for a Nation of Lifelong Learners (www.regents.edu).
- Commission of the European Communities. (2000). *A memorandum on lifelong learning*. Brussels: European Commission.
- Conrad, D. (2005). Online learning. In L. M. English (Ed.), *International encyclopedia of adult education* (pp. 442–446). New York: Palgrave Macmillan.
- Cook, B. J. (1999). Islam versus Western conceptions of education: Reflections on Egypt. *International Review of Education*, 45(3/4), 339–357.
- Coombs, P. H. (1985). *The world crisis in education: A view from the eighties*. New York: Oxford University Press.
- Coombs, P. H. (1989). Formal and nonformal education: Future strategies. In C. J. Titmus (Ed.), *Lifelong education for adults: An international handbook* (pp. 57–60). New York: Pergamon Press.
- Coombs, P. H., with Prosser, R. C., & Ahmed, M. (1973). *New paths to learning for children and youth*. New York: International Council for Educational Development.
- Cope, P., Cuthbertson, P., & Stoddart, B. (2000). Situated learning in the practice of placement. *Journal of Advanced Nursing*, 31(4), 850–856.
- Courtenay, B. C., Arnold, G. W., & Kim, K. (1994). An examination of the empirical basis for involving adult learners in planning their learning experiences. *International Journal of Lifelong Education*, 13(4), 291–300.
- Courtenay, B. C., Merriam, S. B., Reeves, P. M., & Baumgartner, L. M. (2000). Perspective transformation over time: A two-year follow-up study of HIV-positive adults. *Adult Education Quarterly*, 52(2), 102–119.
- Courtenay, B. C., & Milton, J. (2004). Spirituality in adult education: From the voices of educators and learners. In D. E. Clover (Ed.), *Proceedings of the Joint International Conference of the 45th Annual Adult Education Research Conference and the Canadian Association for the Study of Adult Education* (pp. 101–106). Victoria, Canada: University of Victoria.
- Courtney, S. (1992). *Why adults learn: Toward a theory of participation in adult education*. New York: Routledge.
- Cowen, T. (2003). Does globalization kill ethos and diversity? *Phi Kappa Phi Forum*, 83(4), 17–20.
- Cox, S., & Gallois, C. (1996). Gay and lesbian identity development: A social identity perspective. *Journal of Homosexuality*, 30(4), 1–30.
- Cranton, P. (1996). *Professional development as transformative learning*. San Francisco: Jossey-Bass.

- Cranton, P. (Ed.). (1997). *Transformative learning in action: Insights from practice*. New Directions for Adult and Continuing Education, No. 74. San Francisco: Jossey-Bass.
- Cranton, P. (2002). Teaching for transformation. In J. M. Ross-Gordon (Ed.), *Contemporary viewpoints on teaching adults effectively* (pp. 63–71). New Directions for Adult and Continuing Education, No. 93. San Francisco: Jossey-Bass.
- Cranton, P. (2005). Learning styles. In L. M. English (Ed.), *International encyclopedia of adult education* (pp. 111–117). New York: Palgrave MacMillan.
- Cranton, P., & Dirkx, J. M. (2005). Integrating theoretical perspectives through online dialogue. In D. Vlosak, G. Kielbaso, & J. Radford (Eds.), *Proceedings of the 6th International Conference on Transformative Learning* (pp. 91–97). East Lansing: Michigan State University.
- Cranton, P., & Lin, L. (2005). Transformative learning about teaching: The role of technology. In D. Vlosak, G. Kielbaso, & J. Radford (Eds.), *Proceedings of the 6th International Conference on Transformative Learning* (pp. 99–104). East Lansing: Michigan State University.
- Creighton, S., & Hudson, L. (2002). *Participation trends and patterns in adult education: 1991 to 1999*. Washington, DC: National Center for Educational Statistics, Office of Educational Research and Improvement, U.S. Department of Education.
- Criticos, C. (1993). Experiential learning and social transformation for a post-apartheid learning future. In D. Boud, R. Cohen, & D. Walker (Eds.), *Using experience for learning* (pp. 157–168). Buckingham, England, and Bristol, PA: Society for Research into Higher Education and Open University Press.
- Cropley, A. J. (1989). Factors in participation. In C. J. Titus (Ed.), *Lifelong education for adults: An international handbook* (pp. 145–147). New York: Pergamon Press.
- Cross, W. (1971, July). The Negro-to-Black conversion experience. *Black World*, 20, 13–27.
- Cross, W. E. Jr. (1995). The psychology of Nigrescence: Revising the Cross model. In J. G. Ponterotto, J. M. Casa, L. A. Suzuki, & C. M. Alexander (Eds.), *Handbook of multicultural counseling* (pp. 93–122). Thousand Oaks, CA: Sage.
- Cross, W. E. Jr., & Vandiver, B. J. (2001). Nigrescence theory and measurement: Introducing the Cross racial identity scale (CRIS). In J. G. Ponterotto, J. M. Casa, L. A. Suzuki, & C. M. Alexander (Eds.), *Handbook of multicultural counseling* (2nd ed., pp. 371–393). Thousand Oaks, CA: Sage.
- Crowdes, M. S. (2000). Embodying sociological imagination: Pedagogical support for linking bodies to minds. *Teaching Sociology*, 28(1), 24–40.

- Crowther, J. (2000). Participation in adult and community education: a discourse of diminishing returns. *International Journal of Lifelong Education*, 19(6), 479–492.
- Cunningham, J., & Fitzgerald, J. (1996). Epistemology and reading. *Reading Research Quarterly*, 31(1), 36–60.
- Cunningham, P. M. (1988). The adult educator and social responsibility. In R. G. Brockett (Ed.), *Ethical issues in adult education*. New York: Teachers College Press.
- Cunningham, P. M. (2000). A sociology of adult education. In A. L. Wilson & E. R. Hayes (Eds.), *Handbook of adult and continuing education* (pp. 573–591). San Francisco: Jossey-Bass.
- Dale, J. A., Glowacki-Dudka, M., & Hyslop-Margison, E. J. (2005). Lifelong learning as human ontology: A Freirean response to human capital education. In R. J. Hill & R. Kiely (Eds.), *Proceedings of the 46th Annual Adult Education Research Conference* (pp. 109–114). Athens: University of Georgia.
- Dale, J. T. (2005). Reflective judgment: Seminararians: Epistemology in a world of relativism. *Journal of Psychology and Theology*, 33(1), 56–64.
- Daloz, L. A. (1986). *Effective teaching and mentoring: Realizing the transformational power of adult learning experiences*. San Francisco: Jossey-Bass.
- Daloz, L. A. (1988). The story of Gladys who refused to grow: A morality tale for mentors. *Lifelong Learning: An Omnibus of Practice and Research*, 11(4), 4–7.
- Daloz, L. A. (1999). *Mentor: Guiding the journey of adult learners* (2nd ed.). San Francisco: Jossey-Bass.
- Daloz, L. A. (2000). Transformative learning for the common good. In J. Mezirow & Associates (Eds.), *Learning as transformation: Critical perspectives on a theory in progress* (pp. 103–124). San Francisco: Jossey-Bass.
- Damasio, A. R. (2000). The fabric of the mind: A neurobiological perspective. NOW/Huygens Lecturer. Rotterdam, Netherlands: The Netherlands Organization for Scientific Research.
- Danis, C. (1992). A unifying framework for data-based research into adult self-directed learning. In H. B. Long & others, *Self-directed learning: Application and research* (pp. 47–72). Norman: Oklahoma Research Center for Continuing Professional and Higher Education, University of Oklahoma.
- Danis, C., & Tremblay, N. A. (1987). Propositions regarding autodidactic learning and their implications for teaching. *Lifelong Learning: An Omnibus of Practice and Research*, 10(7), 4–7.
- Danis, C., & Tremblay, N. A. (1988). Autodidactic learning experiences: Questioning established adult learning principles. In H. B. Long & others, *Self-directed learning: Application and theory* (pp. 171–197). Athens: Adult Education Department, University of Georgia.
- Dannefer, D. (1996). Commentary. *Human Development*, 39, 150–152.

- Darkenwald, G. G., & Valentine, T. (1985). Factor structure of deterrents to public participation in adult education. *Adult Education Quarterly*, 35(4), 177–193.
- Davenport, J., & Davenport, J. (1985). A chronology and analysis of the andragogy debate. *Adult Education Quarterly*, 35(3), 152–159.
- Davidson, J. E., & Downing, C. L. (2000). Contemporary models of intelligence. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 34–49). New York: Cambridge University Press.
- Davis, D. C. (2003). Dialogue of the soul: Transformative dimensions of the experience of spirit. In C. A. Weissner, S. R., Meyer, N. L. Pfhall, & P. G. Neaman (Eds.), *Proceedings of the 5th International Conference on Transformative Learning* (pp. 130–135). New York: Teachers College, Columbia University.
- Davis, D. C. (2004). Thrown from the train: Experiences that contribute to the spiritual growth of males in mid-life. In D. E. Clover (Ed.), *Proceedings of the Joint International Conference of the 45th Annual Adult Education Research Conference and the Canadian Association for the Study of Adult Education* (pp. 119–124). Victoria, Canada: University of Victoria.
- Davis-Harrison, D. (1996). Nonparticipation in adult education programs: Views of blue-collar male workers with low literacy skills. In H. Reno & M. Witte (Eds.), *Proceedings of the 37th Annual Adult Education Research Conference* (pp. 85–90). Tampa: University of South Florida.
- Deary, I. J. (2001). *Intelligence: A very short introduction*. Oxford, United Kingdom: Oxford University Press.
- Dei, G. J., Hall, B. L., & Rosenberg, D. G. (2000). Introduction. In G. J. Dei, B. L. Hall, & D. G. Rosenberg (Eds.), *Indigenous knowledges in global contexts* (pp. 3–17). Toronto: University of Toronto Press.
- Della Porta, T. (2006). A perspective on the use of learning style instruments in adult education. Unpublished manuscript, Cornell University, Ithaca, New York.
- deMarrais, K. (1991). John's story: An exploration into critical theory in education. *Adult Learning*, 2(8), 9–10.
- Demko, D. J. (1982). Human resources correlates of older adult participation in self-selected community college settings. *Dissertation Abstracts International*, 43(06A), 1792. (UMI No. 8224936)
- Desimone, R., Werner, J., & Harris, D. (2002). *Human resource development* (3rd ed.). Mason, OH: South-Western.
- Desmedt, E., & Valcke, M. (2004). Mapping the learning styles “jungle”: An overview of the literature based on citation analysis. *Educational Psychology*, 24(4), 446–464.
- Dewey, J. (1938). *Experience and education*. New York: Collier Books.
- Dirkx, J. (1998). Transformative learning theory in the practice of adult education: An overview. *PAACE Journal of Lifelong Learning*, 7, 1–14.

- Dirkx, J. (2001a). Images, transformative learning and the work of the soul. *Adult Learning*, 12(3), 15–16.
- Dirkx, J. (2001b). The power of feelings: Emotion, imagination and the construction of meaning in adult learning. In S. B. Merriam (Ed.), *The new update on adult learning theory* (pp. 63–72). New Directions for Adult and Continuing Education, No. 89. San Francisco: Jossey-Bass.
- Dirkx, J. M., Pratt, D., & Taylor, E. (2002). Archetypes of teaching: Tethers in the wind or flashlights in the dark? In J. M. Pettitt (Ed.), *Proceedings of the 43rd Annual Adult Education Research Conference* (pp. 91–96). North Carolina State University, Raleigh.
- Dirkx, J. M., & Smith, R. (2005). Transformative learning in adult online collaborative groups: The dialectic of will and willness. In D. Vlosak, G. Kielbaso, & J. Radford (Eds.), *Proceedings of the Sixth International Conference on Transformative Learning* (pp. 113–119). East Lansing: Michigan State University.
- Di Vesta, F. J. (1987). The cognitive movement in education. In J. Glover & R. Ronning (Eds.), *Historical foundations of education* (pp. 203–233). New York: Plenum.
- Dixon, N. M. (1997). The hallways of learning. *Organizational Dynamics*, 25(4), 23–34.
- Dixon, R. A. (2003). Themes in the aging of intelligence: Robust decline with intriguing possibilities. In R. J. Sternberg, J. Lautrey, & T. I. Lubart (Eds.), *Models of intelligence: International perspectives* (pp. 151–167). Washington, DC: American Psychological Association.
- Dominice, P. (2000). *Learning from our lives: Using educational biographies with adults*. San Francisco: Jossey-Bass.
- Driver, R., Asoko, H., Leach, J., Mortimer, E., & Scott, P. (1994). Constructing scientific knowledge in the classroom. *Educational Researcher*, 23(7), 5–12.
- Dunlap, J., & Grabinger, S. (2003). Preparing students for lifelong learning: A review of instructional features and teaching methodologies. *Performance Improvement Quarterly*, 16(2), 6–25.
- Durr, R., Guglielmino, L. M., & Guglielmino, P. J. (1996). Self-directed learning readiness and occupational categories. In G. N. McLean (Ed.), *Human Resource Development Quarterly*, 7(4), 349–358.
- Dychtwald, K., & Flower, J. (1989). The third age. *New Age Journal*, 6(1), 50–59.
- Edwards, R., & Usher, R. (2000). Lifelong learning: The postmodern condition of education? In T. J. Sork, V. Chapman, & R. St. Clair (Eds.), *Proceedings of the 41st Annual Adult Education Research Conference* (pp. 96–100). Vancouver: University of British Columbia.
- Elias, D. (1997). It's time to change our minds: An introduction to transformative learning. *ReVision*, 20(1), 2–6.
- Elias, J. L. (1979). Critique: Andragogy revisited. *Adult Education*, 29, 252–255.

- Elias, J. L., & Merriam, S. B. (2005). *Philosophical foundations of adult education* (3rd ed.). Malabar, FL: Krieger.
- Ellinger, A. D. (2004). The concept of self-directed learning and its implications for human resource development. In B. Yang (Ed.), *Advances in Developing Human Resources*, 6(2), 129–145.
- Ellinger, A. D., Ellinger, A. E., Yang, B., & Howton, S. W. (2002). The relationship between the learning organization concept and firms' financial performance: An empirical assessment. *Human Resource Development Quarterly*, 13(1), 5–21.
- Ellsworth, E. (1989). Why doesn't this feel empowering? Working through the repressive myths of critical pedagogy. *Harvard Educational Review*, 59(3), 297–324.
- Embretson, S. E., & Schmidt McCollam, K. (2000). Psychometric approaches to understanding and measuring intelligence. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 423–444). New York: Cambridge University Press.
- English, L. M. (2000). Spiritual dimensions of informal learning. In L. M. English & M. A. Gillen (Eds.), *Addressing the spiritual dimensions of adult learning: What educators can do* (pp. 29–38). New Directions for Adult and Continuing Education, No. 85. San Francisco: Jossey-Bass.
- English, L. M. (2005a). Historical and contemporary explorations of the social change and spiritual directions of adult education. *Teachers College Record*, 107(6), 1169–1192.
- English, L. M. (Ed.). (2005b). *International encyclopedia of adult education*. New York: Palgrave Macmillan.
- English, L. M., Fenwick, T. J., & Parsons, J. (2003). *Spirituality of adult education and training*. Malabar, FL: Krieger.
- Erickson, D. M. (2002). A developmental constructivist examination of meaning making capacity among peer instructors in learning in retirement programs. *Dissertation Abstracts International*, 63(05), 1668A. (UMI No. 3052875)
- Erikson, E. H. (1963). *Childhood and society* (2nd ed., rev.). New York: Norton.
- Erikson, E. H. (1968). *Identity, youth and crisis*. New York: Norton.
- Erikson, E. H. (1978). *Adulthood*. New York: Norton.
- Erikson, E. H., Erikson, J. M., & Kivnick, H. O. (1986). *Vital involvement in old age*. New York: Norton.
- Etter-Lewis, G., & Foster, M. (Eds.). (1996). *Unrelated kin: Race and gender in women's personal narratives*. New York: Routledge.
- Eurich, N. (1990). *The learning industry*. Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.
- Faris, N. A., & Ashraf, S. A. (2003). *The book of knowledge: Being a translation with notes of Kitab al-'Ilm of Al-Ghazzali's Ihya' "Ulum al-Din*. <http://www.al-Ghazali.org>. Accessed September 8, 2004.

