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Learning in Adulthood

"For this new edition of *Learning in Adulthood* we have paid particular attention to work published since the last edition of the book. This edition builds on material in the 2007 edition, bringing together the important contributions of the past dozen or so years 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 endeavored to put together a comprehensive overview and synthesis of what we know about adult learning: the current 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." **—From the Preface**

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Learning in Adulthood

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Learning in Adulthood

A Comprehensive Guide

Sharan B. Merriam | Lisa M. Baumgartner

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Learning in Adulthood
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FOURTH EDITION

Learning in Adulthood

A Comprehensive Guide

Sharan B. Merriam
Lisa M. Baumgartner

FOURTH EDITION

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Acknowledgments

This fourth 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 and as a resource for research in adult learning. In a very real sense, it has been the students in our programs, participants in our workshops and seminars, and colleagues in the field who have challenged us to revise and update the previous edition of the book. Others, of course, have been of invaluable assistance at various stages of the project. David Brightman, an editor at Jossey-Bass for the first three editions of *Learning in Adulthood*, was enormously supportive in assisting us through the process as was Amy Fandrei and Pete Gaughan for this fourth edition. Colleagues Ralph Brockett, Carol Kasworm, Ed Taylor, and Libby Tisdell unselfishly provided us with updated materials and suggested resources for us to consider. A special thanks goes to Bora Jin, student and graduate research assistant at Texas A&M University, for tracking down references, assisting in editing, and in technical matters of getting the book ready for the publisher. Thanks also to Julia Lynch, postdoctoral scholar at Texas A&M, for her editing

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Athens, Georgia — Sharan B. Merriam

San Marcos, Texas — Lisa M. Baumgartner

July 2019

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, YouTube videos, and other online resources, summarizing material for

the new instructor of adult students. If one investigates the Educational Resources Information Center (*ERIC*) website, which contains journal articles, monographs, conference proceedings, fact sheets, 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 fourth edition of *Learning in Adulthood* we have paid particular attention to work published since the last edition of the book. This fourth edition of *Learning in Adulthood* builds on material in the 2007 edition, bringing together the important contributions of the past dozen or so years 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 endeavored to put together a comprehensive overview and synthesis of what we know about adult learning: the current 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. Historically, in much of the writing on adult learning the sociocultural perspective has been neglected in favor of a psychological orientation to the individual learner and how to facilitate her or his learning. In addition to the focus on the learner, we attend to what is today a technology-infused 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 and scholars of adult learning. 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 and as a resource for those interested in conducting research on 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, places of worship, museums, 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 fourth edition of *Learning in Adulthood* retains the organization of topics found in the previous edition. That is, in the third edition we realized that in most courses using this text, the chapters specific to adult learning theory and models were read before chapters on cognitive development, intelligence and aging, and psychosocial developmental frameworks. We have organized accordingly. This edition is divided into four parts. Part I describes the context of adult learning. Part II focuses on theories and models of adult learning. The chapters in Part III address newer approaches to adult learning, and those in Part IV present material on topics that intersect with adult learning, such as memory and cognition, adult development, and so on.

The chapters in Part I, "Adult Learning in Contemporary Society," center on the context of adult learning. Chapter 1 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. Chapter 2 is a new chapter devoted to the ubiquitous presence of technology in all forms of adult education from formal to nonformal to informal and self-directed learning environments. Directly related to the sociocultural context of adult learning are the environments where learning takes place, the

subject of Chapter 3. 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. Also in this chapter we explore the concepts of organizational learning and the learning organization, lifelong learning and the learning society. The fourth chapter in Part I 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 II, "Adult Learning Theory," 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 5 with a description and critique of the best known of these theories, Knowles's (1980) concept of andragogy. Based on six characteristics of adult learners, andragogy focuses on the adult learner as distinguished from preadult learners. In this chapter we also cover one other model of learning, McClusky's (1970) theory of margin, which has great intuitive appeal to adult learners introduced to it. McClusky considers how everyday life and transitions can be both an opportunity and a barrier to engaging in an adult learning activity. In Chapter 6 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, self-directed learning along with transformative learning has taken center stage in research and writing. Chapter 7 summarizes the development of transformational learning, reviews the burgeoning recent research in this area, and examines unresolved issues inherent in this approach to adult learning. In Chapter 8, the last chapter of Part II, 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 III, "Newer Approaches to Adult Learning," contains three chapters. There is a burgeoning interest in embodied or somatic learning,

spirituality and learning, and narrative approaches to learning, topics addressed in Chapter 9. We uncovered so much recent material in these areas that, had space allowed, we could have easily devoted a full chapter to each of these subjects. Chapter 10 explores Eastern and indigenous approaches to adult learning. Because the majority of the knowledge base represented in *Learning in Adulthood* is from a Western perspective, characterized by 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 III 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 IV, 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. Chapter 12 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 13. Here we review several theoretical models of cognitive development as well as present the concept of dialectical thinking. Chapter 14 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 15 on the brain, memory, and cognitive functioning 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 16 also reflects how we ourselves have come to think about learning in adulthood.

About the Authors

Sharan B. Merriam is professor emerita of adult education and qualitative research methods 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 30 books and dozens of chapters and articles and held major editorship roles throughout her career. For 5 years she was coeditor of *Adult Education Quarterly*, the major research and theory journal in adult education. She was also 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 four different books. Various of her books have been translated into Chinese, Korean, Japanese, Farsi, Italian, and French. Her most recent books include *Qualitative Research in Practice: Examples for Discussion and Analysis* (with Robin S. Grenier, 2019), *Qualitative Research: A Guide to Design and Implementation* (with Elizabeth J. Tisdell, 2016), *A Guide to Research for Educators and Trainers of Adults* (with Patricia Cranton, 2015), and *Adult Learning: Linking Theory and Practice* (with Laura Bierema 2014). 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 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, in 2006 a Visiting Scholar to South Korea, and from 2016 to 2018 she was a Distinguished Visiting Scholar to Northwest University in South Africa.

Lisa M. Baumgartner is an associate professor of adult education at Texas State University, San Marcos. Her research and writing focus on adult learning and development in marginalized populations. 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. She received the Houle O. Cyril Award for Outstanding Literature in Adult Education for the coauthored text *Learning in Adulthood: A Comprehensive* Guide (3rd edition) in 2007. She has served on the steering committee for the annual North American Adult Education Research Conference. She was a coeditor of *Adult Education Quarterly* from 2011 to 2014 and serves on the editorial boards of several journals including *Adult Education Quarterly, Adult Learning,* and the *Journal of Transformative Education*. 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. In 2019, she received the Circle of 50 Award from the Learning, Leadership and Organizational Development Program at the University of Georgia. Awardees are seen as having made an impact on the research and practice of adult education, learning, leadership, and organizational development.

Part I

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 four chapters in Part I explore the current sociocultural context, the range of learning opportunities available to adults in this context, and who takes advantage of these opportunities and why.

Chapter 1 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 18 years old for the first time ever. Moreover, the percentage of the population over age 65 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.

Because of its ever-increasing presence in our lives, we have added a new chapter on technology and adult learning. From online courses offered by educational institutions and corporations to the myriad of online sites on the World-Wide Web to technological innovations that are pervading our everyday world, technology is both creating learning demands and facilitating learning in adult life. Chapter 2 is thus devoted to broadly examining the role of technology in the context of adult learning today. Some of the topics include the history of distance education, online learning theories, and the role of technology in informal and nonformal learning.

Some of this learning takes place in formal settings sponsored by countless institutions and agencies. As might be expected, business and industry and educational institutions offer many adult learning opportunities, but so do the military, cooperative extensions, churches, hospitals, and other institutions. Chapter 3 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 such as museums, libraries, hospitals, and so on, and informal, incidental, and self-directed opportunities, as might happen in the course of the workday or by looking up

something on the Internet. In addition, we briefly 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 4 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 50 years, with the most current study suggesting that approximately 44% of all adult Americans participate in learning. Studies of self-directed learning and other nonformal types of education reveal the percentage of participation to be even higher. Clearly, 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 4 "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 1
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, 2012, 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 time. Contrast the young male apprentice of colonial times learning to be a blacksmith with today's middle-aged woman learning a new smartphone app, 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 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. In this global, increasingly technologically interconnected world, "the context for adult learning is growing more complex" (Nicolaides & Marsick, 2016, p. 9). The challenge for learners and adult educators is to understand the learning context whether it be "simple, complicated,

complex [or] chaotic" and to adapt our learning and teaching (p. 10). Further, social issues such as immigration and climate change and individual concerns such as those related to health or family or finances often result in individuals attending courses or learning informally about these issues.

Although adult education is responsive to the context in which it takes place, it affects that same context. Take, for example, enormous changes in our society brought on by advances in technology. Advances in telemedicine mean doctors can diagnose patients who live at a distance using increasingly sophisticated web-based communication and patients can use smartphone apps to monitor their health. Auto mechanics must now be trained to diagnose engine problems using computers; auto manufacturers tout self-driving cars; a smartphone can be turned into a 3D printer; misplaced items such as keys, wallets, and backpacks can be located via smartphone. Adult education has responded to these technological advances by offering courses to learn this technology so that we can better function in our digital environment.

Although the preceding examples of learning are particularly contemporary, 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. In this new world, civic education, which included learning about philosophy, science, and politics, eclipsed religious education and 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 was 38 years in 2017 up from of 35.3 years in 2000 and this figure is expected to increase to 43 by 2060 (U.S. Census Bureau, 2017b, 2018a, 2018b). The so-called Baby Boomers, born between 1946 and 1964, are a contributing factor to this change in the population. The Baby Boomers started turning 65 in 2011 and by 2056 those over age 65 will outnumber individuals under 18 (Ortman, 2012, U.S. Census Bureau, 2017b).

The shift from a youth-oriented to an adult-oriented society is solidified by the increasing numbers of older adults in the population. In addition to an increase of persons over age 65, the oldest old, those over 85 years old, are the fastest-growing segment of the older population. The number of people age 85 and older is expected to grow from 5.8 million in 2010 to 19 million in 2050. This age group is expected to comprise 2.3% of the population in 2030 and 4.3% in 2050 (Vincent & Velkoff, 2010). In addition, the population over age 65 is expected to become increasingly racially diverse and the life expectancy gap between men and women is expected to narrow (Vincent & Velkoff, 2010).

Today's older adults are also increasingly better educated, in better health, and many are 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 Road Scholar 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. The stereotypical idea of retirement as a time for cognitive decline and withdrawal seems to be slowly changing as an increasing number of individuals are reaching retirement age and the media, although still promoting some stereotypes, is showing older adults actively engaged in a wide variety of activities. Additionally, retirement communities arrange learning opportunities for their residents including lectures, travel, concerts, and discussion groups.

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 U.S. citizens. This is dramatically illustrated by the fact that 90% of the U.S. population age 25 or older has completed high school or higher levels of education, which compares with 24% in 1940 (Schmidt, 2018). Because 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. For example, 66% of U.S. adults 26–35 years old participated in adult education activities compared to 49% of those 56–65 years old (Desjardins, 2015). In adults age 16–65 (excluding individuals from 16 to 24 in formal studies), 31% with less than a high school education participated in adult education activities whereas 79% of those with a high school education or higher participated in adult education activities (Desjardins, 2015).

Participation in adult education is also affected by literacy and economics. In the United States, 27% of low-literate adults said they had participated in adult education within the last year, while 84% of those with higher levels of literacy participated (Desjardins, 2015). This pattern is seen in other countries as well. In Korea, the respective figures are 13% for low-literates and 77% for those with higher literacy rates, and Cyprus's figures are 24% and 51%, respectively (Desjardins, 2015). Participation rates for U.S. adults ages 16–65 whose parents had not graduated from high school was 39%, while individuals where at least one parent completed high school was 72%.

Another demographic characteristic of the social context is the growing cultural and ethnic diversity of America's population. Roughly 13.4% or 43.7 million people residing in the United States are foreign born (Organization for Economic Cooperation and Development [OECD], 2018). Twenty-six percent of those who are foreign born and living in the United States are from Mexico (OECD, 2018). Applications for asylum in the United States have risen especially from citizens from Guatemala, Honduras, and El Salvador (OECD, 2018). Although immigration rates are expected to slow somewhat in the short term due to U.S. governmental policies enacted in the late 2010s, (OECD, 2018), starting in 2030, "net international migration is projected to become the largest driver of population growth" (Vespa, Armstrong, & Medina, 2018, p. 12). Immigration combined with birthrate

projections in the United States mean there will be an increase in the Latinx, Asian, and African American populations with a decrease in Whites. In 2016, non-Hispanic Whites comprised 61.3% of the population and by 2060 they will make up 44.3% of the population. In contrast, the Latinx population is expected to increase almost 10% from 17.8% of the U.S. population in 2016 to 27.5% in 2060. The African American population is projected to increase almost 2% from 13.3% in 2016 to 15% of the population by 2060. The Asian population is expected to grow from 5.7% to 9.1% of the population. The percentage of those of two or more races is expected to expand from 2.6% of the population in 2016 to 6.2% in 2060 (U.S. Census Bureau, 2017c). By 2045, people of color will account for 51.3% of the population (Frey, 2018).

The socioeconomic and cultural diversity of today's immigrant population presents special challenges. In 2016, 30% of the foreign-born population age 25 or older possessed a bachelor's degree or higher and 29% lacked a high school diploma or GED (Zong, Batalova, & Hallock, 2018). Fifty-two percent of the immigrants in the United States over age 5 are English proficient (Radford, 2019). Immigrants' income varies with education level, occupation, industry, and geographic region, but immigrants tend to earn less than their native-born counterparts although the gap is small for those with a bachelor's degree or higher (U.S. Department of Labor, 2018). Hence, immigrants' income and opportunities can vary depending on their education level and language proficiency, with the less educated and less English proficient "concentrated in trade and labour professions and confined mostly to general education programmes" (Calvo & Sarkisian, 2015, p. 1044). Courses for immigrants include English as a second language courses, adult basic education (ABE), and other community-based courses in "nutrition, parenting, immigration issues and other informal education opportunities" (Larrotta, 2017, p. 67). Typically, churches, libraries, social service centers, and community centers are places where immigrants engage in adult education (Larrotta, 2017).