- Fasokun, T., Katahoire, A., & Oduaran, A. (2005). *The psychology of adult learning in Africa*. Hamburg, Germany: UNESCO Institute for Education and Pearson Education South Africa.
- Faure, E., Herrera, F., Kaddoura, A., Lopes, H., Petrovsky, A. J., Rahnema, M., & Ward, F. C. (1972). *Learning to be: The world of education today and tomorrow*. Paris: UNESCO.
- Feinstein, B. C. (2004). Learning and transformation in the context of Hawaiian ecological knowledge. *Adult Education Quarterly*, 54(2), 105–120.
- Fenimore, M. A. (1997). 'My brain is still working!': Conversations with centenarians about learning in adulthood. *Canadian Journal for the Study of Adult Education*, 11(1), 57–70.
- Fenwick, T. J. (2001). *Experiential learning: A theoretical critique from five perspectives*. Information Series No. 385. Columbus, OH: ERIC Clearinghouse on Adult, Career and Vocational Education, Center on Education and Training for Employment.
- Fenwick, T. (2003). *Learning through experience: Troubling orthodoxies and intersecting questions*. Malabar, FL: Krieger.
- Fenwick, T. (2005a). Conceptions of critical HRD: Dilemmas for theory and practice. *Human Resource Development International*, 8(2), 225–238.
- Fenwick, T. (2005b). Organizational learning. In L. M. English (Ed.), *International encyclopedia of adult education* (pp. 446–450). New York: Palgrave Macmillan.
- Fenwick, T., & English, L. (2004). Dimension of spirituality: A framework for adult educators. *Journal of Adult Theological Education*, 1(1), 49–64.
- Fenwick, T., English, L., & Parsons, J. (2001). Dimensions of spirituality: A framework for adult educators. In T. Nesbit (Ed.), *Proceedings of the 20th Annual Conference of the Canadian Association for the Study of Adult Education (CASAE)*. Quebec: Laval University. <http://www.oise.utoronto.ca/CASAE/cnf2001/fenwicketal.htm>. Accessed January 5, 2003.
- Ferraro, K. F. (2001). Aging and role transitions. In R. H. Birnstock & L. K. George (Eds.), *Handbook of aging and the social sciences* (pp. 313–330). San Francisco: Academic Press.
- Ferry, N., & Ross-Gordon, J. (1998). An inquiry into Schön's epistemology of practice: Exploring links between experience and reflective practice. *Adult Education Quarterly*, 48(2), 98–112.
- Field, D., Schaie, K. W., & Leino, V. E. (1988). Continuity in intellectual functioning: The role of self-reported health. *Psychology and Aging*, 3(4), 385–392.

- Finger, M. (1995). Adult education and society today. *International Journal of Lifelong Education*, 14(2), 110–119.
- Finger, M. (2005a). Critical theory. In L. M. English (Ed.), *International Encyclopedia of Adult Education* (pp. 165–168). London: Palgrave Macmillan.
- Finger, M. (2005b). Globalization. In L. M. English (Ed.), *International Encyclopedia of Adult Education* (pp. 269–273). London: Palgrave Macmillan.
- Fischback, G. D. (1992). Mind and brain. *Scientific American*, 267(3), 48–57.
- Fisher, H. (2004, January 19). Your brain in love. *Time*.
- Flannery, D. D. (1993). Global and analytical ways of processing information. In D. D. Flannery (Ed.), *Applying cognitive learning theory to adult learning* (pp. 15–24). New Directions for Adult and Continuing Education, No. 59. San Francisco: Jossey-Bass.
- Flannery, D., & Hayes, B. (2001). Challenging adult learning: A feminist perspective. In V. Sheared & P. Sissel (Eds.), *Making space: Merging theory and practice in adult education*. (pp. 29–41). New York: Bergin & Garvey.
- Foehr, R. P. (1997). Writing the spirit: Interviews with John Bradshaw, Larry Dossey, M.D., and Thomas Moore. In R. P. Foehr & S. A. Schiller (Eds.), *The spiritual side of writing* (pp. 44–68). Portsmouth, NH: Boynton/Cook.
- Fogerson, D. L. (2005). *Readiness factors contributing to participant satisfaction in online higher education courses*. Unpublished doctoral dissertation, University of Tennessee, Knoxville.
- Fowler, J. W. (1981). *Stages of faith: The psychology of human development and the quest for meaning*. New York: HarperCollins.
- Freed, S. A. (2003). Metaphors and reflective dialogue online. *New Horizons in Adult Education*, 17(3), 4–19.
- Freire, P. (1970). *Pedagogy of the oppressed*. New York: Seabury Press.
- Freire, P. (1985). *The politics of education: Culture, power, and liberation*. New York: Bergin & Garvey.
- Freire, P. (2000). *Pedagogy of the oppressed* (20th anniversary ed.). New York: Continuum.
- Friedman, A. A. (2004). The relationship between personality traits and reflective judgment among female students. *Journal of Adult Development*, 11(4), 297–304.
- Fujita-Starck, P. J. (1996). Motivations and characteristics of adult students: Factor stability and construct validity of educational participation scale. *Adult Education Quarterly*, 47(1), 29–40.
- Gagne, R. M., Briggs, L. J., & Wager, W. W. (1992). *Principles of instructional design* (4th ed.). Orlando: Harcourt Brace.

- Galbraith, M. W., & Cohen, N. H. (Eds.). (1995). *Mentoring: New strategies and challenges*. New Directions for Adult and Continuing Education, No. 66. San Francisco: Jossey-Bass.
- Gardiner, H. W., & Kosmitzki, C. (2005). *Lives across cultures: Cross-cultural human development*. Needham Heights, MA: Allyn & Bacon.
- Gardner, H. (1993). *Multiple intelligences: The theory in practice*. New York: Basic Books.
- Gardner, H. (1995). Reflections on multiple intelligences: Myths and messages. *Phi Delta Kappan*, 77(3), 200–209.
- Gardner, H. (1999a). A multiplicity of intelligences. *Intelligence*, 9(4), 19–23.
- Gardner, H. (1999b). *Intelligence reframed: Multiple intelligences for the 21st century*. New York: Basic Books.
- Gardner, H. (2003). Three distinct meanings of intelligence. In R. J. Sternberg, J. Lautrey, & T. I. Lubart (Eds.), *Models of intelligence: International perspectives* (pp. 43–54). Washington, DC: American Psychological Association.
- Gardner, P. (1996). Transitions: Understanding economic and workplace changes at the end of the century. *Journal of Cooperative Education*, 31(2), 41–57.
- Garrison, D. R. (1986). An analysis and reformulation of McClusky's concept of margin for predicting adult dropout. In K. Landers (Ed.), *Proceedings of the 27th Adult Education Research Conference* (pp. 112–117). Syracuse, NY: Syracuse University.
- Garrison, D. R. (1992). Critical thinking and self-directed learning in adult education: An analysis of responsibility and control issues. *Adult Education Quarterly*, 42(3), 136–148.
- Garrison, D. R. (1997). Self-directed learning: Toward a comprehensive model. *Adult Education Quarterly*, 48(1), 18–33.
- Gaventa, J. (1988). Participatory research in North America. *Convergence*, 21(2–3), 19–28.
- Geissler, K. A. (1996). Adult education in modern times—development and quality. *Adult Education and Development*, 47, 31–54.
- George, J. M. (1999). Indigenous knowledge as a component of the school curriculum. In L. M. Semali & J. L. Kincheloe (Eds.), *What is indigenous knowledge? Voices from the academy* (pp. 79–94). New York: Falmer Press.
- Gergen, K. J. (1991). *The saturated self*. New York: Basic Books.
- Gergen, K. J. (1995). Social construction and the educational process. In L. P. Steffe & J. Gale (Eds.), *Constructivism in education* (pp. 17–39). Hillsdale, NJ: Erlbaum.
- Gibson, S. K. (2004). Social learning (cognitive) theory and implications for human resource development. In B. Yang (Ed.), *Advances in Developing Human Resources*, 6(2), 193–210.

- Giroux, H. (1992). *Border crossings: Cultural workers and the politics of education*. New York: Routledge.
- Glastra, F. J., Hake, B. J., & Schedler, P. E. (2004). Lifelong learning as transitional learning. *Adult Education Quarterly*, 54(4), 291–307.
- Goldberger, N. R. (1996a). Cultural imperatives and diversity in ways of knowing. In N. R. Goldberger, J. M. Tarule, B. M. Clinchy, & M. F. Belenky (Eds.), *Knowledge, difference and power: Essays inspired by women's ways of knowing* (pp. 335–364). New York: Basic Books.
- Goldberger, N. R. (1996b). Looking backward, looking forward. In N. R. Goldberger, J. M. Tarule, B. M. Clinchy, & M. F. Belenky (Eds.), *Knowledge, difference and power: Essays inspired by women's ways of knowing* (pp. 1–21). New York: Basic Books.
- Goldberger, N. R., Tarule, J. M., Clinchy, B. M., & Belenky, M. F. (Eds.). (1996). *Knowledge, difference, and power: Essays inspired by Women's Ways of Knowing*. New York: Basic Books.
- Goldenberg, J. L., Pyszczynski, T., Greenberg, J., & Solomon, S. (2000). Fleeing the body: A terror management perspective on the problem of human corporeality. *Personality and Social Psychology Review*, 4(3), 200–218.
- Goleman, D. (1995). *Emotional intelligence: Why it can matter more than IQ*. New York: Bantam Books.
- Goodnow, J. J. (1990). Using sociology to extend psychological accounts of cognitive development. *Human Development*, 33, 81–107.
- Gorard, S., & Selwyn, N. (2005). Towards a learning society? The impact of technology on patterns of participation in lifelong learning. *British Journal of Sociology of Education*, 26(1), 71–89.
- Gorham, J. (1985). Differences between teaching adults and pre-adults: A closer look. *Adult Education quarterly*, 35(4), 194–209.
- Gottfredson, L. S. (1997). Mainstream science on intelligence: An editorial with 52 signatories, history, and bibliography. *Intelligence*, 24(1), 13–23.
- Götz, I. L. (2001). Spirituality and the body. *Religious Education*, 96(1), 2–19.
- Gould, R. (1978). *Transformations: Growth and change in adult life*. New York: Simon & Schuster.
- Gouthro, P. A. (2003). Feminist perspectives on Habermasian theory: Implications for the development of critical feminist theoretical discourses in adult education. In D. Flowers, M. Lee, A. Jalipa, E. Lopez, A. Schelstrate, & V. Sheared (Eds.), *Proceedings of the 44th Annual Adult Education Research Conference* (pp. 145–150). San Francisco: San Francisco State University.
- Gouthro, P. A., & Grace, A. P. (2000). Feminist pedagogies and graduate adult and higher education for women students: Matters of connection and possibility. In T. J. Sork, V. Chapman, & R. St. Clair (Eds.),

- Proceedings of the 41st Annual Adult Education Research Conference* (pp. 134–138). Vancouver: University of British Columbia.
- Grace, A. P. (1996a). Adult educators as border crossers: Using transformative pedagogy to inform classroom practice. In H. Reno & M. Witte (Eds.), *Proceedings of the 37th Annual Adult Education Research Conference* (pp. 145–150). Tampa: University of South Florida.
- Grace, A. P. (1996b). Taking a critical pose: Andragogy—missing links, missing values. *International Journal of Lifelong Education*, 15(5), 382–392.
- Grace, A. P. (1997). Taking it to practice: Building a critical postmodern theory of adult learning community. In R. Nolan & H. Chelesvig (Eds.), *Proceedings of the 38th Annual Adult Education Research Conference* (pp. 126–131). Stillwater: Oklahoma State University.
- Graveline, F. J. (2005). Indigenous learning. In L. M. English (Ed.), *International encyclopedia of adult education* (pp. 304–309). New York: Palgrave Macmillan.
- Graves, R. L. (1997). Grace, in pedagogy. In R. P. Foehr & S. A. Schiller (Eds.), *The spiritual side of writing* (pp. 15–24). Portsmouth, NH: Boynton/Cook.
- Gredler, M. E. (1997). *Learning and instruction: Theory into practice* (3rd ed.). Englewood Cliffs, NJ: Prentice Hall.
- Greeno, J. (1997). On claims that answer the wrong question. *Educational Researcher*, 27(1), 5–17.
- Griffith, W. S., & Fujita-Starck, P. J. (1989). Public policy and financing of adult and continuing education. In S. B. Merriam & P. M. Cunningham (Eds.), *Handbook of adult and continuing education* (pp. 168–180). San Francisco: Jossey-Bass.
- Grigorenko, E. L. (2000). Heritability and intelligence. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 53–91). New York: Cambridge University Press.
- Grippin, P., & Peters, S. (1984). *Learning theory and learning outcomes*. Lanham, MD: University Press of America.
- Grotzer, T. A., & Perkins, D. N. (2000). Teaching intelligence: A performance conception. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 492–515). New York: Cambridge University Press.
- Grow, G. (1991). Teaching learners to be self-directed: A stage approach. *Adult Education Quarterly*, 41(3), 125–149.
- Grow, G. (1994). In defense of the staged self-directed learning model. *Adult Education Quarterly*, 44(2), 109–114.
- Guglielmino, L. M. (1977). *Development of the self-directed learning readiness scale*. Unpublished doctoral dissertation, University of Georgia.

- Guglielmino, L. M. (1997). *Contributions of the self-directed learning readiness scale (SDLRS) and the learning preference assessment (LPA) to the definition and measurement of self-direction in learning*. Paper presented at the First World Conference on Self-Directed Learning, Montreal, Canada.
- Guglielmino, P. J., & Guglielmino, L. M. (2005). *The relationship of self-directed learning readiness, culture, productivity and income in seven countries*. Paper presented at the meeting of the Self-Directed Learning Conference, Jupiter, FL.
- Guglielmino, P. J., & Roberts, D. G. (1992). A comparison of self-directed learning readiness in U.S. and Hong Kong samples and the implications for job performance. *Human Resource Development Quarterly*, 3(3), 261–271.
- Guy, T. C. (2005). Culturally relevant adult education. In L. M. English (Ed.), *International encyclopedia of adult education* (pp. 180–184). London: Palgrave Macmillan.
- Guyer, B., Freedman, M. A., Strobino, D. M., & Sondik, E. J. (2000). Annual summary of vital statistics: Trends in the health of Americans during the 20th century. *Pediatrics*, 106(6), 1307–1317.
- Hadfield, J. (2003). Recruiting and retaining adult students. In D. Kilgore & P. J. Rice (Eds.), *Meeting the special needs of adult students* (pp. 17–25). New Directions for Student Services, No. 102. San Francisco: Jossey-Bass.
- Haier, R. J. (2003). Brain imaging studies of intelligence: Individual differences and neurobiology. In R. J. Sternberg, J. Lautrey, & T. I. Lubart (Eds.), *Models of intelligence: International perspectives* (pp. 185–193). Washington, DC: American Psychological Association.
- Hall, A. G., & Donaldson, J. F. (1997). An exploratory study of the social and personal dynamics that deter underserved women from participating in adult education activities. In R. Nolan & H. Chelesvig (Eds.), *Proceedings of the 38th Annual Adult Education Research Conference* (pp. 96–101). Stillwater: Oklahoma State University.
- Hall, E., & Moseley, D. (2005). Is there a role for learning styles in personalized education and training? *International Journal of Lifelong Education*, 24(3), 243–255.
- Hamil-Luker, J., & Uhlenberg, P. (2002). Later life education in the 1990s: Increasing involvement and continuing disparity. *Journals of Gerontology Series B: Psychological Sciences & Social Sciences*, 57B(6), S324–S331.
- Hammond, M., & Collins, R. (1991). *Self-directed learning: Critical practice*. London: Nichols/GP Publishing.

- Hanpachern, C., Morgan, G. A., & Griego, O. V. (1998). An extension of the theory of margin: A framework for assessing readiness for change. *Human Resource Development Quarterly*, 9(4), 339–350.
- Hansen, A. H. (1988). Model of deficit/growth motives and learning needs of older participants. *Dissertation Abstracts International*, 149(12A), 3588. (UMI No. 8904357)
- Hansen, T. L. (1993). What is critical theory? An essay for the uninitiated organizational communication scholar. Paper presented at the Speech Communication Association of America Convention, Miami. (ERIC Document Reproduction Service No. ED 368 008)
- Hansman, C. A. (2001). Context-based adult learning. In S. Merriam (Ed.), *The new update on adult learning* (pp. 43–51). New Directions for Adult and Continuing Education, No. 89. San Francisco: Jossey-Bass.
- Hansman, C. A., & Sissel, P. A. (Eds.). (2001). *Understanding and negotiating the political landscape of adult education*. New Directions for Adult and Continuing Education, No. 91. San Francisco: Jossey-Bass.
- Hanson, A. (1996). The search for a separate theory of adult learning: Does anyone really need andragogy? In R. Edwards, A. Hanson, & P. Raggatt (Eds.), *Boundaries of adult learning* (pp. 99–108). New York: Routledge.
- Hart, M. (1990). Liberation through consciousness-raising. In J. Mezirow & Associates, *Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning* (pp. 47–73). San Francisco: Jossey-Bass.
- Hart, M. (1992). *Working and educating for life: Feminist and international perspectives on adult education*. New York: Routledge.
- Hart, M. (1995). Motherwork: A radical proposal to rethink work and education. In M. R. Welton (Ed.), *In defense of the lifeworld* (pp. 99–126). Albany: State University of New York Press.
- Hart, M., & Holton, D. (1993). Beyond God the father and the mother: Adult education and spirituality. In P. Jarvis & N. Walters (Eds.), *Adult education and theological interpretations* (pp. 237–258). Malabar, FL: Krieger.
- Hartree, A. (1984). Malcolm Knowles' theory of andragogy: A Critique. *International Journal of Lifelong Education*, 3(3), 203–210.
- Harvie, P.H.B. (2004). Transformative learning in undergraduate education. *Dissertation Abstracts International*, 65(10), 3717A. (UMI No. NQ94535).
- Havighurst, R. J. (1972). *Developmental tasks and education* (3rd ed.). New York: McKay. (Original work published 1952)
- Hayes, E. R. (2005). An extra life: Living and learning in virtual worlds. In R. J. Hill & R. Kiely (Eds.), *Proceedings of the 46th Annual Adult Education Research Conference* (pp. 193–198). Athens: University of Georgia.