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, and 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. (For a brief overview of the history and various definitions of globalization see Gulmez, 2017) Since the 1980s, the term has more frequently been used to reflect the increasing integration of economies around the world, particularly through trade and the flow of finances. Globalization includes the flow of "goods, services, people, knowledge, ideas, information and financial capital across borders" (Desjardins, 2013, p. 184). 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.

Neoliberal ideas of free trade, privatization, and "reduced capital controls on cross-border flow of finance" fuel the images most associated with the economic view of economic globalization (Desjardins, 2013, p. 183). These images include 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 other interests. Those opposed to the neoliberal agenda say that the costs of globalization include the loss of human rights including poor working conditions, although proponents indicate that globalization promotes economic growth (Richards & Gelleny, 2016). Although the market economy is clearly a driving force in globalization, so too is information technology. Technology has changed the way we work in that individuals can work from anywhere in the world. Changes in information technology have changed the teaching/learning transaction. Massive Open Online Courses (MOOCs), synchronous and asynchronous distance courses, communication tools such as Skype, Zoom, and Google Hangouts, and the plethora of web-based resources including LinkedIn Learning, and YouTube have affected the way individuals learn alone and in groups.

But globalization is not only about economics. Brysk (2003, p. 22) contends that it is a 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. Critics of neoliberal policies observe that more wealthy countries hurt less developed countries because richer countries "extract more money from developing countries than they invest, displace local capital, and add to unemployment by promoting capital-intensive production rather than labour-intensive activities" (Richards & Gelleny, 2016, p. 219).

What does all this mean for adult learning? Walters (2014) asserts that globalization "has been a driving factor in the commodification of learning" and that learning has become individualized and more expensive, widening the gap between the rich and the poor (p. 186).

She argues that global economic changes that build on capitalism drive down labor and production costs. This means that skilled labor is underutilized and that people are being deskilled. An alternative view is that the business world is increasingly responsible for education. Increased worker responsibility for their learning and teamwork approaches are necessary in this global economy. Adult education and human resource development (HRD) have responded with broad-based workplace literacy programs and training and development packages designed to address a wide range of economy-driven needs (Finger, 2005b). Indeed, 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. Education is viewed as a service (Guilbault, 2018). Some argue that students are consumers, and faculty and staff are customer service providers in this market-drive economy (Guilbault, 2018). As Koris and Nokelainen (2015) state, "Students expect to be treated as customers in terms of student feedback, classroom studies, and to some extent in terms of communication" (p. 128). Interestingly, they did not see themselves as customers when it came to grade expectation or curriculum (Koris & Nokelainen, 2015).

This shift to the marketplace as the primary site of adult learning has caused some adult educators to discuss the effect of neoliberalism on adult education. Neoliberalism is "a global system of political economy with interests in protecting and expanding the hegemony of private markets," which ultimately results in less funding for social services and increased benefits to the wealthy (Abendroth, 2014, p. 18). Adult literacy programs grounded in Freirean concepts such as problem posing have closed as the Workforce Investment Act (WIA) meant federal funding for literacy was tied to workforce initiatives and "ABE [Adult Basic Education] instructors . . . felt pressure to become technocrats who provide a linear instruction for passing a high-stakes test" (p. 19).

Intertwined in globalization is a shift from a society employed in producing durable goods to one employed in providing services. Given the United States's aging population, it is not surprising that health care is one of the top five industries driving the economy (Deutch, 2018). Healthcare sector jobs increased 20% since 2008 and they are expected to grow another 18% by 2026 (Deutch, 2018). The top job sector in the United States is retail (Deutch, 2018). Business and professional services

are also expected to continue to expand into the 2020s as they have in recent decades (U.S. Bureau of Labor Statistics, 2015). The brisk growth of the service sector is paralleled by rapid 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. (Bills, 2004, 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. 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 a skill's half-life is 5 years—that is, a skill learned 5 years ago is half as valuable as it was when it was learned (Kasriel, 2017); in high-tech areas software engineers may need to upgrade their skills every 12 to 18 months (Gurchiek, 2017).

In this fast-paced tech world, trainers are wondering how to best serve workers. "Micro-learning" or providing workers with short learning sessions when they need the skill is one method that is being used (Gurchiek, 2017, para. 10). Other suggestions for those in business settings include centralizing training, using text messages to encourage workers to complete their training, and delivering training in classrooms, on computers, and via cell phones (Gurchiek, 2017).

In the future, jobs will be increasingly automated, and more positions will be taken by robots. There is concern that technology will usurp the jobs of those who drive cars and trucks, workers in middle management, and even stock market analysts. How will educators, trainers, and workers need to adapt? Findings from a Pew Research study reveal that respondents believe that job education will be accomplished in multiple ways on multiple platforms from in-person training to self-directed learning, to engaging in virtual reality scenarios. Workers will be encouraged to gain skills in things that are less likely to be replicated by artificial intelligence. Such skills as creativity, collaboration, "complex

communication" and the "ability to thrive in diverse environments" will be stressed (Rainie & Anderson, 2017, para. 14). They predict that mentoring and apprenticeships will be increasingly used in the workplace (Rainie & Anderson, 2017). Leadership and conflict resolution skills will still be in demand (Rainie & Anderson, 2017). Although college degrees will still be important, employers may accept other forms of credentialing, such as digital badges, and competency may be measured in "real world work portfolios" (para. 20). Some fear that training will not meet the needs of those seeking employment in the near future because of a lack of funding, jobs changing too quickly, and the challenge inherent in teaching soft skills (Rainie & Anderson, 2017).

Developing simultaneously with the emphasis on learning to learn is the notion of the learning organization (see Chapter 2). To survive in the global economy, organizations must learn quickly (Serrat, 2017). 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. Kanten, Kanten, and Gurlek (2015) recognize the importance of the learning organization in the age of globalization. They note, "Due to globalization, rapid changes, and [a]diverse workforce, learning organizations have become an important factor for organizations to gain competitive advantage. Learning organizations are considered a key process which contributes to organizational success" (p. 1359).