- Hayes, E., & Colin, S.A.J. III (Eds.). (1994). *Confronting racism and sexism*. New Directions for Adult and Continuing Education, No. 61. San Francisco: Jossey-Bass.
- Health Disparities Experienced by Black or African Americans. (2004, August 27). *MMWR Weekly* 53(33), 755. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5333a1.htm>. Accessed August 1, 2005.
- Heany, T. (2005). *Issues in Freirean pedagogy*. <http://www3.nl.edu/academics/cas/ace/resources/Documents/FreireIssues#conscientization>. Accessed June 8, 2005.
- Hecker, D. (2001). Occupational employment projections to 2010. *Monthly Labor Review*, 124(11), 57–84.
- Hecker, D. (2004). Occupational employment projections to 2012. *Monthly Labor Review*, 127(2), 80–105.
- Heclo, H. (1994). Move to cut high-tech is growing. *Atlanta Journal/Atlanta Constitution*, September 11, pp. B1–B2.
- Helms, J. E. (1990). *Black and white racial identity: Theory research and practice*. Westport, CT: Greenwood.
- Helms, J. E. (1995). An update on Helms' White and people of color racial identity development models. In J. G. Ponterotto, J. M. Casa, L. A. Suzuki, & C. M. Alexander (Eds.), *Handbook of multicultural counseling* (pp. 188–198). Thousand Oaks, CA: Sage.
- Hemphill, D. F. (1996). Flexibility, innovation, and collaboration: A regional view of community-based organizations in adult education. *Adult Learning*, 7(6), 21–22.
- Hemphill, D. F. (2001). Incorporating postmodernist perspectives into adult education. In V. Sheared & P. A. Sissel (Eds.), *Making space: Merging theory and practice in adult education* (pp. 16–27). New York: Bergin & Garvey.
- Henderson, J. (2002). Transformative learning in the executive suite: CEOs and the role of context in Mezirow's theory. *Dissertation Abstracts International*, 62(12), 4026A. (UMI No. 3037824)
- Henriksen, R. C. Jr., & Trusty, J. (2004). Understanding and assisting Black/White biracial women in their identity development. In A. R. Gillem & C. A. Thompson (Eds.), *Biracial women in therapy: Between the rock of gender and the hard place of race* (pp. 65–84). Binghamton, NY: Hawthorn Press.
- Hergenhahn, B. R., & Olson, M. H. (2005). *An introduction to theories of learning* (7th ed.). Englewood Cliffs, NJ: Prentice Hall.
- Herring, R. D. (1995). Developing biracial ethnic identity: A review of the increasing dilemma. *Journal of Multicultural Counseling and Development*, 23(1), 29–38.
- Hersey, P., & Blanchard, K. (1988). *Management of organizational behavior: Utilizing human resources* (5th ed.). Englewood Cliffs, NJ: Prentice Hall.

- Hicks, A., & Rowel, R. (2004). Indigenous learning: Weaving the fabric of our histories for success. In D. E. Clover (Ed.), *Proceedings of the Joint International Conference of the 45th Annual Adult Education Research Conference and the Canadian Association for the Study of Adult Education* (pp. 221–226). Victoria, Canada: University of Victoria.
- Hiemstra, R. (1992). Individualizing the instructional process: What we have learned from two decades of research on self-direction in learning. In H. B. Long & others, *Self-directed learning: Application and research* (pp. 323–344). Norman: Oklahoma Research Center for Continuing Professional and Higher Education, University of Oklahoma.
- Hiemstra, R. (1993). Three underdeveloped models for adult learning. In S. B. Merriam (Ed.), *An update on adult learning theory* (pp. 37–46). *New Directions for Adult and Continuing Education*, No. 57. San Francisco: Jossey-Bass.
- Hiemstra, R., & Brockett, R. G. (1994). *Overcoming resistance to self-direction in adult learning*. *New Directions for Adult and Continuing Education*, No. 64. San Francisco: Jossey-Bass.
- Hiemstra, R., & Sisco, B. (1990). *Individualizing instruction: Making learning personal, empowering, and successful*. San Francisco: Jossey-Bass.
- Hilgard, E. R., & Bower, G. H. (1966). *Theories of learning*. Englewood Cliff, NJ: Appleton-Century-Crofts.
- Hill, L. H. (2001). The brain and consciousness: Sources of information for understanding adult learning. In S. Merriam (Ed.), *The new update on adult learning theory* (pp. 73–82). *New Directions for Adult and Continuing Education*, No. 89. San Francisco: Jossey-Bass.
- Hill, R. J. (1995). Fugitive and codified knowledge: The struggle to control the meaning of environmental hazards. In P. Collette, B. Einsiedel & S. Hobden (Eds.), *Proceedings of the 36th Annual Adult Education Research Conference* (pp. 163–170). Edmonton, Alberta: University of Alberta.
- Hill, R. J. (1998). From motherhood to sister-solidarity: Homemaking as a counterdiscourse to corporate environment polluting. In J. Kimmell (Ed.), *Proceedings of the 39th Annual Adult Education Research Conference* (pp. 179–184). San Antonio: University of the Incarnate Word and Texas A&M University.
- Hill, R. J. (2004). Activism as practice: Some queer considerations. In R. St. Clair & J. A. Sandlin (Eds.), *Promoting critical practice in adult education* (pp. 85–94). *New Directions for Adult and Continuing Education*, No. 102. San Francisco: Jossey-Bass.
- Hill, W. F. (2002). *Learning: A survey of psychological interpretations* (7th ed.). Needham Heights, MA: Allyn & Bacon.
- Ho, C. (2004). Cultural and individual differences in rational thinking. *Dissertation Abstracts International*, 65(05), 2608A. (UMI No. NQ91748)

- Hockly, N. (2000). Modelling and “cognitive apprenticeship” in teacher education. *ELT Journal*, 54(2), 118–125.
- Hofer, B. K., & Pintrich, P. R. (1997). The development of epistemological theories: Beliefs about knowledge and knowing and their relation to learning. *Review of Educational Research*, 67(1), 88–140.
- Hofstede, G. (1984). National cultures and corporate cultures. In L. A. Samovar & R. E. Porter (Eds.), *Communication between cultures* (pp. 52–88). Belmont, CA: Wadsworth.
- Holford, J., & Jarvis, P. (2000). The learning society. In A. L. Wilson & E. R. Hayes (Eds.), *Handbook of adult and continuing education* (pp. 643–659). San Francisco: Jossey-Bass.
- Hollenbeck, C. R. (2005). Online anti-brand communities as a new form of social action in adult education. In R. J. Hill & R. Kiely (Eds.), *Proceedings of the 46th Annual Adult Education Research Conference* (pp. 205–210). Athens: University of Georgia.
- Holliday, S. G., & Chandler, M. J. (1986). *Wisdom: Explorations in adult competence: Contributions to human development* (Vol. 17). Basel: Karger.
- Holst, J. D. (2002). *Social movements, civil society, and radical adult education*. New York: Bergin & Garvey.
- Holton, E. F., & Swanson, R. A. (1999). Reframing the andragogical model of learning. In K. P. Kuchinke (Ed.), *Academy of Human Resource Development (AHRD) Conference Proceedings*, Vol. 1 (pp. 20–28). Arlington, VA.
- Holton, E. F. III, Swanson, R. A., & Naquin, S. S. (2001). Andragogy in practice: Clarifying the andragogical model of adult learning. *Performance Improvement Quarterly*, 14(1), 118–143.
- Hood, A. B., & Deopere, D. L. (2002). The relationship of cognitive development to age, when education and intelligence are controlled for. *Journal of Adult Development*, 9(3), 229–234.
- hooks, b. (1994). *Teaching to transgress: Education as the practice of freedom*. London: Routledge.
- Hopkins, R. L. (1994). *Narrative schooling: Experiential learning and the transformation of American education*. New York: Teachers College Press.
- Horn, J. L. (1985). Remodeling old models of intelligence. In B. B. Wolman (Ed.), *Handbook of intelligence: Theories, measurements, and applications*. New York: Wiley.
- Horn, J. L. (1989). Cognitive diversity: A framework of learning. In P. L. Ackerman, R. J. Sternberg, & R. Glaser (Eds.), *Learning and individual differences* (pp. 61–116). New York: Freeman.
- Horn, J. L., & Cattell, R. B. (1966). Refinement and test of the theory of fluid and crystallized intelligence. *Journal of Educational Psychology*, 57, 233–270.

- Horn, J. L., & Cattell, R. B. (1967). Age differences in fluid and crystallized intelligence. *Acta Psychologica*, 26, 107–129.
- Houle, C. O. (1972). *The design of education*. San Francisco: Jossey-Bass.
- Houle, C. O. (1988). *The inquiring mind* (2nd ed.). Madison: University of Wisconsin Press & Norman: Oklahoma Research Center for Continuing Professional and Higher Education. (Original work published 1961)
- Howell, L. C., & Beth, A. (2002). Midlife myths and realities: Women reflect on their experiences. *Journal of Women and Aging*, 14(3/4), 189–204.
- Howell, L. C., & Beth, A. (2004). Pioneers in our own lives: Grounded theory of lesbians' midlife development. *Journal of Women and Aging*, 16(3/4), 133–147.
- Hoyer, W. J., & Roodin, P. A. (2003). *Adult development and aging* (5th ed.). New York: McGraw-Hill.
- Humphreys, L. G., & Stark, S. (2002). General Intelligence: Measurement, correlates, and interpretations of the cultural-genetic construct. In R. J. Sternberg & E. L. Grigorenko (Eds.), *The general factor of intelligence: How general is it?* (pp. 87–115). Hillsdale, NJ: Erlbaum.
- Husain, S. S., & Ashraf, S. M. (1979). *Crisis in Muslim education*. London: Hodder and Stoughton.
- Hwang, I. (2004). The relationships between discipleship training and transformative learning in Korean Presbyterian congregations. *Dissertation Abstracts International*, 65(05), 1625A. (UMI No. 31324775). [http://proquest.umi.com/pqdweb?index=0&did=766026451&SrchMode=1&sid=1&Fmt=2&VInst=PROD&VType=PQD&RQT=309&VNName=PQD&TS=1143990562&clientId=30345](http://proquest.umi.com/pqdweb?index=0&did=766026451&SrchMode=1&sid=1&Fmt=2&VInst=PROD&VType=PQD&RQT=309&VName=PQD&TS=1143990562&clientId=30345). Accessed July 29, 2005.
- Ianinska, S., Wright, U., & Rocco, T. S. (2003). Critical race theory and adult education: Critique of the literature in *Adult Education Quarterly*. In D. Flowers, M. Lee, A. Jalipa, E. Lopez, A. Schelstrate, & V. Sheared (Eds), *Proceedings of the 44th Annual Adult Education Research Conference* (pp. 175–180). San Francisco: San Francisco State University.
- Illeris, K. (2002). *Three dimensions of learning*. Roskilde, Denmark: Roskilde University Press/Leicester, UK: NIACE.
- Illeris, K. (2004a). *Adult education and adult learning*. Malabar, FL: Krieger.
- Illeris, K. (2004b). Transformative learning in the perspective of a comprehensive learning theory. *Journal of Transformative Education*, 2(2), 79–89.
- Inglis, T. (1997). Empowerment and emancipation. *Adult Education Quarterly*, 48(1), 3–17.
- Internet World Stats. (2005). *Internet usage statistics—The big picture*. <http://www.internetworldstats.com/stats>. Accessed August 7, 2005.

- Issroff, K., & Scanlon, E. (2002). Using technology in higher education: An Activity Theory perspective. *Journal of Computer Assisted Learning*, 18, 77–83.
- Jacobs, R. (1987). *Human performance technology: A systems-based field for the training and development profession*. Information Series No. 326. Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education.
- James, J. M. (1986). *Instructor-generated load: An inquiry based on McClusky's concepts of margin*. Unpublished doctoral dissertation, University of Wyoming, Laramie.
- James, W. B., & Blank, W. E. (1993). Review and critique of available learning style instruments for adults. In D. D. Flannery (Ed.), *Applying cognitive learning theory to adult learning* (pp. 47–58). New Directions for Adult and Continuing Education, No. 59. San Francisco: Jossey-Bass.
- Jarvis, C., & Zukas, M. (1998). Feminist teaching, feminist research, feminist supervision: Feminist praxis in adult education. In J. Kimmel (Ed.), *Proceedings of the 39th Annual Adult Education Research Conference* (pp. 197–202). San Antonio: University of the Incarnate Word and Texas A&M University.
- Jarvis, P. (1983). *Adult and Continuing Education: Theory and Practice*. London: Croom Helm.
- Jarvis, P. (1985). *The sociology of adult and continuing education*. London: Croom Helm.
- Jarvis, P. (1986). *Sociological perspectives on lifelong education and lifelong learning*. Athens: Adult Education Department, University of Georgia.
- Jarvis, P. (1987). *Adult learning in the social context*. London: Croom Helm.
- Jarvis, P. (1992). *Paradoxes of learning: On becoming an individual in society*. San Francisco: Jossey-Bass.
- Jarvis, P. (2001). *Learning in later life: An introduction for educators and careers*. London: Kogan Page.
- Jarvis, P. (2004). *Adult education and lifelong learning: Theory and practice* (3rd ed.). London and New York: Routledge/Falmer Press.
- Jarvis, P. (2006). *Towards a comprehensive theory of human learning*. London and New York: Routledge/Falmer Press.
- Jegade, O. J. (1999). Science education in nonwestern cultures: Towards a theory of collateral learning. In L. M. Semali & J. L. Kincheloe (Eds.), *What is indigenous knowledge? Voices from the academy* (pp. 119–142). Bristol, PA: Falmer Press.
- Jensen, A. R. (2002). *Psychometric g: Definition and substantiation*. In R. J. Sternberg & E. L. Grigorenko (Eds.), *The general factor of intelligence: How general is it?* (pp. 39–53). Hillsdale, NJ: Erlbaum.

- Jensen, E. (2000). *Brain-based learning*. San Diego: CA: The Brain Store.
- Jeris, L., & McDowell, T. (2003). Journal literature through the lens of critical race theory: A model for examining racism and social justice in the professions. In D. Flowers, M. Lee, A. Jalipa, E. Lopez, A. Schelstrate, & V. Sheared (Eds.), *Proceedings of the 44th Annual Adult Education Research Conference* (pp. 187–191). San Francisco: San Francisco State University.
- Johnson, J. B. (2000). A comparison of cognitive development between Whites and African Americans based on William Perry's scheme of intellectual and ethical development. *Dissertation Abstracts International*, 61(02), 522A. (UMI No. 9961423)
- Johnson, J. K. (2001). The sexual offender in treatment: An analysis of the cognitive- affective meaning-making process. *Dissertation Abstracts International*, 62(4), 1299A. (UMI No. 3011734)
- Johnson-Bailey, J., & Alfred, M. (2006). Transformational teaching and the practice of Black women adult educators. In E. W. Taylor (Ed.), *Fostering transformative learning in the classroom: Challenges and innovations*. New Directions in Adult and Continuing Education. San Francisco: Jossey-Bass.
- Johnson-Bailey, J., & Cervero, R. M. (1998). Power dynamics in teaching and learning practices: An examination of adult education classrooms. *International Journal of Lifelong Education*, 17(6), 389–399.
- Johnstone, J.W.C., & Rivera, R. J. (1965). *Volunteers for learning: A study of the educational pursuits of adults*. Hawthorne, NY: Aldine de Gruyter.
- Jonassen, D. H., & Hernandez-Serrano, J. (2002). Case-based reasoning and instructional design: Using stories to support problem solving. *Educational Technology Research and Development*, 50(2), 65–77.
- Josselson, R. (1987). *Finding herself: The story of women's identity from college to midlife*. New York: Oxford University Press.
- Josselson, R. (1996). *Revising herself: The story of women's identity from college to midlife*. New York: Oxford University Press.
- Josselson, R. (2003). Revisioning: Processes of development in midlife women. In J. Demick & C. Andreoletti (Eds.), *Handbook of adult development* (pp. 431–441). New York: Kluwer Academic/Plenum.
- Joughin, G. (1992). Cognitive style and adult learning principles. *International Journal of Lifelong Education*, 11(1), 3–14.
- Jung, J., & Cervero, R. M. (2002). The social, economic and political contexts of adults' participation in undergraduate programs: A state-level analysis. *International Journal of Lifelong Education*, 21(4), 305–320.
- Kalmijin, M. (2004). Marriage rituals as reinforcers of role transitions: An analysis of weddings in the Netherlands. *Journal of Marriage and Family*, 66(3), 582–594.