Closely related to shifts to a service and information economy are changes in America's labor force. As previously mentioned, the service sector jobs are expected to grow followed by jobs in the health and social assistance sector (U.S. Bureau of Labor Statistics, 2017). Not surprisingly, women, minorities, and the elderly are overrepresented in the lower paying service jobs. Since the mid- 1950s, however, the labor force has changed from one dominated by blue-collar occupations to one where most jobs are considered white collar. Changes in the composition of the workforce are also occurring along racial and ethnic lines. Although White non-Hispanic workers account for the majority of workers —78% in 2017—(U.S. Bureau of Labor Statistics, 2018), the percentage of White non-Hispanics in the labor force has declined 2% since 2005 (U.S. Bureau of Labor Statistics, 2005) while the percentage of people of color in the workforce has risen. African Americans comprise 13% of the workforce compared to

11% in 2005, whereas Hispanics made up 17% of the workforce in 2017 compared to 13% in 2005 (U.S. Bureau of Labor Statistics, 2005, 2018). Asians account for 6% of the labor force (U.S. Bureau of Labor Statistics, 2018). Perhaps the greatest change of all has been the participation of women in the workforce. "In 1950, there were 18.4 million women in the labor force, which accounted for about one-third of the total labor force" (Toossi & Morisi, 2017, p. 3). By 2024, "women in the labor force will increase to 77.2 million… for a 47.2% share" (p. 3). 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

Technology has changed the way we live and learn. Technology-related vocabulary is part of our daily conversations. Those of us who teach students at a distance may need to *log in* to a learning management system (LMS) such as Blackboard, Schoology, Canvas, or Brightspace. We *access* our LMS from our computer. There is no more apt metaphor for reflecting the rate of technological change than the computer. Sometimes the computer requires that we *install* software and then we have to *reboot* our computer for it to take effect. 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 and affected how people go about their daily lives. From texting a colleague via cell phone, to ordering a ride to the airport via a smartphone app, to our car's sensors alerting us to vehicles in our blind spot, everyday life has been irrevocably influenced by technology.

Concurrent with these technological advances has been an information explosion. There are "2.5 quintillion bytes of data created each day" and "90 percent of the data in the world was generated in the last 2 years" (Marr, 2018, para. 1). Data center storage capacity was about 1,450 exabytes worldwide with researchers predicting that storage capacity will be 2,300 exabytes by 2021 (Taylor, C. 2018). One exabyte is one million gigabytes. In this information-rich society, there is an increasing need for continuing education and for learning how to ask good questions and assess the veracity of the information.

Technology has changed where data is stored. At one time, information was stored on punch cards that programmed everything from player pianos to textile looms (Foote, 2017). By the late 1800s, data was stored on phonograph records and on film (History of Online Storage, 2017). Storing computer data on magnetic tape occurred in the 1950s (History of Online Storage, 2017). In the last 30 years we have seen floppy disks give way to 3.5-in. disks, to CD-ROMs, to jump or flash drives and cloud storage, which allows individuals to store data remotely and access it through the Internet.

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. For example, with the rise of Internet travel sites, fewer travel agents are needed (U.S. Bureau of Labor Statistics, 2019b). However, software developers are predicted to be in increasing demand (U.S. Bureau of Labor Statistics, 2019a).

In addition to the creation and elimination of jobs, technological changes are affecting workers in other ways, such as where work is done. We check our e-mails and take calls on our commutes prior to arriving at the office, use videoconferencing instead of traveling, and virtual assistants are increasingly part of our workday to help us remember appointments, take notes, or launch video meetings (Barker, 2018). Working remotely or working from home has become increasingly popular. Approximately 3.9 million Americans report working from home at least half of the week, which is a 115% increase since 2005 (Guta, 2019). The average telecommuter is 46 years old, almost equally likely to be a man as a woman, and has at least a bachelor's degree (Guta, 2019).

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 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 regarding 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.

Technology's pros and cons are also evident in life beyond work. Respondents to a Pew Research survey noted that advantages of the living in the information age include having knowledge at your fingertips to live a better life in addition to having access to an array of services at the click of a mouse (Anderson & Rainie, 2018). Those who see the digital world as potentially dangerous to our well-being cite information overload as resulting in stress, anxiety, and depression. They state this information overload can negatively affect individuals' analytical thinking and memory (Anderson & Rainie, 2018).

Clearly, technology and the information age that it spawned are changing the nature of adult learning. Professionals' knowledge becomes outdated in a few years. Older adults must learn new ways to communicate with their grandchildren whether it be via FaceTime, texting, or through a virtual assistant such as Alexa. We 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. Learners can teleconference, attain information through an intelligent tutoring system that presents materials

based on learner responses, or receive training through virtual worlds that ask learners to participate in a scenario via computer (Quinn, 2015). For example, those in counseling courses may pick an avatar and take the role of a counselor or client in a computer-simulated counseling session.

Simultaneous with the development of technologically sophisticated delivery systems is the development of new roles for educators and trainers. Although the "digital divide" has referred to those who can and cannot access technology, it can also refer to those who cannot use technologies effectively (Wei & Hindman, 2011). With smartphone use growing, more individuals can access the Internet, but possessing digital literacy skills such as knowing how to effectively search for and evaluate information or send effective e-mails, texts, and video images is also necessary in the twenty-first century (Rosen & Vanek, 2017).

A Pew Research team surveyed 2,752 Americans age 18 or older in all 50 states and the District of Columbia to uncover their "digital readiness" for personal learning (Horrigan, 2016, p. 7). Digital readiness included individuals' self-reported skills at using technology, including their familiarity with technology terms such as MOOCs, distance learning, or digital badges. Researchers assessed learners' trust of technology with survey questions such as: "I find it difficult to know whether information I find online is trustworthy" (p. 9). Respondents needed to indicate whether these statements described them "very well," "somewhat well," "not too well," or "not at all well" (p. 9). A last indicator of readiness was how much respondents used technology. There were five groups along the spectrum of digital readiness. "The Unprepared" comprised 14% of respondents and were more likely to be women age 50 and older who came from lower income households and possessed lower levels of education. They do not adopt technology very readily, and "need help setting up tech devices and are not familiar with 'ed tech' terms" (p. 3). They were not confident about their computers skills or their ability to judge online information as trustworthy. Five percent of respondents were classified as "traditional learners" (p. 3). They were more likely to be women, minorities, and have lower levels of education and income. They are active learners, but they don't use the Internet to pursue learning and have concerns about their ability to judge online information. "The Reluctant" made up 33% of respondents and were more likely to be men age 50 and older who had lower incomes and education. "The Reluctant" had higher digital skills than those who

were "Unprepared," but they did not know new educational technology terms and did not use the Internet for learning. Group four, the "Cautious Clickers," owned more technology and had higher levels of confidence in their ability to separate truth from fiction on the Internet (p. 3). They were not as familiar with online learning and technology terms as the "Digitally Ready." They came from higher income households and typically had some college experience and were in their 30s and 40s. The "Digitally Ready," 17%, loved to learn for personal enrichment and were very confident about their online skills and knew the most about online learning resources (Horrigan, 2016).

Part of becoming "Digitally Ready" is the ability to evaluate information online, and critical thinking skills are necessary. Critical thinking "involves people using a systematic approach to evaluate information, develop viable solutions, and test them as they seek to solve many different types of structured and ill-structured problems" (King, 2017, p. 115). The elements of critical thinking include "generating purposes, raising questions, using information, using concepts, making inferences, making assumptions, generating implications and embodying a point of view" (King, 2017, p. 115). To evaluate information, we need to examine its "clarity, accuracy, precision, relevance, depth, breadth, logic, and fairness" (Elder & Paul, 2010, as cited in King, 2017, p. 115).