- Kappel, P. L., & Daley, B. J. (2004). Transformative learning and the urban context. In L. G. Martin & E. E. Rogers (Eds.), *Adult education in the urban context: Problems, practices, and programming for inner city communities* (pp. 69–81). New Directions for Adult and Continuing Education, No. 101. San Francisco: Jossey-Bass.
- Karpiak, I. (2000). Writing our life: Adult learning and teaching through autobiography. *Canadian Journal of University Continuing Education*, 26(1), 31–50.
- Kasworm, C. E. (1992). The adult's learning projects: A fresh approach to theory and practice in adult learning (2nd ed.). In G. J. Confessore & S. J. Confessore (Eds.), *Guideposts to self-directed learning: Expert commentary on essential concepts* (pp. 55–73). King of Prussia, PA: Organizational Design and Development.
- Kasworm, C. E., Sandmann, L., & Sissel, P. (2000). Adult learners in higher education. In A. L. Wilson & E. R. Hayes (Eds.), *Handbook of adult and continuing education* (pp. 449–463). San Francisco: Jossey-Bass.
- Kaufman, A. S. (2000). Tests of intelligence. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 445–476). New York: Cambridge University Press.
- Kaufman, A. S., & Kaufman, N. L. (1993). *Manual for Kaufman Adolescent & Adult Intelligence Test (KAIT)*. Circle Pines, MN: American Guidance Service.
- Kaufman, A. S., Kaufman, J. C., Chen, T., & Kaufman, N. L. (1996). Differences on six horn abilities for 14 age groups between 15–16 and 75–94 years. *Psychological Assessment*, 8(2), 161–171.
- Keen, S., & Valley-Fox, A. (1989). *Your mythic journey: Finding meaning in your life through writing and storytelling*. New York: Tarcher/Putnam.
- Kegan, R. (1982). *The evolving self: Problem and processes in human development*. Cambridge, MA: Harvard University Press.
- Kegan, R. (1994). *In over our heads: The mental demands of modern life*. Cambridge, MA: Harvard University Press.
- Kegan, R. (2000). What “form” transforms? A constructive-developmental perspective on transformational learning. In J. Mezirow & Associates (Eds.), *Learning as transformation: Critical perspectives on a theory in progress* (pp. 35–70). San Francisco: Jossey-Bass.
- Kelland, J. H. (2005). Distance learning: Access and inclusion issues. In R. J. Hill & R. Kiely (Eds.), *Proceedings of the 46th Annual Adult Education Research Conference* (pp. 253–258). Athens: University of Georgia.
- Kerka, S. (1999). *Self-directed learning*. Myths and Realities No. 3. Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education. (ERIC Document Reproduction Service No. ED 435 834)

- Kerka, S. (2000). *Journal writing as an adult learning tool*. ERIC Digest No. 174. Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education. (ERIC Document Reproduction Service No. ED 399 413)
- Kerka, S. (2002). *Somatic/embodied learning and adult education*. Trends and Issues Alert No. 32. ERIC Clearinghouse on Adult, Career, and Vocational Education, Columbus, OH (ERIC Document Reproduction Service No. ED 462 550).
- Kessels, J.W.M., & Poell, R. F. (2004). Andragogy and social capital theory: The implications for human resource development. *Advances in Developing Human Resources*, 6(2), 146–157.
- Kidd, J. R. (1973). *How adults learn* (rev. ed.). New York: Association Press.
- Kiely, R. C. (2003). A chameleon with a complex: Searching for social justice in transformational learning. In D. Floers, M. Lee, A. Jalipa, E. Lopez, A. Schelstrate, & V. Sheared (Eds.), *Proceedings of the 44th Annual Adult Education Research Conference* (pp. 217–222). San Francisco: San Francisco State University.
- Kilgore, D. (2004). Toward a postmodern pedagogy. In R. St. Clair & J. A. Sandlin (Eds.), *Promoting critical practice in adult education* (pp. 45–54). New Directions for Adult and Continuing Education, No. 102. San Francisco: Jossey-Bass.
- Kim, K., Collins Hagedorn, M., Williamson, J., & Chapman, C. (2004). *Participation in adult education and lifelong learning: 2000–01* (NCES 20004–050). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.
- Kim, K., & Creighton, S. (2000). Participation in adult education in the United States: 1998–1999. *Education Statistics Quarterly*, 2(1), 123–128.
- Kincheloe, J. L., & Steinberg, S. R. (1993). A tentative description of post-formal thinking: The critical confrontation with cognitive theory. *Harvard Educational Review*, 63(3), 296–320.
- King, P. M., & Kitchener, K. S. (1994). *Developing reflective judgment*. San Francisco: Jossey-Bass.
- King, P. M., & Kitchener, K. S. (2002). The reflective judgment model: Twenty years of research on epistemic cognition. In B. K. Hofer & P. R. Pintrich (Eds.), *Personal epistemology: The psychology of beliefs about knowledge and knowing* (pp. 37–61). Hillsdale, NJ: Erlbaum.
- King, P. M., & Kitchener, K. S. (2004). Reflective judgment: Theory and research on the development of epistemic assumptions through adulthood. *Educational Psychologist*, 39(1), 5–18.
- King, P. M., Kitchener, K. S., & Wood, P. K. (1994). Research on the reflective judgment model. *Developing reflective judgment: Understanding and*

- promoting intellectual growth and critical thinking in adolescents and adults.* San Francisco: Jossey-Bass.
- Kirshner, D., & Whitson, J. A. (Eds.). (1997). *Situated cognition: Social, semiotic and psychological perspectives.* Hillsdale, NJ: Erlbaum
- Kline, D. W., & Scialfa, C. T. (1996). Visual and auditory aging. In J. E. Birren & K. W. Schaie (Eds.), *Handbook of the psychology of aging* (4th ed., pp. 181–203). Orlando, FL: Academic Press.
- Knight, C. C., & Sutton, R. E. (2004). Neo-Piagetian theory and research. Enhancing pedagogical practice for educators of adults. *London Review of Education*, 2(1), 47–60.
- Knopf, M. (1995). Memory for action events: Structure and development in adulthood. In F. E. Weinert & W. Schneider (Eds.), *Memory performance and competencies: Issues in growth and development* (pp. 127–138). Hillsdale, NJ: Erlbaum.
- Knowles, M. S. (1968). Andragogy, not pedagogy. *Adult Leadership*, 16(10), 350–352, 386.
- Knowles, M. S. (1970). *The modern practice of adult education: Andragogy versus pedagogy.* New York: Cambridge Books.
- Knowles, M. S. (1973). *The adult learner: A neglected species.* Houston: Gulf.
- Knowles, M. S. (1975). *Self-directed learning.* New York: Association Press.
- Knowles, M. S. (1980). *The modern practice of adult education: From pedagogy to andragogy* (2nd ed.). New York: Cambridge Books.
- Knowles, M. S. (1984). *The adult learner: A neglected species* (3rd ed.). Houston: Gulf.
- Knowles, M. S. (1989). *The making of an adult educator: An autobiographical journey.* San Francisco: Jossey-Bass.
- Knowles, M. S., & Associates. (1984). *Andragogy in action: Applying modern principles of adult learning.* San Francisco: Jossey-Bass.
- Knox, A. B. (1977). *Adult development and learning.* San Francisco: Jossey-Bass.
- Kohl de Oliveira, M. (1995). The meaning of intellectual competence: Views from a favela. In J. Valsiner (Ed.), *Child development within culturally structured environments: Comparative-cultural and constructivist perspectives.* Norwood, NJ: Ablex.
- Kohlberg, L. (1973). Continuities in childhood and adult moral development. In P. Baltes & K. Schaie (Eds.), *Life-Span Developmental Psychology: Personality and Socialization* (pp. 180–204). Orlando: Academic Press.
- Kohlberg, L. (1976). Moral stages and moralization: The cognitive-developmental approach. In T. Lickona (Ed.), *Moral development and behavior: Theory, research, and social issues* (pp. 31–53). Austin, TX: Holt, Rinehart & Winston.
- Kohlberg, L. (1981). *The philosophy of moral development: Moral stages and the idea of justice.* San Francisco: HarperSanFrancisco.

- Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning and Education*, 4(2), 193–212.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and Development*. Englewood Cliffs, NJ: Prentice Hall.
- Kovan, J. T., & Dirkx, J. M. (2003). “Being called awake”: The role of transformative learning in the lives of environmental activists. *Adult Education Quarterly*, 53(2), 99–118.
- Kramer, D. A., & Baccelar, W. T. (1994). The educated adult in today’s world: Wisdom and the mature learner. In J. D. Sinnott (Ed.), *Interdisciplinary handbook of adult lifespan learning*. Westport, CT: Greenwood Press.
- Krause, N. (1999). Stress and the devaluation of highly salient roles in later life. *Journal of Gerontology: Social Sciences*, 54B, S99–S108.
- Labouvie-Vief, G. (1980). Beyond formal operations: Uses and limits of pure logic in life-span development. *Human Development*, 23, 141–161.
- Labouvie-Vief, G. (1984). Logic and self-regulation from youth to maturity: A model. In M. L. Commons, F. A. Richards, & C. Armon (Eds.), *Beyond formal operations: Late adolescent and adult cognitive development* (pp. 158–179). New York: Praeger.
- Labouvie-Vief, G. (1990). Models of cognitive functioning in the older adult: Research needs in educational gerontology. In R. H. Sherron & D. B. Lumsden (Eds.), *Introduction to educational gerontology* (3rd ed., pp. 243–268). New York: Hemisphere.
- Labouvie-Vief, G. (1992). A new-Piagetian perspective on adult cognitive development. In R. J. Sternberg & C. A. Berg (Eds.), *Intellectual Development* (pp. 197–228). New York: Cambridge University Press.
- Labouvie-Vief, G., & Diehl, M. (2000). Cognitive complexity and cognitive-affective integration: Related or separate domains of adult development. *Psychology and Aging*, 15(3), 490–504.
- Laiken, M. E. (2001). Models of organizational learning: Paradoxes and best practices in the post industrial workplace. NALL Working Paper #24–2001. <http://www.nall.ca/res/25MarilynLaiken.pdf>. Accessed July 29, 2005.
- Lajoie, S. P. (2003). Transitions and trajectories for studies of expertise. *Educational Researcher*, 32(8), 21–25.
- Lamb, S. (2003). Best practices on fostering transformative learning in the workplace. In C. A. Weissner, S. R., Meyer, N. L. Pffhal, & P. G. Neaman (Eds.), *Proceedings of the 5th International Conference on Transformative Learning* (pp. 263–268). New York: Teachers College, Columbia University.
- Langer, E. J. (1997). *The power of mindful learning*. Reading, MA: Addison-Wesley.

- Lavallee, M., Gourde, A., & Rodier, C. (1990). The impact of lived experience on cognitive-ethical development of today's women. *International Journal of Behavioral Development, 13*(4), 407–430.
- Lave, J. (1988). *Cognition in practice: Mind, mathematics and culture in everyday life*. Cambridge: Cambridge University Press.
- Le Cornu, A. (2005). Building on Jarvis: Towards a holistic model of the process of experiential learning. *Studies in the Education of Adults, 37*(2), 166–181.
- Lee, M. (2003). Andragogy and foreign-born learners. In L. M. Baumgartner, M. Lee, S. Birden, & D. Flowers (Eds.), *Adult learning theory: A primer* (pp. 11–16). Information Series No. 392. Columbus, OH: Center on Education and Training for Employment. (ERIC Document Reproduction Service No. ED 482 337)
- Lee, M. Y., & Greene, G. J. (2003). A teaching framework for transformative multicultural social work education. *Journal of Ethnic and Cultural Diversity in Social Work, 12*(3), 1–28.
- Lee, M., & Johnson-Bailey, J. (2004). Challenges to the classroom authority of women of color. In R. St. Clair & J. A. Sandlin (Eds.), *Promoting critical practice in adult education* (pp. 55–64). New Directions for Adult and Continuing Education, No. 102. San Francisco: Jossey-Bass.
- Lefrancois, G. R. (1996). *The lifespan* (5th ed.). Belmont, CA: Wadsworth.
- Lefrancois, G. R. (1999). *The lifespan* (6th ed.). Belmont, CA: Wadsworth.
- Lemkow, A. F. (2005). Reflections on our common lifelong learning journey. In J. P. Miller, S. Karsten, D. Denton, D. Orr, & I. C. Kates (Eds.), *Holistic learning and spirituality in education* (pp. 17–26). Albany: State University of New York Press.
- Lennox, S. L. (2005). Contemplating the self: Holistic approaches to transformative learning in higher education. In D. Vlosak, G. Kielbaso, & J. Radford (Eds.), *Proceedings of the Sixth International Conference on Transformative Learning* (pp. 281–287). East Lansing: Michigan State University.
- Levine, S. L. (1989). *Promoting adult growth in schools: The promise of professional development*. Needham Heights, MA: Allyn & Bacon.
- Levinson, D. J., Darrow, C. N., Klein, E. B., Levinson, M. H., & McKee, B. (1978). *The seasons of a man's life*. New York: Knopf.
- Levinson, D. J., & Levinson, J. D. (1996). *The seasons of a woman's life*. New York: Ballantine.
- Lewis, M. T., Adams, J., & Southern, N. (2005). Transformative learning communities at a distance. In D. Vlosak, G. Kielbaso, & J. Radford (Eds.), *Proceedings of the 6th International Conference on Transformative Learning* (pp. 301–307). East Lansing: Michigan State University.
- Lindeman, E. C. (1961). *The meaning of adult education in the United States*. New York: Harvest House.

- Lindeman, E. C. (1989). *The meaning of adult education in the United States*. Norman: Oklahoma Research Center for Continuing Professional and Higher Education, University of Oklahoma. (Original work published 1926)
- Liu, J. (2001). *Asian students' classroom communication patterns in U.S. universities: An emic perspective*. Norwood, NJ: Ablex.
- Livingstone, D. W. (2001). *Adult's informal learning: Definitions, findings, gaps and future research*. NALL Working Paper #21-2001. <http://www.nall.ca/res/21adultsifnormallearning.htm>. Accessed August 6, 2005.
- Loevinger, J. (1976). *Ego development*. San Francisco: Jossey-Bass.
- Lohman, D. F., & Scheurman, G. (1992). Fluid abilities and epistemic thinking: Some prescriptions for adult education. In A. Tuijnman & M. van der Kamp (Eds.), *Learning across the lifespan: Theories, research, policies*. New York: Pergamon Press.
- Londoner, C. A. (1993). The theory of margin as an HRD problem-solving tool for coping with life stresses. In L. Mathis & K. Mizer (Eds.), *Proceedings of Quest for Quality: National research conference on human resource development* (pp. 117-126). College Station: Texas A&M University.
- Ludwig, G. D. (2005). Transforming our spiritual self through critical thinking. In D. Vlosak, G. Kielbaso, & J. Radford (Eds.), *Proceedings of the Sixth International Conference* (pp. 315-320). East Lansing: Michigan State University.
- Luttrell, W. (1989). Working-class women's ways of knowing: Effects of gender, race and class. *Sociology of Education*, 62(1), 33-46.
- Lyman, P., & Varian, H. R. (n.d.). *How much information? 2003*. Berkeley: University of California, School of Information Management and Systems. <http://www.sims.berkeley.edu/how-much-info-2003>. Accessed September 11, 2005.
- Machles, D. (2004). A qualitative study of situated learning in occupational safety. *Dissertation Abstracts International*, 65(11), 4072A. (UMI No. 3154328)
- MacKeracher, D. (1996). *Making sense of adult learning*. Toronto, Canada: Culture Concepts.
- Maehl, W. H. (2000). *Lifelong learning at its best: Innovative practices in adult credit programs*. San Francisco: Jossey-Bass.
- Magagula, C. M., & Maziboku, E. Z. (2004). Indigenization of African formal education system. *The African Symposium: An On-line Educational Research Journal*, 4(2), 1-9.
- Magnusson, D. (1995). Individual development: A holistic, integrated model. In P. Moen, G. H. Elder, & K. Lusher (Eds.), *Examining lives*

- in context: Perspectives on the ecology of human development* (pp. 19–60). Washington, DC: American Psychological Association.
- Maher, F. A. (1987). Toward a richer theory of feminist pedagogy: A comparison of “liberation” and “gender” models for teaching and learning. *Journal of Education*, 169(3), 91–100.
- Maher, F. A., & Tetreault, M. K. (1994). *The feminist classroom*. New York: Basic Books.
- Malinen, A. (2000). *Towards the essence of experiential learning: A reading of the theories of Knowles, Kolb, Mezirow, Revans, and Schön*. Jyväskylä, Finland: SoPhi, University of Jyväskylä Press.
- Maples, M. F., & Webster, J. M. (1980). Thorndike’s connectionism. In G. B. Gazda & R. J. Corsini (Eds.), *Theories of learning* (pp. 1–28). Itasca, IL: Peacock.
- Marois, R. (2005). Capacity limits of information processing in the brain. *Phi Kappa Phi Forum*, 85(1), 30–33.
- Marsh, G. R. (1996). Perceptual changes with aging. In E. W. Bussee & D. G. Blazer (Eds.), *Textbook of geriatric psychiatry*. Washington, DC: American Psychiatric Press.
- Marsick, V. J., & Watkins, K. E. (1990). *Informal and incidental learning*. London: Routledge.
- Marsick, V. J., & Watkins, K. E. (2005). Learning organization. In L. M. English (Ed.), *International encyclopedia of adult education* (pp. 355–360). New York: Palgrave Macmillan.
- Maslow, A. H. (1970). *Motivation and personality* (2nd ed.). New York: HarperCollins.
- Mason, R. (2003). Global education: Out of the ivory tower. In M. G. Moore & W. G. Anderson (Eds.), *Handbook of distance education* (pp. 743–752). Hillsdale, NJ: Erlbaum.
- Matthews, J. C. (1998). Somatic knowing and education. *Educational Forum*, 62(3), 236–242.
- Mautle, G. (2001). Formal education among peoples of Botswana before 1840. *Mosenodi*, 9(2), 25–33.
- Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. Sluyter (Eds.), *Emotional development and emotional intelligence: Implications for educators* (pp. 3–31). New York: Basic Books.
- Mayer, J. D., Salovey, P., & Caruso, D. (2000). Models of emotional intelligence. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 396–420). New York: Cambridge University Press.
- Mayer, J. D., Salovey, P., & Caruso, D. (2002). *Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT): User’s manual*. Toronto, Ontario, Canada: Multi-Health Systems.

- Mayer, J. D., Salovey, P., & Caruso, D. (2003). Measuring emotional intelligence with the MSCEIT V2.0. *Emotion*, 3, 97–105.
- Mayer, R. E., Mautone, P., & Prothero, W. (2002). Pictorial aids for learning by doing in a multimedia geology simulation game. *Journal of Educational Psychology*, 94(1), 171–185.
- McCarthy, T. (2005, November 9). Getting inside your head. *Time*.
- McClenaghan, P. (2000). Social capital: Exploring the theoretical foundations of community development education. *British Educational Research Journal*, 26(5), 565–582.
- McClusky, H. Y. (1963). The course of the adult life span. In W. C. Hal-lenbeck (Ed.), *Psychology of Adults* (pp. 10–19). Washington, DC: Adult Education Association.
- McClusky, H. Y. (1970). An approach to a differential psychology of the adult potential. In S. M. Grabowski (Ed.), *Adult learning and instruction* (pp. 80–95). Syracuse, NY: ERIC Clearinghouse on Adult Education. (ERIC Document Reproduction Service No. ED 045 867)
- McClusky, H. Y. (1971). *Education: Background*. Report prepared for the 1971 White House Conference on Aging. Washington, DC: White House Conference on Aging.
- McDonald, B. (2002). We make spirit by waling: An application of Kovel's spirituality to the life and work of committed environmentalists. In J. M. Pettitt (Ed.), *Proceedings of the 43rd Annual Adult Education Research Conference*. Raleigh: North Carolina State University.
- McDonald, B., Cervero, R. M., & Courtenay, B. C. (1999). An ecological perspective of power in transformational learning: A case study of ethical vegans. *Adult Education Quarterly*, 50(1), 5–23.
- McDowell, T. (2003). Answering the call for anti-racist praxis in adult education. *Proceedings of the 44th Annual Adult Education Research Conference* (pp. 279–283). San Francisco: San Francisco State University.
- McEnrue, M. P., & Groves, K. (2006). Choosing among tests of emotional intelligence: What is the evidence? *Human Resource Development Quarterly*, 17(1), 9–42.
- McLaren, P. (1997). Revolutionary praxis: Toward a pedagogy of resistance and transformation. *Educational Researcher*, 26(6), 23–26.
- McLaren, P. (2000). Paulo Freire's pedagogy of possibility. In S. F. Steiner, H. M. Krank, P. McLaren, & R. E. Bahruth (Eds.), *Freirean pedagogy, praxis, and possibilities: Projects for the new millennium. Vol. 19: Critical Education Practice* (pp. 1–22). New York: Falmer Press.
- Meisami, E., Brown, C. M., & Emerle, H. F. (2003). Sensory systems: Normal aging, disorders, and treatments of vision and hearing in humans. In P. Timiras (Ed.), *Physiological basis of aging and geriatrics* (pp. 141–165). New York: CRC Press.

- Merriam, S. B. (1991). How research produces knowledge. In J. M. Peters & P. Jarvis (Eds.), *Adult education: Evolution and achievements in a developing field of study* (pp. 42–65). San Francisco: Jossey-Bass.
- Merriam, S. B. (2004). The role of cognitive development in Mezirow's transformational learning theory. *Adult Education Quarterly*, 55(1), 60–68.
- Merriam, S. B., & Brockett, R. G. (1997). *The profession and practice of adult education*. San Francisco: Jossey-Bass.
- Merriam, S. B., & Clark, M. C. (2006). Learning and development: The connection in adulthood. In C. Hoare (Ed.), *Handbook of adult development and learning* (pp. 27–51). London: Oxford University Press.
- Merriam, S. B., Doraisamy, L., Findsen, B., Kamis, M., Kee, Y., Muhamad, M., Ntseane, G., & Thaker, W. N. (2005). Challenging the hegemony of Western views of learning. In R. J. Hill & R. Kiely (Eds.), *Proceedings of the 46th Annual Adult Education Research Conference* (pp. 295–305). Athens: University of Georgia.
- Merriam, S. B., Mott, V. W., & Lee, M. (1996). Learning that comes from the negative interpretation of life experience. *Studies in Continuing Education*, 18(1), 1–23.
- Merriam, S. B., & Muhamad, M. (2000). How cultural values shape learning in older adulthood: The case of Malaysia. *Adult Education Quarterly*, 51(1), 45–63.
- Messick, S. (1996). Human abilities and modes of attention: The issue of stylistic consistencies in cognition. In I. Dennis & P. Tapsfield (Eds.), *Human abilities: Their nature and measurement* (pp. 77–96). Hillsdale, NJ: Erlbaum.
- Mezirow, J. (1981). A critical theory of adult learning and education. *Adult Education*, 32(1), 3–27.
- Mezirow, J. (1985). A critical theory of self-directed learning. In S. Brookfield (Ed.), *Self-directed learning: From theory to practice* (pp. 17–30). *New Directions for Continuing Education*, No. 25. San Francisco: Jossey-Bass.
- Mezirow, J. (1990a). Conclusion: Toward transformative learning and emancipatory education. In J. Mezirow & Associates (Eds.), *Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning* (pp. 354–376). San Francisco: Jossey-Bass.
- Mezirow, J. (1990b). How critical reflection triggers transformative learning. In J. Mezirow & Associates (Eds.), *Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning* (pp. 1–20). San Francisco: Jossey-Bass.
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. San Francisco: Jossey-Bass.

- Mezirow, J. (1992). Transformation theory: Critique and confusion. *Adult Education Quarterly*, 42(2), 250–252.
- Mezirow, J. (1993). How adults learn: The meaning of adult education. *Proceedings of the 34th Annual Adult Education Research Conference* (pp. 185–190). University Park: Penn State University.
- Mezirow, J. (1995). Transformation theory of adult learning. In M. R. Welton (Ed.), *In defense of the lifeworld* (pp. 39–70). New York: State University of New York Press.
- Mezirow, J. (1996). Contemporary paradigms of learning. *Adult Education Quarterly*, 46(3), 158–172.
- Mezirow, J. (1997a). Transformative learning: Theory to practice. In P. Cranton (Ed.), *Transformative learning in action: Insights from practice* (pp. 5–12). New Directions for Adult and Continuing Education, No. 74. San Francisco: Jossey-Bass.
- Mezirow, J. (1997b). Transformative theory out of context. *Adult Education Quarterly*, 48(1), 60–62.
- Mezirow, J. (1998). On critical reflection. *Adult Education Quarterly*, 48(3), 185–198.
- Mezirow, J. (2000). Learning to think like an adult: Core concepts of transformation theory. In J. Mezirow & Associates, *Learning as transformation: Critical perspectives on a theory in progress* (pp. 3–33). San Francisco: Jossey-Bass.
- Mezirow, J., & Associates. (1990). *Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning*. San Francisco: Jossey-Bass.
- Mezirow, J., & Associates. (2000). *Learning as transformation: Critical perspectives on a theory in progress*. San Francisco: Jossey-Bass.
- Michelson, E. (1996). Beyond Galileo's telescope: Situated knowledge and the assessment of experiential learning. *Adult Education Quarterly*, 46(4), 185–196.
- Michelson, E. (1998). Re-membering: The return of the body to experiential learning. *Studies in Continuing Education*, 20(2), 217–233.
- Miettinen, R. (2000). The concept of experiential learning and John Dewey's theory of reflective thought and action. *International Journal of Lifelong Education*, 19(1), 54–72.
- Mikolaj, E. D. (1983). The intrapersonal role conflicts of adult women undergraduate students. *Dissertation Abstracts International*, 144(11A), 3247. (UMI No. 8403550)
- Miller, P. H. (2002). *Theories of developmental psychology* (4th ed.). New York: Freeman.
- Mitroff, I. I., & Denton, E. (1999). *A spiritual audit of corporate America*. San Francisco: Jossey-Bass.

- Mojab, S. (2005). Class and race. In T. Nesbit (Ed.), *Class concerns: Adult education and social class* (pp. 73–82). New Directions for Adult and Continuing Education, No. 106. San Francisco: Jossey-Bass.
- Montano, J. J. (2003, Spring). Emerging technologies for hearing loss: An ecological approach. *Generations*, 27(1), 71–77.
- Moore, M. G. (2001). *Distance education in the United States: The state of the art*. Series of lectures on the education use of ICT and virtual education by UOC. <http://www.uoc.edu/web/eng/art/uoc/moore/moore.html>. Accessed July 1, 2004.
- Moore, M. G., & Kearsley, G. (1996). *Distance education: A systems view*. Belmont, CA: Wadsworth.
- Moore, T. (2005). Educating for the soul. In J. P. Miller, S. Karsten, D. Denton, D. Orr, & I. C. Kates (Eds.), *Holistic learning and spirituality in education* (pp. 9–16). Albany: State University of New York Press.
- Morolong, B. L. (1996, April 10–13). *Indigenous knowledge and development: Any space for this in the provision of adult education and social transformation?* Paper presented at the International Conference on Adult Education and Social Transformation, Maseru, Lesotho.
- Mullen, C. (2005). *The mentorship primer*. New York: Peter Lang.
- Mulvihill, M. K. (2003). The Catholic Church in crisis: Will transformative learning lead to social change through the uncovering of emotion? In C. A. Wiessner, S. R. Meyer, N. L. Pffal, & P. G. Neaman (Eds.), *Proceedings of the Fifth International Conference on Transformative Learning* (pp. 320–325). New York: Teacher's College, Columbia University.
- Myers, I. (1985). *Gifts differing* (7th ed.). Palo Alto, CA: Consulting Psychologists.
- Nah, Y. (2000). Can a self-directed learner be independent, autonomous and interdependent? Implications for practice. *Adult Learning*, 18, 18–19, 25.
- Naisbitt, J., & Aburdene, P. (1990). *Megatrends 2000: Ten new directions for the 1990s*. New York: Morrow.
- Naveh-Benjamin, M., Hussain, Z., Guez, J., & Bar-On, M. (2003). Adult age differences in episodic memory: Further support for an associative-deficit hypothesis. *Journal of Experimental Psychology: Learning Memory and Cognition*, 29(5), 826–837.
- Nesbit, T. (1998). The social reform perspective: Seeing a better society. In D. Pratt & others, *Five perspectives on teaching in adult and higher education* (pp. 173–199). Malabar, FL: Krieger.
- Neugarten, B. (1976). Adaptation and the life cycle. *Counseling Psychologist*, 6, 16–20.
- Neugarten, B. (1979). Time, age, and the life cycle. *American Journal of Psychiatry*, 136, 887–893.

- Neugarten, B., & Danan, N. (1973). Sociological perspectives on the life cycle. In P. Baltes & K. W. Schaie (Eds.), *Life span developmental psychology: Personality and socialization* (pp. 53–69). Orlando: Academic Press.
- Neuhauser, P. C. (1993). *Corporate legends and lore: The power of storytelling as a management tool*. New York: McGraw-Hill.
- Newman, M. (1994). *Defining the enemy: Adult education in social action*. Sydney: Stewart Victor.
- Newman, M. (2006). *Teaching defiance: Stories and strategies for activist educators*. San Francisco: Jossey-Bass.
- Nisbett, R. E. (2003). *The geography of thought: How Asians and Westerners think differently . . . and why*. New York: Free Press.
- Nordhaug, O. (1990). Structured determinants of publicly subsidized adult education. *Adult Education Quarterly*, 40(4), 197–206.
- Norman, S. M., McCluskey-Fawcett, K., & Ashcraft, L. (2002). Older women's development: A comparison of women in their 60s and 80s on a measure of Erikson's developmental tasks. *International Journal of Aging and Human Development*, 54(1), 31–41.
- Nuernberger, P. (1994). The structure of mind and its resources. In M. E. Miller & S. R. Cook-Greuter (Eds.), *Transcendence and mature thought in adulthood: The further reaches of adult development* (pp. 89–115). Lanham, MD: Rowman & Littlefield.
- Oddi, L. F. (1986). Development and validation of an instrument to identify self-directed continuing learners. *Adult Education Quarterly*, 36(2), 97–107.
- Oddi, L. F., Ellis, A. J., & Roberson, J.E.A. (1990). Construct validity of the Oddi continuing learning inventory. *Adult Education Quarterly*, 40(3), 139–145.
- Opengart, R. (2005). Emotional intelligence and emotion work: Examining constructs from an interdisciplinary framework. *Human Resource Development Review*, 4(1), 49–62.
- Organization for Economic Cooperation and Development (OECD). (1996). *Learning for all*. Paris: OECD.
- Ormrod, J. E. (1995). *Human learning* (2nd ed.). Englewood Cliffs, NJ: Merrill.
- Ormrod, J. E. (1999). *Human learning* (3rd ed.). Englewood Cliffs, NJ: Merrill.
- Osterman, K. F., & Kottkamp, R. B. (2004). *Reflective practice for educators: Professional development to improve student learning* (2nd ed.). Thousand Oaks, CA: Corwin Press.
- O'Sullivan, E. (1999). *Transformative learning: Educational vision for the 21st century*. London: Zed Books.

- O'Sullivan, E. (2002). The project and vision of transformative education: Integral transformative learning. In E. O'Sullivan, A. Morrell, & M. A. O'Conner (Eds.), *Expanding the boundaries of transformative learning: Essays on theory and praxis* (pp. 1–12). New York: Palgrave.
- O'Sullivan, E. (2005). Emancipatory hope: Transformative learning and the “strange attractors.” In J. P. Miller, S. Karsten, D. Denton, D. Orr, & I. C. Kates (Eds.), *Holistic learning and spirituality in education* (pp. 69–78). Albany: State University of New York Press.
- Over 60 and overlooked. (2002, August 10). *The Economist*, pp. 51–52.
- Owen, T. R. (2002). *Self-directed learning in adulthood: A literature review*. Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education. (ERIC Document Reproduction Service No. ED 461 050)
- Pachnowski, L. M., & Jurczyk, J. P. (2000). *Correlating self-directed learning with distance learning success*. Paper presented at the annual meeting of the Eastern Educational Research Association, Clearwater, FL. (ERIC Document Reproduction Service No. ED 441 000)
- Padberg, L. F. (1994). The organizing circumstance revisited: Environmentally structured learning projects among adults with low formal education. In H. B. Long & others, *New ideas about self-directed learning*. Norman: Oklahoma Research Center for Continuing Professional and Higher Education, University of Oklahoma.
- Page, G. A. (2005). Adult education and technology in a rural county: The irony of persistent poverty and “progress” in the information age. In R. J. Hill & R. Kiely (Eds.), *Proceedings of the 46th Annual Adult Education Research Conference* (pp. 331–336). Athens: University of Georgia.
- Palmer, B. R., Gignac, G., Manocha, R., & Stough, C. (2005). A psychometric evaluation of the Mayer-Salovey-Caruso emotional intelligence test version 2.0. *Intelligence*, 33(3), 285–305.
- Paterson, K. W. (1979). *Values, education, and the adult*. New York: Routledge.
- Pearson, E., & Podeschi, R. (1997). Humanism and individualism: Maslow and his critics. In R. Nolan & H. Chelesvig (Eds.), *Proceedings of the 38th Annual Adult Education Research Conference* (pp. 203–207). Stillwater: Oklahoma State University.
- Peng, K., & Nisbett, R. E. (1999). Culture, dialectics, and reasoning about contradiction. *American Psychologist*, 54(9), 741–754.
- Penland, P. R. (1979). Self-initiated learning. *Adult Education*, 29, 170–179.
- Perry, W. G. (1970). *Forms of intellectual and ethical development in the college years*. Austin, TX: Holt, Rinehart & Winston.
- Perry, W. G. (1981). Cognitive and ethical growth: The making of meaning. In A. W. Chickering (Ed.), *The modern American college* (pp. 76–116). San Francisco: Jossey-Bass.