Technology is here to stay and teachers may need to learn new ways of interacting with students in an online or hybrid learning environment. Consulting with an instructional design specialist or attending professional development workshops on effectively integrating distance learning tools may be necessary for some instructors while others may pick these skills up on their own. Some higher education institutions offer distance education certificates for faculty. Course topics may include how to design an online course, best practices in facilitating an online course, exploring online learning communities, learning assessment tools, and copyright issues (Online Learning Consortium, 2018).

In other areas, such as adult basic skills education, ABE educators face challenges in using technology. These challenges are more evident in ABE than other areas of education due to persistent underfunding (Rosen & Vanek, 2017). Educators need "professional development, coaching, and technical assistance" to integrate technology into their

classrooms and they need to know how to "evaluate hardware and software" that can be used in the classroom (p. 56). Although both the Arizona Department of Education's Adult Education Services and the Adult Education and Literacy Department of the Texas Workforce Commission provide a wide range of professional development programs, including webinars and self-paced learning for ABE instructors, these types of opportunities are needed nationwide (Rosen & Vanek, 2017). Unfortunately, federal funding has not increased for ABE, and most state funding has not increased either, so the integration of technology into ABE is a challenge (Rosen & Vanek, 2017).

In summary, technology has its benefits and drawbacks. Learners can access information easily and informal learning can occur via web searches, webinars, and YouTube tutorials. Individuals' digital readiness affects how individuals can access and use the plethora of available information. Digital literacy includes learning critical thinking skills. In addition, educators must have appropriate professional development opportunities to understand how to evaluate hardware and software and integrate it into their teaching. Although training is available for some, other areas of adult education, such as ABE, may struggle due to funding shortages.

The Convergence of Demographics, Globalization, and Technology

Demographics, globalization, and technology are closely intertwined. Advances in technology, for example, are interrelated with changes in the economic sector. Automation and robotics displace production workers but create other jobs. Technology creates an alternative work sector. The need to be competitive in the world market leads to further technological sophistication. Demographics and economics are related. Economic growth is tied to productivity and the number of individuals in the workforce. The Baby Boom generation is beginning to retire and globally there are fewer working-age individuals and more retirees. This decrease in labor force participation has been offset somewhat with advances in technology (Hayes, 2018). We can now complete our taxes with software, we obtain money from ATMs instead of bank tellers, and in the future perhaps driverless cars will eliminate the need for chauffeurs (Hayes, 2018).

Embedded in this convergence of demographics, economics, and technology is a value system based on the political and economic structure of capitalism. More than three 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 predominantly 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 is reshaping higher education in several ways. Students are studying abroad with more coming to the United States and Europe than in previous generations (Stromquist & Monkman, 2014). Technology has helped people communicate across the world using multiple media (Stromquist & Monkman, 2014). This has also meant that the Western values have circulated to other countries (Mason, 2003).

As already pointed out, some 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. Humans are resources for the winners of globalization—transnational corporations (Stromquist & Monkman, 2014). 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. Although knowledge and learning serve the needs of transnational corporations, there is also evidence that technology and globalization have made women's struggles across the globe more evident and technology has helped movements like Occupy Wall Street come to fruition (Stromquist & Monkman, 2014). Others note the impact of neoliberalism on adult education as educators help individuals cope with the overwhelming economic and other challenges that threaten their identities and survival (Bowl, 2017).

Globalization has affected the supply of low-skilled workers globally and in the United States (Hickman & Olney, 2011). Although scholars worry that low-level workers are being left behind in this global economy (Schied, Mulenga, & Baptiste, 2005), there is some evidence that U.S. workers are trying to obtain the skills needed for continued employment (Hickman & Olney, 2011). The researchers examined how immigration and offshoring levels affect enrollment in post-high school education (Hickman & Olney, 2011). Results showed that "offshoring and immigration increase enrollment at community colleges but not other types of institutions, particularly among older, non-traditional age students" (p. 654). Community colleges are appealing to lower skilled workers because they offer short-term affordable programs, and some community colleges offer technical programs that lower skilled workers find appealing (Hickman & Olney, 2011). The authors recommend increased governmental support for community colleges (Hickman & Olney, 2011).

If the postmodern world is characterized by fragmentation and diversity, it is also defined 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 3). 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 18 to 22 years old, the student body has grayed along with the population. Roughly 38% of those enrolled in college are age 25 or older (National Center for Education Statistics, 2018). 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 16-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 (Tomar, 2019) and the Pardee RAND Graduate School, are offering accredited degrees (Pardee RAND Graduate School, 2018).

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 way 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. Regarding the American population, adults outnumber youth, there are more older adults, adults are better educated compared to previous generations, and there is more cultural and ethnic diversity among the population than ever before.

Globalization is linking the world through economics, knowledge, information, culture, and services. Transnational companies benefit the most from globalization but at what expense to workers? As a result of globalization, critics note learning has become increasingly individualized with greater gaps between the rich and the poor (Walters, 2014), whereas others say that lower skilled U.S. workers are finding more opportunities for pursuing additional skills at community colleges as a result of globalization and immigration (Hickman & Olney, 2011).

Technology is integral to the global economy and has contributed to, if not caused, the shift to an information society, 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 need for the development of critical thinking skills in order to assess the endless flow of information, and the need for educators, indeed, all adults, to constantly learn in a tech-driven society.

Chapter 2
Adult Learning and Technology

Technology is embedded in our lives. Some of us may no longer hail a taxi, but instead use an app on our phone to request a pickup from a shared ride service. We can use YouTube to learn how to knit, how to negotiate a salary, and how to fix a leaky bathroom faucet. We don't need a cashier to total up our grocery bill as stores have self-checkout machines. Drones help farmers check on crops and livestock and they help assess damage after a storm. Teaching technologies have also evolved. Students use clickers to respond to multiple-choice questions presented by the teacher instead of raising their hands. Material that used to be presented on the overhead projector is now shown via YouTube video, Prezi, Animoto, or PowerPoint. As we discuss later in the chapter, the way courses are delivered has been changed by technology. Companies such as the Khan Academy offer online courses to supplement K-12 curriculum as well as courses in college test preparation, personal finance, and entrepreneurship (Khan Academy, 2019). In addition, the "flipped classroom" utilizes blended instruction where some course content such as videos or a podcast are viewed or heard outside of class time and activity-based instruction such as solving math problems is accomplished in class (Moffett, 2015). King (2017) lists common uses of technology in Table 2.1.

Table 2.1 Common Uses of Technology

Reserving airline tickets, hotel rooms, car rentals, vacations, and so on	Maintaining a personal calendar
Accessing health-related information	Filing income tax
Reading books	Taking an online class
Online shopping	Learning how to do something new
Watching television and movies (live and on demand)	Tracking investments
Listening to music	Trading stocks
Checking the weather	Researching the next car
Hunting for an apartment or house	Finding a date or mate
Communicating with friends and family	Communicating work-related information
Sending pictures to friends and family	Sending birthday "cards"

Source: King, 2017, pp. 30–31.