- Perry, W. G. (1999). *Forms of intellectual and ethical development in the college years: A scheme*. San Francisco: Jossey-Bass.
- Pert, C. B. (1997). *Molecules of emotion: Why you feel the way you feel*. New York: Scribner.
- Perun, P. J., & Bielby, D. D. (1980). Structure and dynamics of the individual life course. In K. W. Back (Ed.), *Life course: Integrative theories and exemplary populations* (pp. 97–119). Boulder, CO: Westview Press.
- Pesce, C., Guidetti, L., Baldari, C., Tessitore, A., & Capranica, L. (2005). Effects of aging on visual attention focusing. *Gerontology, 51*(4), 266–276.
- Peterson, D. A., & Masunaga, H. (1998). Policy for older adult education. In J. C. Fisher & M. A. Wolf (Eds.), *Using learning to meet the challenges of older adulthood*. New Directions for Adult and Continuing Education, No. 77. San Francisco: Jossey-Bass.
- Petrella, R. (1997). The snares of the market economy for future training policy: Beyond the heralding there is a need for denunciation. *Adult Education and Development, 48*, 19–26.
- Petrill, S. A. (2002). The case for general intelligence: A behavioral genetic perspective. In R. J. Sternberg & E. L. Grigorenko (Eds.), *The general factor of intelligence: How general is it?* (pp. 281–298). Hillsdale, NJ: Erlbaum.
- Petrill, S. A. (2003). The development of intelligence: Behavioral genetic approaches. In R. J. Sternberg, J. Lautrey, & T. I. Lubart (Eds.), *Models of intelligence: International perspectives* (pp. 81–89). Washington, DC: American Psychological Association.
- Phares, E. J. (1980). Rotter's social learning theory. In G. M. Gazda & R. J. Corsini (Eds.), *Theories of learning* (404–446). Itasca, IL: Peacock.
- Phillips, D. C. (1995). The good, the bad, and the ugly: The many faces of constructivism. *Educational Researcher, 24*(7), 5–12.
- Piaget, J. (1952). *The origins of intelligence in children*. New York: International Universities Press.
- Piaget, J. (1966). *The origins of intelligence in children*. New York: International Universities Press.
- Piaget, J. (1972). Intellectual evolution from adolescent to adulthood. *Human Development, 16*, 346–370.
- Pietrykowski, B. (1996). Knowledge and power in adult education: Beyond Freire and Habermas. *Adult Education Quarterly, 46*(2), 82–97.
- Pillay, H., & McCrindle, A. R. (2005). Distributed and relative nature of professional expertise. *Studies in Continuing Education, 27*(1), 67–88.
- Pinderhughes, E. (1995). Biracial identity—asset or handicap? In H. W. Harris, H. C. Blue, & E.E.H. Griffith (Eds.), *Racial and ethnic identity: Psychological development and creative expression* (pp. 73–93). New York: Routledge.

- Pinhey, T. K., & Pinhey, D. L. (2002). Life event timing and the emotional consequences of surgical menopause for Asian-Pacific women in Guam. *Women and Health, 36*(4), 43–54.
- Pirttilä-Backman, A. M., & Kajanne, A. (2001). The development of implicit epistemologies during early and middle adulthood. *Journal of Adult Development, 8*(2), 81–97.
- Piskurich, G. M. (1993). *Self-directed learning: A practical guide to design development, and implementation*. San Francisco: Jossey-Bass.
- Plumb, D. (1995a). Critical adult education and identity in postmodernity. *Proceedings of the 36th Annual Adult Education Research Conference* (pp. 241–248). Edmonton, Alberta: University of Alberta.
- Plumb, D. (1995b). Declining opportunities: Adult education, culture, and postmodernity. In M. R. Welton (Ed.), *In defense of the lifeworld* (pp. 157–194). Albany: State University of New York Press.
- Ponterotto, J. G., Casas, J. M., Suzuki, L. A., & Alexander, C. M. (2001). *Handbook of multicultural counseling* (2nd ed). Thousand Oaks, CA: Sage.
- Potter, E. (2003). Telecommuting: The future of work, corporate culture, and American society. *Journal of Labor Research, 24*(1), 73–84.
- Poulton, M. K., Derrick, M. G., & Carr, P. B. (2005). The relationship between resourcefulness and persistence in adult autonomous learning. *Adult Education Quarterly, 55*(2), 116–128.
- Pratt, D. D. (1988). Andragogy as a relational construct. *Adult Education Quarterly, 38*(3), 160–181.
- Pratt, D. D. (1993). Andragogy after twenty-five years. In S. B. Merriam (Ed.), *An update on adult learning theory* (pp. 15–24). New Directions for Adult and Continuing Education, No. 57. San Francisco: Jossey-Bass.
- Progoff, I. (1975). *At a journal workshop: The basic text and guide for using the intensive journal*. New York: Dialogue House Library.
- Quigley, B. A. (1990). Hidden logic: Reproduction and resistance in adult literacy and adult basic education. *Adult Education Quarterly, 40*(2), 103–115.
- Rabbitt, P., Donlan, C., Brent, N., McInnes, L., & Abson, V. (1993). The University of Manchester Age and Cognitive Performance Research Centre and the North East Age Research longitudinal programmes, 1982 to 1997. *Zeitschrift für Gerontologie, 26*, 176–183.
- Rachal, J. (1989). The social setting of adult and continuing education. In S. B. Merriam & P. M. Cunningham (Eds.), *Handbook of adult and continuing education* (pp. 3–14). San Francisco: Jossey-Bass.
- Rachal, J. (2002). Andragogy's detectives: A critique of the present and a proposal for the future. *Adult Education Quarterly, 52*(3), 210–227.
- Rados, C. (2005, May-June). Sound advice about age-related hearing loss. *FDA Consumer, 3*, 20–27.

- Rager, K. B. (2003). The self-directed learning of women with breast cancer. *Adult Education Quarterly*, 53(4), 277–293.
- Rains, F. V. (1999). Indigenous knowledge, historical amnesia and intellectual authority: Deconstructing hegemony and the social and political implications of the curricular “other.” In L. M. Semali & J. L. Kincheloe (Eds.), *What is indigenous knowledge? Voices from the academy* (pp. 317–331). New York: Falmer Press.
- Ramey, C. T., & Ramey, S. (2000). Intelligence and public policy. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 534–548). New York: Cambridge University Press.
- Randall, W. L. (1996). Restorying a life: Adult education and transformative learning. In J. E. Birren, G. M. Kenyon, J. Ruth, J. Schroots, & T. Svensson (Eds.), *Aging and biography: Explorations in adult development* (pp. 224–247). New York: Springer.
- Ratinoff, L. (1995). Global insecurity and education: The culture of globalization. *Prospects*, 25(2), 147–174.
- Raykov, T. (1995). Multivariate structural modeling of plasticity in fluid intelligence of aged adults. *Multivariate Behavioral Research*, 30(2), 255–287.
- Reagan, T. (2005). *Non-Western educational traditions: Indigenous approaches to educational thought and practice* (3rd ed.). Hillsdale, NJ: Erlbaum.
- Reese, H. W., & Overton, W. F. (1970). Models of development and theories of development. In L. R. Goulet & P. B. Balltes (Eds.), *Life-span developmental psychology: Interventions* (pp. 115–145). Orlando: Academic Press.
- Reitzes, D. C. (2003). Social and emotional engagement in adulthood. In M. H. Borstein & L. Davidson (Eds.), *Well-being: Positive development across the life course* (pp. 425–447). Hillsdale, NJ: Erlbaum.
- Resnick, L. (1987). Learning in school and out. *Educational Researcher*, 16(9), 13–20.
- Restak, R. (2000). *Mysteries of the mind*. Washington, DC: National Geographic Society.
- Reuter-Lorenz, P., & Lustig, C. (2005). Brain aging: Reorganizing discoveries about the aging mind. *Current Opinion in Neurobiology*, 15(2), 245–251.
- Reybold, L. E. (1997). A sociocultural perspective on knowing: A grounded theory of epistemological development of Malaysian women. In R. Nolan & H. Chelesvig (Eds.), *Proceedings of the 38th Annual Adult Education Research Conference* (pp. 208–213). Stillwater: Oklahoma State University.
- Richardson, K. (1999). *The making of intelligence*. London: Weidenfeld & Nicolson.

- Richardson, T. Q., & Silvestri, T. J. (1999). White identity formation: A developmental process. In R. H. Sheets & E. R. Hollins (Eds.), *Racial and ethnic identity in school practices: Aspects of human development* (pp. 49–65). Hillsdale, NJ: Erlbaum.
- Riegel, K. F. (1973). Dialectic operations: The final period of cognitive development. *Human Development, 16*, 346–370.
- Riegel, K. F. (1975). Adult life crises: A dialectical interpretation of development. In N. Datan & L. H. Ginsberg (Eds.), *Life-span developmental psychology: Normative life crises* (pp. 99–128). Orlando: Academic Press.
- Riegel, K. F. (1976). The dialectics of human development. *American Psychologist, 31*, 689–700.
- Ripley, A. (2005, February 27). Who says a woman can't be Einstein? *Time*.
- Roberson, D. N. (2003). *How older adults utilize self-directed learning in late life adjustments*. Unpublished doctoral dissertation, University of Georgia, Athens.
- Roberson, D. N., & Merriam, S. B. (2005). The self-directed learning process of older, rural adults. *Adult Education Quarterly, 55*(4), 269–287.
- Robertson, L. C. (2005). The bilateral brain: Are two better than one? *Phi Kappa Phi Forum, 85*(1), 19–22.
- Robinson, D. N. (1990). Wisdom through the ages. In R. J. Sternberg (Ed.), *Wisdom: Its nature, origins, and development*. New York: Cambridge University Press.
- Rocco, T. S., & West, W. (1998). Deconstructing privilege: An examination of privilege in adult education. *Adult Education Quarterly, 48*(3), 171–184.
- Rockquemore, K. A., & Brunσμα, D. L. (2002). *Beyond Black: Biracial identity in America*. Thousand Oaks, CA: Sage.
- Rodgers W. A., & Fisk, A. D. (2001). Understanding the role of attention in cognition and aging research. In J. E. Birren & K. S. Schaie (Eds.), *Handbook of psychology and aging* (5th ed., pp. 267–287). San Diego, CA: Academic Press.
- Rogers, C. R. (1961). *On becoming a person: A therapist's view of psychotherapy*. Boston: Houghton Mifflin.
- Rogers, C. R. (1983). *Freedom to learn for the 80s*. Columbus, OH: Merrill.
- Root, T. L. (2000). Getting there: A study of adult undergraduate persistence to graduation in an adult-centered degree program. *Dissertation Abstracts International, 61*(01), 108. (UMI No. 9958846)
- Rosenau, P. M. (1992). *Post-modernism and the social sciences*. Princeton, NJ: Princeton University Press.

- Rosenblum, S., & Darkenwald, G. (1983). Effects of adult learner participation in course planning on achievement. *Adult Education Quarterly*, 33(3), 147–160.
- Rosnow, R. L., Skleder, A. A., Jaeger, M. E., & Rind, B. (1994). Intelligence and the epistemics of interpersonal acumen: Testing some implications of Gardner's theory. *Intelligence*, 19(1), 93–116.
- Ross, J. (2000). Art education in the information age: A new place for somatic wisdom. *Arts Education Policy Review*, 101(6), 27–32.
- Ross-Gordon, J. (1994). Toward a critical multicultural pedagogy for adult education. In M. Hyams, J. Armstrong, & E. Anderson (Eds.), *Proceedings of the 35th Annual Adult Education Research Conference* (pp. 312–317). Knoxville: University of Tennessee.
- Ross-Gordon, J., Brooks, A. K., Clunis, T., Munox, L., Parsells, R., & Parker, U. (2005). An analysis of work-related learning literature focusing on race and ethnicity. In R. J. Hill & R. Kiely (Eds.), *The 46th Annual Adult Education Research Conference* (pp. 375–380). Athens: University of Georgia.
- Rossiter, M. (2002). Narrative and stories in adult teaching and learning. *Clearinghouse Digest*. (ERIC Documentation Reproduction Service No. ED 473 147)
- Rossiter, M. (2005). Narrative. In L. M. English (Ed.), *International encyclopedia of adult education* (pp. 418–422). New York: Palgrave Macmillan.
- Rossiter, M., & Clark, M. C. (in press). *Narrative and the practice of adult education*. Malabar: FL: Krieger.
- Rotter, J. B. (1954). *Social learning and clinical psychology*. Englewood Cliffs, NJ: Prentice Hall.
- Rowland, R., & Volet, S. (1996). Self-direction in community learning: A case study. *Australian Journal of Adult and Community Education*, 36(2), 89–102.
- Rubenson, K. (1989). Sociology of adult education. In S. B. Merriam & P. M. Cunningham (Eds.), *Handbook of adult and continuing education* (pp. 51–69). San Francisco: Jossey-Bass.
- Rubenson, K. (1998). Adults' readiness to learn: Questioning lifelong learning for all. *Proceedings of the Adult Education Research Conference*, No. 39. (pp. 257–262). San Antonio: University of the Incarnate Word and Texas A&M University.
- Sahakian, W. S. (1984). *Introduction to the psychology of learning* (2nd ed.). Itasca, IL: Peacock.
- Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, 9(3), 185–211.
- Salovey, P., & Pizarro, D. A. (2003). The value of emotional intelligence. In R. J. Sternberg, J. Lautrey, & T. I. Lubart (Eds.), *Models of intelligence: International perspectives* (pp. 263–278). Washington, DC: American Psychological Association.

- Sandlin, J. (2000). The politics of consumer education materials used in adult literacy classrooms. *Adult Education Quarterly*, 50(4), 289–307.
- Sandlin, J. (2005). Andragogy and its discontents: An analysis of andragogy from three critical perspectives. *PAACE Journal of Lifelong Learning*, 14, 25–42.
- Sawyer, L. L. (2003). Transformative learning at the intersection of body, mind and spirit. In C. A. Weissner, S. R., Meyer, N. L. Pfhall, & P. G. Neaman (Eds.), *Proceedings of the 5th International Conference on Transformative Learning* (pp. 369–374). New York: Teachers College, Columbia University.
- Sawyer, L. L. (2004). Seeding and sustaining transformative learning, development and spiritual growth in higher education: A case study. *Dissertation Abstracts International*, 65(12), 4431A. (UMI No. 3155999)
- Schacter, D. L. (1996). *Searching for memory: The brain, the mind, and the past*. New York: Basic Books.
- Schaie, K. W. (1979). The primary mental abilities in adulthood: An exploration in the development of psychometric intelligence. In P. B. Baltes & O. G. Brim (Eds.), *Life-span development and behavior* (Vol. 2). Orlando: Academic Press.
- Schaie, K. W. (1985). *Manual for the Schaie-Thurston adult mental abilities test* (STAMAT). Palo Alto: Consulting Psychologists Press.
- Schaie, K. W. (1994). The course of adult intellectual development. *American Psychologist*, 49(4), 304–313.
- Schaie, K. W. (1996a). Intellectual development in adulthood. In J. E. Birren & K. W. Schaie (Eds.), *Handbook of the psychology of aging* (4th ed., pp. 266–286). Orlando: Academic Press.
- Schaie, K. W. (1996b). *Intellectual developmental in adulthood: The Seattle longitudinal study*. Cambridge, UK: Cambridge University Press.
- Schaie, K. W. (2005). *Developmental influences on adult intelligence: The Seattle longitudinal study*. New York: Oxford University Press.
- Schaie, K. W., & Hofer, C. (2001). Longitudinal studies in aging research. In J. E. Birren & K. W. Schaie (Eds.), *Handbook of the psychology of aging* (5th ed., pp. 53–77). Orlando: Academic Press.
- Schaie, K. W., & Willis, S. L. (1986). *Adult development and aging* (2nd ed.) Boston: Little, Brown.
- Schaie, K. W., & Willis, S. L. (2002). *Adult development and aging* (5th ed.). Englewood Cliffs, NJ: Prentice Hall.
- Schaie, K. W., Willis, S. L., & O'Hanlon, A. M. (1994). Perceived intellectual performance change over seven years. *Journal of Gerontology: Psychological Sciences*, 49(3), 103–118.
- Schawo, A. (1997). The relationship between the margin in life and perception of the ideal adult classroom of adult female college students. *Dissertation Abstracts International*, 57(09), 3848. (UMI No. 9705283)

- Schied, F. (1993). *Learning in social context: Workers and adult education in nineteenth century Chicago*. DeKalb, IL: LEPS Press.
- Schied, F. (1994). Neo-Marxist perspectives and adult education. *Proceedings of the 35th Annual Adult Education Research Conference* (pp. 445–446). Knoxville: University of Tennessee.
- Schied, F. M., Carter, V. K., Preston, J. A., & Howell, S. L. (1997). The HRD factory: An historical inquiry into the production of control in the workplace. In P. Armstrong, N. Miller, & M. Zukas (Eds.), *Crossing Borders, Breaking Boundaries: Proceedings of the 27th Annual SCUTREA Conference* (pp. 404–408). London: Birbeck College, University of London.
- Schied, F. M., Mulenga, D., & Baptiste, I. (2005). Lifelong learning in a global context: Towards a reconceptualization of adult education. In R. J. Hill & R. Kiely (Eds.), *Proceedings of the 46th Annual Adult Education Research Conference* (pp. 395–399). Athens: University of Georgia.
- Schlossberg, N. K. (1984). *Counseling adults in transition*. New York: Springer.
- Schlossberg, N. K. (1987). Taking the mystery out of change. *Psychology Today*, 21(5), 74–75.
- Schlossberg, N. K., Lynch, A. Q., & Chickering, A. W. (1989). *Improving higher education environments for adults*. San Francisco: Jossey-Bass.
- Schmidt, M. J., & Haydu, M. L. (1992). The older hearing-impaired adult in the classroom: Real-time closed captioning as a technological alternative to oral lecture. *Educational Gerontology*, 18(3), 273–276.
- Schneider, E. C., Zaslavsky, A. M., & Epstein, A. M. (2002). Racial disparities in the quality of care for enrollees in Medicare managed care. *JAMA: Journal of the American Medical Association*, 287(10), 1281–1294.
- Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic Books.
- Schön, D. A. (1987). *Educating the reflective practitioner*. New York: Basic Books.
- Schön, D. A. (Ed.). (1991). *The reflective turn: Case studies in and on educational practice*. New York: Teachers College Press.
- Schön, D. A. (1996). From technical rationality to reflection-in-action. In R. Edwards, A. Hanson, & P. Raggatt (Eds.), *Boundaries of adult learning* (pp. 8–31). London: Routledge.
- Schrader-Naef, R. (2000). Foundations of self-directed lifelong learning. In G. A. Straka, *Conceptions of self-directed learning* (pp. 143–169). New York: Waxmann.
- Schugurensky, D. (2000). The forms of informal learning: Towards a conceptualization of the field. NALL Working Paper #19–2000. <http://www.nall.ca/res/19formsofinformal.htm>. Accessed August 5, 2005.

- Schunk, D. H. (1996). *Learning theories: An educational perspective*. Englewood Cliffs, NJ: Prentice Hall.
- Scott, S. M. (1997). The grieving soul in the transformation process. In P. Cranton (Ed.), *Transformative learning in action* (pp. 41–50). New Directions for Adult and Continuing Education, No. 74. San Francisco: Jossey-Bass.
- Selingo, J. (2005, June 17). U. of Phoenix owes rapid growth to use of technology, its president says. *Chronicle of Higher Education*, p. A23.
- Sellers, R. M., Smith, M. A., Shelton, J. N., Rowley, S.A.J., & Chavous, T. M. (1998). Multidimensional model of racial identity: A reconceptualization of African American racial identity. *Personality and Social Psychology Review*, 2(1), 18–39.
- Semali, L. M., & Kincheloe, J. L. (1999). Introduction: What is indigenous knowledge and why should we study it? In L. M. Semali & J. L. Kincheloe (Eds.), *What is indigenous knowledge? Voices from the academy* (pp. 3–57). New York: Falmer Press.
- Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. New York: Doubleday.
- Serpell, R. (2000). Intelligence and culture. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 549–577). New York: Cambridge University Press.
- Shaffer, D. L. (2005). *Social and personality development* (5th ed). Belmont, CA: Wadsworth/Thomson Learning.
- Shank, P., & Sitze, A. (2004). *Making sense of online learning*. San Francisco: Jossey-Bass/Pfeiffer.
- Sheared, V. (1994). Giving voice: An inclusive model of instruction—A womanist perspective. In E. Hayes & S.A.J. Colin III (Eds.), *Confronting racism and sexism in adult education* (pp. 27–37). New Directions for Continuing Education, No. 61. San Francisco: Jossey-Bass.
- Shearer, C. B., & Jones, J. A. (1994). *The validation of the hillside assessment of perceived intelligences (HAPI): A measure of Howard Gardner's theory of multiple intelligences*. Washington, DC: National Institute on Disability and Rehabilitation Research. (ERIC Document Reproduction Service No. ED 372 077)
- Shreeve, J. (2005). Beyond the brain. *Journal of the National Geographic Society*, 207(3), 2–31.
- Siegesmund, R. (2004). Somatic knowledge and qualitative reasoning: From theory to practice. *Journal of Aesthetic Education*, 37(1), 54–64.
- Simmons, S., & Simmons, J. C. (1997). *Measuring emotional intelligence*. Arlington, TX: Summit.
- Sinnott, J. D. (1998). *The development of logic in adulthood: Postformal thought and its applications*. New York: Plenum Press.

- Sipe, R. B. (1995). Teacher as learners: An exploration into the learning worlds of experimentally open teachers. *Dissertation Abstracts International*, 55(12), 3716. (UMI No. 9513934)
- Sissel, P. A. (1997). Participation and learning in Head Start: A sociopolitical analysis. *Adult Education Quarterly*, 47(3/4), 123–137.
- Skinner, B. F. (1971). *Beyond freedom and dignity*. New York: Knopf.
- Skinner, B. F. (1974). *About behaviorism*. New York: Knopf.
- Sleezer, C. M., Conti, G. J., & Nolan, R. E. (2003). Comparing CPE and HRD programs: Definitions, theoretical foundations, outcomes, and measures of quality. *Advances in Developing Human Resources*, 6(1), 20–34.
- Sloan, D. (2005). Education and the modern assault on being human: Nurturing body, soul, and spirit. In J. P. Miller, S. Karsten, D. Denton, D. Orr, & I. C. Kates (Eds.), *Holistic learning and spirituality in education* (pp. 27–46). Albany: State University of New York Press.
- Smith, A. D. (1996). Memory. In J. E. Birren & K. W. Schaie (Eds.), *Handbook of the psychology of aging* (pp. 236–250). Orlando: Academic Press.
- Smith, P. J. (2002). “Modern” learning methods: Rhetoric and reality—further to Sadler-Smith et al. *Personnel Review*, 31(1), 103–113.
- Smith, R. M. (1982). *Learning how to learn: Applied learning theory for adults*. Chicago: Follett.
- Smith, R. M. (1987). *Theory building for learning how to learn*. Chicago: Educational Studies Press.
- Smith, R. M., & Associates. (1990). *Learning to learn across the life span*. San Francisco: Jossey-Bass.
- Snyder, K. M. (2000). Asynchronous learning networks and cognitive apprenticeship: A potential model for teaching complex problem-solving skills in corporate environments. *Dissertation Abstracts International*, 60(12), 4392. (UMI No. 9955733)
- Somerville, M. (2004). Somatic knowledge and qualitative reasoning: From theory to practice. *Journal of Aesthetic Education*, 38(4), 80–96.
- Spears, G. E. (1988). Beyond the organizing circumstance: A search for methodology for the study of self-directed learning. In H. B. Long & others, *Self-directed learning: Application and theory*. Athens: Department of Adult Education, University of Georgia.
- Spears, G. E., & Mocker, D. W. (1984). The organizing circumstance: Environmental determinants in self-directed learning. *Adult Education Quarterly*, 35(1), 1–10.
- Spearman, C. E. (1904). “General intelligence,” objectively determined and measured. *American Journal of Psychology*, 15, 201–293.
- Spearman, C. E. (1927). *The abilities of man*. New York: Macmillan.

- Stacy, N., & To, D. (1994). Adult education and training markets. In T. Husen & T. N. Postlethwaite (Eds.), *The international encyclopedia of education* (Vol. 1, 2nd ed., pp. 103–111). New York: Pergamon Press.
- Stalker, J. (1993a). Sexual harassment: The dark side of the adult learner/teacher relationship. In D. Flannery (Ed.), *Proceedings of the 34th Annual Adult Education Research Conference* (pp. 263–268). University Park: Penn State University.
- Stalker, J. (1993b). Women teachers mentoring women learners: On the inside working it out. In D. Flannery (Ed.), *Proceedings of the 34th Annual Adult Education Research Conference* (pp. 269–274). University Park: Penn State University.
- Stamps, D. (1997). Learning is social. Training is irrelevant? *Training*, 3(2), 35–42.
- St. Clair, R. (2002). *Andragogy revisited: Theory for the 21st century?* Myths and Realities No. 19. Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education. (ERIC Document Reproduction Service No. ED 468 612)
- St. Clair, R., & Sandlin, J. A. (Eds.). (2004). *Promoting critical practices in adult education*. New Directions in Adult and Continuing Education, No. 102. San Francisco: Jossey-Bass.
- Steffe, L. P., & Gale, J. (Eds.). (1995). *Constructivism in education*. Hillsdale, NJ: Erlbaum.
- Sternberg, R. J. (1985). *Beyond IQ: A triarchic theory of human intelligence*. New York: Cambridge University Press.
- Sternberg, R. J. (1986a). *Intelligence applied: Understanding and increasing your intellectual skills*. San Diego: Harcourt Brace.
- Sternberg, R. J. (1986b). Intelligence, wisdom, and creativity: Three is better than one. *Educational Psychologist*, 21(3), 175–190.
- Sternberg, R. J. (1988). *The triarchic mind: A new theory of human intelligence*. New York: Viking/Penguin.
- Sternberg, R. J. (1994a). Allowing for thinking styles. *Educational Leadership*, 52(3), 36–40.
- Sternberg, R. J. (1994b). PRSVL: An integrative framework for understanding mind in context. In R. J. Sternberg & R. K. Wagner (Eds.), *Mind in context: Interactionist perspectives on human intelligence*. New York: Cambridge University Press.
- Sternberg, R. J. (1996a). Styles of thinking. In P. B. Baltes & U. M. Staudinger (Eds.), *Interactive minds: Life-span perspectives on the social foundation of cognition* (pp. 347–365). Cambridge, MA: Cambridge University Press.
- Sternberg, R. J. (1996b). *Successful intelligence: How practical and creative intelligence determine success in life*. New York: Simon & Schuster.

- Sternberg, R. J. (1996c). Myths, countermyths, and truths about intelligence. *Educational Researcher*, 25(2), 11–16.
- Sternberg, R. J. (1997). *Successful intelligence*. New York: Plume.
- Sternberg, R. J. (2000a). Intelligence and wisdom. In R. J. Sternberg, J. Jautrey, & T. I. Lubart (Eds.), *Models of intelligence: International perspectives* (pp. 631–645). Washington, DC: American Psychological Association.
- Sternberg, R. J. (2000b). The concept of intelligence. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 3–15). New York: Cambridge University Press.
- Sternberg, R. J. (2003a). Construct validity of the theory of successful intelligence. In R. J. Sternberg, J. Lautrey, & T. I. Lubart (Eds.), *Models of intelligence: International perspectives* (pp. 55–77). Washington, DC: American Psychological Association.
- Sternberg, R. J. (2003b). *Wisdom, intelligence, and creativity synthesized*. Cambridge, UK: Cambridge University Press.
- Sternberg, R. J. (Ed.). (2004). *The international handbook of intelligence*. New York: Cambridge University Press.
- Sternberg, R. J. (2005a). Foolishness. In R. J. Sternberg & J. Jordan (Eds.), *A handbook of wisdom: Psychological perspectives* (pp. 331–352). Cambridge, UK: Cambridge University Press.
- Sternberg, R. J. (2005b). Older but not wiser? The relationship between age and wisdom. *Ageing International*, 30(1), 5–26.
- Sternberg, R. J., Castejón, J. L., Prieto, M. D., Hautamäki, J., & Grigorenko, E. L. (2001). Confirmatory factor analysis of the Sternberg triarchic abilities test in three international samples. *European Journal of Psychological Assessment*, 17(1), 1–16.
- Sternberg, R. J., Forsythe, G. B., Hedlund, J., Horvath, J. A., Wagner, R. K., Williams, W. M., et al. (2000). *Practical intelligence in everyday life*. New York: Cambridge University Press.
- Sternberg, R. J., & Grigorenko, E. L. (Eds.). (2002). *The general factor of intelligence: How general is it?* Hillsdale, NJ: Erlbaum.
- Sternberg, R. J., & Horvath, J. A. (1995). A prototype view of expert teaching. *Educational Researcher*, 24(6), 9–17.
- Sternberg, R. J., & Horvath, J. A. (1999). *Tacit knowledge in professional practice*. Hillsdale, NJ: Erlbaum.
- Sternberg, R. J., & Jordan, J. A. (Eds.). (2005). *A handbook of wisdom: Psychological perspectives*. Cambridge, UK: Cambridge University Press.
- Sternberg, R. J., Lautrey, J., & Lubart, T. I. (2003). Where are we in the field of intelligence, how did we get here, and where are we going? In R. J. Sternberg, J. Lautrey, & T. I. Lubart (Eds.), *Models of intelligence: International perspectives* (pp. 3–25). Washington, DC: American Psychological Association.

- Sternberg, R. J., & Lubart, T. I. (2001). Wisdom and creativity. In J. E. Birren & K. W. Schaie (Eds.), *Handbook of the psychology of aging* (pp. 500–522). Orlando: Academic Press.
- Stevenson, J. J. (1980). Load, power and margin in older adults. *Geriatric Nursing, 1*(2), 50–55.
- Stinson, S. W. (1995). Body of knowledge. *Educational Theory, 45*(1), 43–54.
- Stockdale, S. L. (2003). *Development of an instrument to measure self-directedness*. Unpublished doctoral dissertation, University of Tennessee, Knoxville.
- Stubblefield, H. W., & Keane, P. (1994). *Adult education in the American experience*. San Francisco: Jossey-Bass.
- Stuen, C., & Faye, E. E. (2003). Vision loss: Normal and not normal changes among older adults. *Generations, 27*(1), 8–14.
- Sung, B. (1991a). *Confucian analects*. Seoul, Korea: Association of Traditional Culture Study.
- Sung, B. (1991b). *The doctrine of the mean*. Seoul, Korea: Association of Traditional Culture Study.
- Sung, B. (1991c). *The great learning*. Seoul, Korea: Association of Traditional Culture Study.
- Sung, B. (1991d). *Mencius*. Seoul, Korea: Association of Traditional Culture Study.
- Tangri, S. S., Thomas, V. G., Mednick, M. T., & Lee, K. S. (2003). Predictors of satisfaction among college-educated African American women at midlife. *Journal of Adult Development, 10*(2), 113–125.
- Taylor, E. W. (1994). Intercultural competency: A transformative learning process. *Adult Education Quarterly, 44*(3), 154–174.
- Taylor, E. W. (1996). Rationality and emotions in transformative learning theory: A neurobiological perspective. In H. Reno and M. Witte (Eds.), *Proceedings of the 37th Annual Adult Education Research Conference* (pp. 301–306). Tampa: University of Southern Florida.
- Taylor, E. W. (1997a). Building upon the theoretical debate: A critical review of the empirical studies of Mezirow's transformative learning theory. *Adult Education Quarterly, 48*(1), 34–59.
- Taylor, E. W. (1997b). Implicit memory and transformative learning theory: Unconscious cognition. In R. E. Nolan and H. Chelesvig (Eds.), *Proceedings of the 38th Annual Adult Education Research Conference* (pp. 263–268). Stillwater: University of Oklahoma.
- Taylor, E. W. (2000a). Analyzing research on transformative learning theory. In J. Mezirow & Associates (Eds.), *Learning as transformation: Critical perspectives on a theory in progress* (pp. 285–328). San Francisco: Jossey-Bass.

- Taylor, E. W. (2000b). Fostering Mezirow's transformative theory in the adult education classroom: A critical review. *Canadian Journal for the Study of Adult Education*, 14(2), 1–28.
- Taylor, E. W. (2001). Transformative learning theory: A neurobiological perspective of the role of emotions and unconscious ways of knowing. *International Journal of Lifelong Education*, 20(3), 218–236.
- Taylor, E. W. (2003). Looking back five years: A critical review of transformative learning theory. In C. A. Weissner, S. R., Meyer, N. L. Pflhal, & P. G. Neaman (Eds.), *Proceedings of the Fifth International Conference on Transformative Learning* (pp. 396–402). New York: Teachers College, Columbia University.
- Taylor, E. W. (2005a). Making meaning of the varied and contested perspectives of transformative learning theory. In D. Vlosak, G. Kielbaso, & J. Radford (Eds.), *Proceedings of the 6th International Conference on Transformative Learning* (pp. 459–464). East Lansing: Michigan State University.
- Taylor, E. W. (2005b). Teaching beliefs of nonformal consumer educators: A perspective of teaching in home improvement retail stores in the United States. *International Journal of Consumer Studies*, 29(5), 448–457.
- Taylor, E. W., & Caldarelli, M. (2004). Teaching beliefs of non-formal environmental educators: A perspective from state and local parks in the United States. *Environmental Education Research*, 10(4), 451–469.
- Taylor, K. (2000). Teaching with developmental intention. In J. Mezirow & Associates (Eds.), *Learning as transformation: Critical perspectives on a theory in progress* (pp. 151–180). San Francisco: Jossey-Bass.
- Taylor, K., Marienau, C., & Fiddler, M. (2000). *Developing adult learners*. San Francisco: Jossey-Bass.
- Tennant, M. C. (1988). *Psychology and adult learning*. New York: Routledge.
- Tennant, M. C. (1991). The psychology of adult teaching and learning. In J. M. Peters, P. Jarvis, & Associates (Eds.), *Adult Education: Evolution and achievements in a developing field of study* (pp. 191–216). San Francisco: Jossey-Bass.
- Tennant, M. C. (1993). Perspective transformation and adult development. *Adult Education Quarterly*, 44(1), 34–42.
- Tennant, M. C. (2000). Adult learning for self-development and change. In A. L. Wilson & E. R. Hayes (Eds.), *Handbook of adult and continuing education* (pp. 87–100). San Francisco: Jossey-Bass.
- Tennant, M. C., & Pogson, P. (1995). *Learning and change in the adult years: A developmental perspective*. San Francisco: Jossey-Bass.
- Theil, J. P. (1984). Successful self-directed learning styles. *Proceedings of the 25th Annual Adult Education Research Conference* (pp. 327–242). Raleigh: North Carolina State University.