Technology has always changed people's lives. Gutenberg's printing press, for example, "expanded the number of words available… [which] increased the depth and breadth of communication" (Parker, 2014, p. 223). Multiple copies of materials could be delivered to learners, so the consistency of knowledge increased. Fast-forward to the early 1990s when personal computers became more reasonably priced and the use of the Internet moved beyond the scientific community to more commercial use. The ability to create and share knowledge increased exponentially. Technology continues to enhance learner engagement.

Technology also drives how students experience education at a distance. Correspondence courses were delivered via mail and then by radio and television. Later, two-way synchronous communication between the teacher and learner was accomplished via telephone and interactive television. As online instruction has increased, so have discussions concerning online learning theory, online course designs, and devices on which this instruction is delivered, including tablets and mobile telephones. Scholars have also explored the best practices for teaching online and in blended courses, and they have also predicted how technology will continue to change the learning landscape.

This attention to online learning is warranted as participation in online learning is rising. In the academic year 2015–2016, 42.9% of undergraduates had taken distance education courses (National

Table 2.2 Definitions of Types of Online Learning

Proportion of content delivered online (%)	Type of course	Typical description
0	Traditional	Course with no online technology used—content is delivered in writing or orally
1–29	Web facilitated	Course that uses web-based technology to facilitate what is essentially a face-to-face course; may use a course management system (CMS) or web pages to post the syllabus and assignments
30–79	Blended or hybrid	Course that blends online and face-to-face delivery; substantial proportion of the content is delivered online, typically using online discussions, and typically has a reduced number of face-to-face meetings
80–100	Online	A course in which most or all of the content is delivered online; typically has no face-to-face meetings

SOURCE: King, 2017, p. 207.

Center for Education Statistics, 2019b) compared to 20% in 2008 (Radford, 2011). Eighty-three percent of the students taking distance education courses in the higher education context are undergraduates (Allen & Seaman, 2017). Individuals may also take web-facilitated or blended courses. See Table 2.2 for definitions of online learning.

Technology in adult education is a broad topic. Authors have written books on adult learning and technology (Bryan & Wang, 2013; Kidd, 2009; King, 2017). In this chapter, we provide a brief overview of the history of distance education. This is followed by popular online learning theories. We review the challenges of and best practices for online learning as well as the place of technology in our everyday, informal learning. We conclude the chapter by examining the future of technology in adult education.

History of Distance Education: From Mail to MOOCs

Online learning is the latest iteration of distance education which is defined as "Education that uses one or more technologies to deliver instruction to students who are [physically] separated from the instructor" (Allen & Seaman, 2017, p. 6), although some have argued that online learning is a "distinct branch of the educational evolutionary tree" because learners can more easily collaborate in online learning whereas

distance education provided more self-directed access to learning (Garrison, 2017). Correspondence courses united teachers and learners as far back as the 1830s in Sweden (Holmberg, 1986 as cited in Picciano, 2019). In the United States, the Society to Encourage Studies at Home was founded by Anna Eliot Ticknor in 1873 (Caruth & Caruth, 2013). Anna, the daughter of Harvard University professor George Ticknor and cousin to Harvard University president Charles William Eliot, indicated that the "Society's purpose was to encourage ladies to develop the habit of devoting time every day to study" (p. 143). The society served over 7,000 women who could pick among six disciplines to study including "English, History, Science, French, German, Art" (p. 143). The society "was revolutionary and provided women an opportunity to obtain a liberal education aside from the elite women's colleges" (p. 144).

Sherow and Wedemeyer (1990) have presented a detailed history of correspondence courses beginning in 1890 when the University of Wisconsin offered industrial and technical courses as well as courses toward bachelor's, master's, and doctoral degrees via mail. When University of Wisconsin President Charles Richard Van Hise saw the success of "commercial correspondence schools" (p. 13), he appointed "William Lighty as full time Director of Correspondence Instruction" to develop and oversee liberal arts instruction and Louis Reber as the director of Wisconsin's Extension Division who took charge of the industrial training courses (p. 14) and by 1914, extension programs at 32 universities in the United States were offering correspondence courses.

Universities used radio and television to supplement correspondence courses. Nearly half the population of the United States had access to educational programming via radio in the 1920s and by the mid-1950s, most educational stations were part of the National Association for Educational Broadcasters and they received financial support from the W.K. Kellogg Foundation and the Ford Foundation's Fund for Adult Education (Sherow & Wedemeyer, 1990). Television gained popularity in the United States and by 1952, 242 stations out of 2,053 stations broadcast educational programming including the University of California's "Continental Classroom" (p. 18). In 1982, Oklahoma State University began the National University Teleconference Network (NUTN) and today 100 colleges are in the organization (Picciano, 2019).

Online universities began appearing in the late 1960s. British Open University (OU) launched in 1969 and it was "built on the premise that

television, radio, correspondence and external assessment systems could be combined successfully for educational purposes" (Weinbren, 2015, p. 32). Weinbren traces the history of the OU program and notes that courses utilized program learning and tutors to engage learners in critical thinking, discussion, and collaboration. The OU was one of the first schools to use computers for instruction where learners could share links and create community online. The school expanded to Asia, the United States, and Middle East by the twenty-first century with the mission of spreading Western values. Schedule flexibility, credits for prior learning, modular learning, and interactions with tutors attracted learners to OU. In the United States, the State University of New York—Empire State College was established in 1971 for nontraditional learners. Like OU, it also gives credit for life experiences and allows students to design their own degree programs within 12 areas of study (SUNY Empire State College, 2019). It has 35 physical locations and offers associate's, bachelor's and master's degrees (SUNY Empire State College, 2019).

Online education emerged in the 1990s. Online distance education (ODE) "reflects the cognitive learning theory and pedagogies based on self-study" (Harasim, 2017, pp. 186–187). This method "uses a correspondence model of course delivery, self-study and individual communication with a tutor" (p. 187). Essentially, this approach is an updated version of the correspondence course model. In his review of the history of online education, Picciano (2019) notes that the Alfred P. Sloan Foundation funded the Learning Outside the Classroom Program in 1992, which became the Anytime, Anyplace Learning Program in 1993. This program funded projects where asynchronous learning occurred. Over the next 20 years, the program provided almost 350 grants totaling approximately $72 million dollars. Penn State World Campus, Rio Salado Community College, the State University System of New York, and the University of Central Florida were some of the schools and universities systems to receive these monies. By the early 2000s, "large urban universities in New York, Chicago, and Milwaukee were funded to develop and expand blended learning environments" (p. 35).

In the early 2000s, as technology advanced and learners could afford high-speed cable or DSL, education via the Internet entered its Second Wave. At this time, "online education was no longer seen solely as a vehicle for distance education but could be used in mainstream education in almost any course and any subject matter" (Picciano, 2019, p. 36). Blended

learning emerged as a pedagogy as instructors used online learning management systems (LMSs) to enhance face-to-face courses or replace some face-to-face content with online content. For-profit higher education institutions delivered fully online learning, and that sector grew 236% between 1998 and 2008, whereas the growth of public higher education only increased by 21% (Lynch, Engle, & Cruz, 2010 as cited in Picciano, 2019).