- Thomas, W. H. (2004). *What are old people for? How elders will save the world*. Acton, MA: VanderWyk & Burnham.
- Thorndike, E. L., Bregman, E. O., Tilton, J. W., & Woodyard, E. (1928). *Adult learning*. New York: Macmillan.
- Thorpe, M. O. (2005). Wisdom in war: Ordinary people in extraordinary times. *ReVision: A Journal of Consciousness and Transformation*, 27(4), 34–43.
- Thurstone, L. L., & Thurstone, T. G. (1941). *Factorial studies of intelligence*. Psychometric Monographs, No. 2. Chicago: University of Chicago Press.
- Timiras, P. S. (2003). The nervous system: Structural and biological changes. In P. S. Timiras (Ed.), *Physiological basis of aging and geriatrics* (pp. 99–118). New York: CRC Press.
- Tisdell, E. J. (1993). Feminism and adult learning: Power, pedagogy, and praxis. In S. A. Merriam (Ed.), *An update on adult learning theory* (pp. 91–104). *New Directions for Adult and Continuing Education*, No. 57. San Francisco: Jossey-Bass.
- Tisdell, E. J. (1995). *Creating inclusive adult learning environments: Insights from multicultural education and feminist pedagogy*. Information Series No. 361. Columbus, Ohio: ERIC Clearinghouse on Adult, Career, and Vocational Education.
- Tisdell, E. J. (1996). Feminist pedagogy and adult learning: Underlying theory and emancipatory practice. *Proceedings of the 37th Annual Adult Education Research Conference* (pp. 307–312). Tampa: University of South Florida.
- Tisdell, E. J. (1998). Poststructural feminist pedagogies: The possibilities and limitations of a feminist emancipatory adult learning theory and practice. *Adult Education Quarterly*, 48(3), 139–156.
- Tisdell, E. J. (2000). Feminist pedagogies. In E. R. Hayes & D. D. Flannery with A. K. Brooks, E. J. Tisdell, & J. M. Hugo (Eds.), *Women as learners: The significance of gender in adult learning* (pp. 155–183). San Francisco: Jossey-Bass.
- Tisdell, E. J. (2003). *Exploring spirituality and culture in adult and higher education*. San Francisco: Jossey-Bass.
- Tisdell, E. J. (2005a). Critical multiculturalism. In L. M. English (Ed.), *International encyclopedia of adult education* (pp. 162–165). London: Palgrave Macmillan.
- Tisdell, E. J. (2005b). Feminism. In L. M. English (Ed.), *International encyclopedia of adult education* (pp. 254–257). London: Palgrave Macmillan.
- Tisdell, E. J. (2005c). In the new millennium: The role of spirituality and the cultural imagination in dealing with diversity and equity in the higher education classroom. *Teacher's College Record*. <http://www.tcrecord.org>. ID No. 12223. Accessed April 10, 2006.

- Tisdell, E. J., & Perry, C. (1997). A collaborative inter-racial "border" pedagogy in adult multicultural education classes. In P. Armstrong, N. Miller, & M. Zukas (Eds.), *Crossing Borders, Breaking Boundaries: Proceedings of the 27th Annual SCUTREA Conference* (pp. 441–444). London: Birbeck College, University of London.
- Tomlin, M. E. (1997). Changing what and how we teach for a changing world. *Adult Learning*, 8(5/6), 19–21.
- Tough, A. (1967). *Learning without a teacher*. Educational Research Series, No. 3. Toronto: Ontario Institute for Studies in Education.
- Tough, A. (1971). *The adult's learning projects: A fresh approach to theory and practice in adult learning*. Toronto: Ontario Institute for Studies in Education.
- Tough, A. (1978). Major learning efforts: Recent research and future directions. *Adult Education*, 28(4), 250–263.
- Tough, A. (1979). *The adult's learning projects: A fresh approach to theory and practice in adult learning* (2nd ed.). Toronto: Ontario Institute for Studies in Education.
- Toye, M. (1989). Learning styles. In C. J. Titmus (Ed.), *Lifelong education for adults: An international handbook*. Oxford: Pergamon Press.
- Ulrich, D. (1998). A new mandate for human resources. *Harvard Business Review*, 76(1), 124–134.
- U.S. Bureau of the Census. (2000). *Educational attainment by sex*. http://factfinder.census.gov/servlet/SAFFPeople?_sse=on. Accessed September 15, 2005.
- U.S. Bureau of the Census. (2004a). *Income in 2003 by educational attainment*. <http://www.census.gov/population/socdem/education/cps2004/tab08-1.pdf>. Accessed October 2, 2005.
- U.S. Bureau of the Census. (2004b). *U.S. Interim projections by age, sex, race, and Hispanic origin*. <http://www.census.gov/ipc/www/usinterimproj>. Accessed August 27, 2005.
- U.S. Bureau of the Census. (2005). *National population estimates by characteristics*. <http://www.census.gov/popest/national/asrh/NC-EST2004-sa.html>. Accessed August 27, 2005.
- U.S. Bureau of Labor Statistics. (2005). *The employment situation: August 2005*. http://www.bls.gov/cps/cps_over.htm#overview. Accessed September 7, 2005.
- U.S. Department of Education. (1986). *Bulletin*. Office of Educational Research and Improvement, Center for Statistics. Washington, DC: Department of Education.
- U.S. Department of Labor. (n.d.). *Women in the labor force in 2004*. <http://www.dol.gov/wb/factsheets/Qf-laborforce-04.htm>. Accessed September 11, 2005.

- Usher, R., Bryant, I., & Johnston, R. (1997). *Adult education and the post-modern challenge: Learning beyond the limits*. New York: Routledge.
- Usher, R., & Edwards, R. (1994). *Postmodernism and education*. New York: Routledge.
- Valente, J. (2005). *The role of self-directed learning in older adult's healthcare*. Unpublished doctoral dissertation, University of Georgia, Athens.
- Valentine, T. (1997). United States of America: The current predominance of learning for the job. In P. Belanger & S. Valdivielso (Eds.), *The emergence of learning societies: Who participates in adult learning?* (pp. 95–108). New York: Elsevier.
- Valentine, T., & Darkenwald, G. G. (1990). Deterrents to participation in adult education: Profiles of potential learners. *Adult Education Quarterly*, 41(1), 29–42.
- Velazquez, L. C. (1996). Voices from the fields: Community-based migrant education. In P. Sissel (Ed.), *A community-based approach to literacy programs: Taking learners' lives into account* (pp. 27–36). New Directions for Adult and Continuing Education, No. 70. San Francisco: Jossey-Bass.
- Vella, J. (1994). *Learning to listen, learning to teach: The power of dialogue in educating adults*. San Francisco: Jossey-Bass.
- Vella, J. (2000). A spirited epistemology: Honoring the adult learner as subject. In L. English & M. Gillen (Eds.), *Addressing the spiritual dimensions of adult learning: What educators can do* (pp. 7–16). New Directions for Adult and Continuing Education, No. 85. San Francisco: Jossey-Bass.
- Vella, J. (2002). *Quantum learning: Teaching as dialogue*. New Directions for Adult and Continuing Education, No. 3, 73–83.
- Vernon, P. A., Wickett, J. C., Bazana, P. G., & Stelmack, R. M. (2000). The neuropsychology and psychophysiology of human intelligence. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 245–264). New York: Cambridge University Press.
- Viens, J., & Kallenbach, S. (2004). *Multiple intelligences and adult literacy: A sourcebook for practitioners*. New York: Teachers College, Columbia University.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Wagner, R. K. (2000). Practical intelligence. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 380–395). New York: Cambridge University Press.
- Walker, B. H. (1996). *Margin-in-life scale: A predictor of persistence for non-traditional students in higher education*. Unpublished doctoral dissertation, University of Georgia, Athens.

- Walker, D. P. (2003). Enhancing problem-solving disposition, motivation and skills through cognitive apprenticeship. *Dissertation Abstracts International* 65(1), 127. (UMI No. 3119217)
- Walters, S. (2005). Learning region. In L. M. English (Ed.), *International encyclopedia of adult education* (pp. 360–362). New York: Palgrave Macmillan.
- Wang, H. (2006). Teaching Asian students online: What matters and why? *PAACE Journal of Lifelong Learning*, 15, 69–84.
- Washburn, M. (2000). Transpersonal cognition in developmental perspective. In T. Hart, P. L. Nelson, & K. Puhakka (Eds.), *Transpersonal knowing: Exploring the horizon of consciousness* (pp. 185–212). Albany: State University of New York Press.
- Watkins, K. E., & Marsick, V. J. (1993). *Sculpting the learning organization: Lessons in the art and science of systemic change*. San Francisco: Jossey-Bass.
- Wechsler, D. (1997). *Manual for the Wechsler Adult Intelligence Scale-III*. New York: Psychological Corporation.
- Weiler, K. (1996). Freire and a feminist pedagogy of difference. In R. Edwards, A. Hanson, & P. Raggatt (Eds.), *Boundaries of adult learning* (pp. 128–151). New York: Routledge.
- Weiman, E. R. (1987). McClusky's power-load-margin theory and adult students. *Dissertation Abstracts International*, 50(11), 3450. (UMI No. 8922403)
- Weisinger, H. (1998). *Emotional intelligence at work*. San Francisco: Jossey-Bass.
- Wellington, B., & Austin, P. (1996). Orientations to reflective practice. *Educational Researcher*, 38(3), 307–316.
- Welsh, M. A., & Dehler, G. E. (2004). P(1)aying attention: Communities of practice and organized reflection. In M. Reynolds & R. Vince (Eds.), *Organizing reflection* (pp. 15–29). Burlington, VT: Ashgate.
- Welton, M. R. (1993). The contribution of critical theory to our understanding of adult learning. In S. B. Merriam (Ed.), *An update on adult learning theory* (pp. 81–90). New Directions for Adult and Continuing Education, No. 57. San Francisco: Jossey-Bass.
- Welton, M. R. (1995a). The critical turn in adult education theory. In M. R. Welton (Ed.), *In defense of the lifeworld* (pp. 11–38). Albany: State University of New York Press.
- Welton, M. R. (1995b). In defense of the lifeworld: A Habermasian approach to adult learning. In M. R. Welton (Ed.), *In defense of the lifeworld* (pp. 127–156). Albany: State University of New York Press.
- Westermeyer, J. F. (2004). Predictors and characteristics of Erikson's life cycle model among men: A 32-year longitudinal study. *International Journal of Aging & Human Development*, 58(1), 29–48.

- Whitbourne, S. K. (2005). *Adult development and aging: Biopsychosocial perspectives* (2nd ed). New York: Wiley.
- Whitson, D. L., & Amstutz, D. D. (1997). *Accessing information in a technological age*. Malabar, FL: Krieger.
- Wiener, W. J., & Rosenwald, G. C. (1993). A moment's monument: The psychology of keeping a diary. In R. Josselson & A. Lieblich (Eds.). *The narrative study of lives* (Vol. 1, pp. 30–58). Thousand Oaks, CA: Sage.
- Wiessner, C. A., & Mezirow, J. (2000). Theory building and the search for common ground. In J. Mezirow & Associates, *Learning as transformation: Critical perspectives on a theory in progress* (pp. 329–358). San Francisco: Jossey-Bass.
- Wilber, K. (1982). *A sociable God*. New York: McGraw-Hill.
- Wilber, K. (1983). *Eye to eye*. New York: Doubleday.
- Wilber, K. (1986). The spectrum of development. In K. Wilber, K. Engler, & D. P. Brown (Eds.), *Transformations of consciousness: Conventional and contemplative perspectives on development*. (pp. 65–105). Boston: New Science Library.
- Wilber, K. (1990). Two patterns of transcendence: A reply to Washburn. *Journal of Humanistic Psychology*, 30(3), 113–136.
- Williams, B. (2001). The theoretical links between problem-based learning and self-directed learning for continuing professional nursing education. *Teaching in Higher Education*, 6(1), 85–98.
- Williamson, A. (1997). You're never too old to learn! Third-age perspectives on lifelong learning. *International Journal of Lifelong Education*, 16(3), 173–184.
- Willis, S. L., & Schaie, K. W. (1986). Practical intelligence in later adulthood. In R. Sternberg & R. Wagner (Eds.), *Practical intelligence: Nature and origin of competency in the everyday world* (pp. 266–270). Cambridge, UK: Cambridge University Press.
- Willis, S. L., & Schaie, K. W. (1994). Cognitive training in the normal elderly. In F. Forette, Y. Christensen, & F. Boller (Eds.), *Plasticité cérébrale et stimulation cognitive* [Cerebral plasticity and cognitive stimulation]. Paris: Fondation Nationale de Gerontologie.
- Wilson, A. L. (1993). The common concern: Controlling the professionalization of adult education. *Adult Education Quarterly*, 44(1), 1–16.
- Wilson, A. L. (2005). Activity theory. In L. M. English (Ed.), *International encyclopedia of adult education* (pp. 25–30). London: Palgrave Macmillan.
- Wilson, A. L., & Cervero, R. M. (2001). Adult education and the struggle for knowledge and power: Practical action in a critical tradition. In R. O. Smith, J. M. Dirkx, P. L. Eddy, P. L. Farrell, & M. Polzin (Eds.), *Proceedings of the 42nd Annual Adult Education Research Conference* (pp. 423–428). East Lansing: Michigan State University.

- Wilson, A. L., & Hayes, E. R. (Eds.). (2000a). *Handbook of adult and continuing education*. San Francisco: Jossey-Bass.
- Wilson, A. L., & Hayes, E. R. (2000b). A selective history of the adult education handbooks. In A. L. Wilson & E. R. Hayes (Eds.), *Handbook of adult and continuing education* (pp. 3–14). San Francisco: Jossey-Bass.
- Wilson, A. L., & Nesbit, T. (2005). The problem of power. In R. J. Hill & R. Kiely (Eds.), *The 46th Annual Adult Education Research Conference* (pp. 449–454). Athens: University of Georgia.
- Wilson, B. A. (1996). *A descriptive and interpretive study: The intellectual development of adults*. Paper presented at the annual meeting of the American Educational Research Association, New York. (ED 393 976).
- Wilson, R. A., & Keil, F. C. (Eds.) (1999). *The MIT encyclopedia of the cognitive sciences*. Boston: Massachusetts Institute of Technology Press.
- Wink, P., & Dillon, M. (2002). Spiritual development across the adult life course: Findings from a longitudinal study. *Journal of Adult Development*, 9(1), 79–94.
- Wlodkowski, R. J., & Ginsberg, M. G. (1995). *Diversity and motivation: Culturally responsive teaching*. San Francisco: Jossey-Bass.
- Wolfen, R. (1999). Understanding overloaded adults' readiness level for learning: McClusky's theory of margin refuted. In A. Austin, G. Hynes, & R. Miller (Eds.), *Proceedings of the 18th Annual Midwest Research-to-Practice Conference in Adult, Continuing, and Community Education* (pp. 280–285). St. Louis: University of Missouri.
- World Bank. (2003). *Lifelong learning in the global economy: Challenges for developing countries*. Washington, DC: World Bank.
- Worthington, R. L., Savoy, H. B., Dillion, F. R., & Vernagalia, E. R. (2002). Heterosexual identity development: A multidimensional model of individual and social identity. *Counseling Psychologist*, 30(4), 496–531.
- York-Barr, J., Sommers, W. A., Ghore, G. S., & Montie, J. (2001). *Reflective practice to improve schools: An action guide for educators*. Thousand Oaks, CA: Corwin Press.
- Yorks, L., & Marsick, V. J. (2000). Organizational learning and transformation. In J. Mezirow & Associates, *Learning as transformation: Critical perspectives on a theory in progress* (pp. 253–284). San Francisco: Jossey-Bass.
- Yorks, L., & Sharoff, L. (2001). An extended epistemology for fostering transformative learning in holistic nursing education and practice. *Holistic Nursing Practice*, 16(1), 21–29.
- Yoshida, A. (2005). Interface of holistic changes in Japanese schools and Waldorf education. In J. P. Miller, S. Karsten, D. Denton, D. Orr, & I. C. Kates (Eds.), *Holistic learning and spirituality in education* (pp. 129–134). Albany: State University of New York Press.

- Young, M. F. (1993). Instructional design for situated learning. *Educational Technology Research and Development*, 41(1), 43–58.
- Youngman, F. (1986). *Adult education and socialist pedagogy*. London: Croom Helm.
- Youngman, F. (1996). A transformative political economy of adult education: An introduction. In P. Wangoola & F. Youngman (Eds.), *Towards a transformative political economy of adult education* (pp. 3–30). DeKalb, IL: LEPS Press.
- Youngman, F. (2000). *The political economy of adult education and development*. London: NIACE & Zed Books.
- Zemke, R., & Zemke, S. (1981). “30 things we know for sure about adult learning.” *Training*, 18, 45–49.
- Zemke, R., & Zemke, S. (1995). Adult learning: What do we know for sure? *Training*, 32(6), 31–34, 36, 38, 40.
- Zhang, L. F. (1999). A comparison of U.S. and Chinese university students’ cognitive development: The cross-cultural applicability of Perry’s theory. *Journal of Psychology*, 133(4), 425–439.
- Zhang, L. F. (2004). The Perry scheme: Across cultures, across approaches to the study of human psychology. *Journal of Adult Development*, 11(2), 123–138.
- Zohar, D., & Marshall, I. (2000). *SQ: The ultimate intelligence*. London: Bloomsburg.

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