Massive Open Online Courses (MOOCs) were part of the Third Wave of online education starting in 2008. "In 2011, Stanford University offered several MOOCs. . . [that] enrolled more than 160,000 students" (Picciano, 2019, p. 36). The MOOC model appealed to those who championed cost-effective access to education. However, dropout rates from MOOC courses were as high as 90% and by 2013, MOOCs had lost some of their luster. Companies that produced MOOCs acknowledged that MOOCs may not be the best fit for those needing to gain basic skills and that these companies needed "more pedagogically sound course materials" (p. 37).

The Fourth Wave of online learning started in 2014 when "blended learning technologies that allowed for more extensive and personal faculty interaction were integrated with well-financed course content as developed by MOOC providers" (p. 38). New approaches to learning, including gaming, open access resources, and mobile technology, continue to change the face of online education.

Learning Theories for Online Education

In this era of web-based learning, new learning theories emerged that addressed issues particular to online learning. While these theories are discussed in the context of formal learning, they also have application to nonformal settings such as online support groups or other online communities of practice. The three theories discussed include community of inquiry, connectivism, and collaborativism or online collaborative learning.

Community of Inquiry

The community of inquiry model focuses on creating cognitive, social, and teaching presences online (Garrison, 2017). Cognitive presence is "the exploration, construction, resolution, and confirmation of

understanding through collaboration and reflection in a community of practice" (Garrison, 2007, p. 65). Social presence is "the ability to project one's self and establish personal and purposeful relationships" (p. 63). Social presence indirectly supports critical thinking and directly supports creating an enjoyable and fulfilling course (Garrison, Anderson, & Archer, 2000). Creating a teaching presence includes "the selection, organization, and primary presentation of course content, as well as the design and development of learning activities and assessment" (p. 90). This is most often accomplished by the teacher. Course facilitation can be shared by both the teacher and the learners (Garrison, Anderson, & Archer, 2000).

Cognitive presence means providing opportunities for critical thinking. Critical thinking has several components. There are "four phases of inquiry—triggering event, exploration, integration, and resolution" (Garrison, 2017, p. 26). Typically, individuals have an experience that leaves them puzzled. They search for information that might help them make sense of the issue and integrate that information to gain understanding or insights. The issue is resolved and they apply their knowledge to the problem.

Indicators of social presence include the expression of emotion. In an asynchronous course where text is the main method of communication, this is often achieved using emoticons, humor, and opportunities for self-disclosure (Garrison et al., 2000; Garrison, 2017). Self-disclosure promotes a sense of trust and belonging that can positively affect critical thinking, motivation, and persistence in a course. Another indicator of social presence is open communication. "Examples of open communication are mutual awareness and recognition of each other's contributions" (Garrison et al., 2000, p. 98). In an online support group for those living with multiple sclerosis, for example, revealing one's challenges and triumphs while coping with the disease can promote social presence. In a text-based course, replying to others' comments and complimenting others on their contributions are examples of how to increase social presence (Garrison et al., 2000). Group cohesion is a third category of social presence. Having individuals work on group projects together, meet weekly in small groups to discuss readings, or create course documents together can increase group cohesion.

The three types of teaching presence indicators are instructional management, building understanding, and direct instruction. Instructional

management consists of deciding the curriculum, assignments, and assessments. Building understanding includes managing the community of inquiry so learners can create meaning. This encompasses drawing out those who are less active, managing discussion, and acknowledging learners' contributions (Garrison et al., 2000). Direct instruction consists of having learners discuss and reflect on course content and guiding learners by asking questions and providing feedback (Garrison et al., 2000).

The community of inquiry framework has been used to "investigate students' level of knowledge construction in asynchronous discussions" (Liu & Yang, 2014, p. 327). For example, undergraduate students in an information ethics course engaged in asynchronous discussion on "theory exploration, life experience, case-based, and debate discussion" (p. 327). Students were most satisfied with the life experience discussions and scored highest on knowledge construction (cognitive presence) and social presence in this type of discussion. Case-based discussions also yielded high knowledge construction scores. For best results concerning knowledge construction, Liu and Yang (2014) recommended that teachers use case-based discussion combined with current events or students' life experiences rather than purely discussing theory or debating an issue. Other topics have included examining cognitive, social, and teaching presences in an English as a foreign language (EFL) teachers' discussion list (Nami, Marandi, & Sotoudehnama, 2018), interrelationships among the three types of presence (Kozan & Richardson, 2014), and scaffolding social presence in online courses (Hoskins, 2013). The community of inquiry model would also fit well with other online communities of practice such as groups for nurses and social workers. Critics point out that researchers using this framework rely too heavily on self-reports for perceived learning and researchers do not provide enough evidence to show that students engage in deep and meaningful learning when this framework is used for empirical studies (Rourke & Kanuka, 2009).

Connectivism

Siemens (2005) posits that connectivism is "a learning theory for the digital age" (p. 1). He says other learning theories do not address learning via technology. In an information-rich, networked world, learners must judge information quickly to assess its importance.

Siemens advances eight principles of connectivism:

1. Learning and knowledge rest in a diversity of opinions.
2. Learning is a process of connecting specialized nodes or information sources.
3. Learning may reside in nonhuman appliances (e.g., a database).
4. Capacity to know more is more critical than what is currently known.
5. Nurturing and maintaining connections is needed to facilitate continual learning.
6. Ability to see connections between fields, ideas, and concepts is a core skill.
7. Currency (accurate, up-to-date knowledge) is the intent of all connectivist learning activities.
8. Decision-making is itself a learning process. Choosing what to learn and the meaning of incoming information is seen through the lens of a shifting reality. Although there is a right answer now, it may be wrong tomorrow due to alterations in the information climate affecting the decision (Siemens, 2005, p. 5).

Connectivism focuses on people learning through networks which are "connections between entities" (p. 4). Knowledge begins with the individual. "Personal knowledge is comprised of a network, which feeds into organizations and institutions, which in turn feedback into the network, and then continues to provide learning to the individual" (Siemens, 2005, p. 6). Remaining current in one's field means remaining connected. Online communities of practice may be an example where connectivism occurs. Personal information about an issue may be gained from those in the group. For example, knowledge about how to cope with the loss of a child may be learned from members in an online grief group. This knowledge could be shared with a larger organization and, in turn, the larger organization could provide the support group more knowledge.

MOOCs are an example of the connectivist learning pedagogy. There are two types of MOOCs. xMOOCs (eXtended MOOCs) are designed by companies that collect student data to improve course design (Harasim, 2017). In contrast, Connectivist Massive Open Online Courses (cMOOCs) place the burden of instruction on the participants themselves. There is no course designer. Instead, "network intelligence. . . would identify the learner's interests, facilitate the learning connections

and respond to a learner's questions and needs" (p. 157). The cMOOC is unstructured whereas the xMOOC is more structured but "both promote teacherless courses in which intelligent networks identify the content and connections, making key decisions for the students" (p. 158).

Critics note that connectivism may not be a new learning *theory* as its limitations are not discussed (Forster, 2007 as cited in Kop & Hill, 2008). Further, the theory is not empirically tested in a variety of settings. Siemens's statement that older learning theories fail to address technology is not exactly correct. Although online technologies did not exist when behaviorism and cognitivism were presented as learning theories, these learning theories responded to the technology of the time (Harasim, 2017). Harasim observes that the learning theories of the 1900s were shaped by automation as demonstrated by "Pressey's Teaching Machine," which was a machine based on the behavioristic stimulus–response and was meant to "automate the role of the teacher" (p. 135). Verhagen (2006) asserts that connectivism may influence pedagogy but it is not a new theory because people learn as they always have, but they have to adapt to new technologies (as cited in Kop & Hill, 2008). Other criticisms of the theory include the lack of empirical studies on this approach and no "development of a theoretical framework of how people learn connectivist approaches" (Harasim, 2017, p. 149). Kop and Hill (2008) conclude that connectivism may not be a theory but it "continues to play an important role in the development and emergence of new pedagogies, where control is shifting from the tutor to an increasingly more autonomous learner" (p. 11).

Collaborativism or Online Collaborative Learning

Collaborativism, a theory that emerged from 30 years of empirical research, is based on the principles of collaborative learning, which include "1. Positive mutual dependency; 2. Personal accountability. 3. Promoting interaction; 4. Social skills, and 5. Group processes" (Johnson & Johnson, 1999 as cited in Magen-Nagar & Shonfeld, 2018, p. 622). In addition, the teacher's role is important. Collaborativism emphasizes instructor-facilitated student discussions that "lead to both conceptual understanding and knowledge products" (Harasim, 2017, p. 187). The instructor organizes discussions, introduces content, and models "analytic language that represents the discipline" (p. 187). Collaborativism is

often used with ODE as it creates a discussion-based experience combined with an "informational study component." The "flipped classroom" is an example of this (p. 188). Collaborativism focuses on "the key role played by discourse in knowledge creation, sharing, dissemination, application, and critique" (Harasim, 2017, p. 189). Online discourse can occur through texting, chat, forums, webinars, e-mails, forums, and blogs. Discourse is undertaken to "seek common understanding" as opposed to agreement, and to "expand the base of accepted facts" (p. 194). The discussion generated using the collaborativist framework moves groups from generating ideas on an issue (often through brainstorming), to clarifying ideas, to coming to a shared understanding of a "knowledge product or solution" (p. 195). The final product may be in the form of a report, final paper, presentation, or summary statement by the group.

Collaborativist-based online courses meet certain criteria. They include discussion forums where place-independent discourse can occur. Learners can be anywhere and can communicate with each other. People from other cultures and experts from around the world can be invited to contribute to the discussion (Harasim, 2017). Time-independent or asynchronous discourse means students can read and respond to discussion forums at any time. They can reflect and write a thoughtful response. "Collaborativist discourse is primarily text-based, although multimedia tools such as audio, video, animation and even avatars may be incorporated into online course activities and discourse" (p. 210). Writing helps us engage in deliberation, and often we learn what we are thinking in the act of writing. Discourse is mediated through the Internet in a collaborativist framework. This framework gives learners a sense of social presence and counteracts the loneliness that can occur in online courses. Researchers also found that teachers need three things to be successful using the online collaborative learning (OCL) framework: a school or organization that supports creating interpersonal and social relations in courses, a pedagogical understanding of OCL including both the positive and negative aspects, and OCL training for instructors (Magen-Nagar & Shonfeld, 2018).

Blended Learning

Researchers have not only created different learning theories for online learning, but delivery methods also vary. Blended learning has been

defined in several ways. It can suggest the use of different technologies or various pedagogies to learn a subject or indicate combining types of technology such as learning information via videos with face-to-face training (Driscoll, 2002 as cited in Alammary, Sheard, & Carbone, 2014). Blended *course design* means that the course has "face-to-face and computer-mediated components," which integrates various ways of instruction such as learning through lectures, discussion groups, or small group activities (p. 443). In this section, we discuss blended course design approaches, challenges, and best practices for teaching blended courses.

Alammary et al. (2014) state that there are low-, medium-, and high-impact blended course designs. The low-impact approach adds extra online activities to a face-to-face course without removing any face-to-face components. Although this is a quick and easy way for those who want to try blended learning, the course may seem like two courses—one traditional and one online because there is no reduction in the in-class portion. The medium-impact blend design replaces some face-to-face activities with web-based ones. This method is best for teachers who have taught the course in person several times so they know which in-class components can be replaced (Alammary et al., 2014). Building a blended course from scratch is the high-impact method with course activities that are typically designed around the learning outcomes. There is generally better integration of the online and face-to-face components because a whole course redesign makes teachers focus on the learner's needs in a way that the other designs may not. Teachers might try this method when they have some experience teaching blended courses and have ample time to design the course.

We have looked at the three methods of course design using blended learning, but what are some of the issues associated with teaching this way? Scholars reviewed eight articles from five countries that discussed the challenges of implementing blended learning in higher education institutions and the lessons learned (Ma'arop & Embi, 2016). Institutional concerns included getting students and faculty to adopt blended learning when they were used to teaching courses face-to-face. Instructors often lacked the skill necessary to design a blended course, and finding the balance between online and face-to-face instruction was difficult. The time required to create a blended learning course was also an issue for faculty. Student participation in blended learning required that

students be more self-disciplined than in face-to-face courses. Solutions to these issues included properly analyzing the supports that institutions have before jumping into blended learning and carefully choosing which methods to use. Staff training, proper technical support, and an environment where teachers share ideas are all necessary to foster success. Students need similar technical assistance as well as support for time management skills (Ma'arop & Embi, 2016).

Best Practices for Online Teaching

The literature is replete with information concerning best practices for online teaching. In blended courses there are pedagogical strategies that can be used to ensure good results. The literature consistently recommends "varied interactivity and prompt feedback" (McGee & Reis, 2012). Students can interact with each other, their instructor, or course material (McGee & Reis, 2012, p. 13). Some activities that can be offered both face to face and online that exemplify active learning include group work, simulations, case studies, problem-solving exercises, and role-playing. Active learning requires "that students are aware of what they know and what they don't know using metacognitive strategies" (p. 13). Blended courses may lend themselves to students' thinking about their thinking (metacognition) and therefore discussions are important. Typically, face-to-face discussions are used "for clarification, application of knowledge, or peer critique" (p. 13).

Researchers conducted a multiple-case study with six exemplary online teachers to learn their online teaching practices (Baran, Correia, & Thompson, 2013). As can be seen in Table 2.3, *Knowing and creating course content* was the first theme. The teaching strategies included "breaking course content into manageable chunks," "adopting the content from face-to-face courses," and "getting student input into course creation" (p. 13). They noted the importance of giving feedback to students immediately and creating a conceptual outline of the course and matching "learning outcomes with course activities" (p. 23). *Knowing the students* was another theme. They gathered information from student introductions, communicated frequently with students, and used video and text chat to get to know their students. *Guiding student learning* was accomplished by "giving frequent feedback," "using discussion boards