# Information Communication Technologies and Adult Education Integration

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# Chapter 9
# Adapting Adult Learning Theories for Online Learning

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## ABSTRACT

*This chapter explores prominent adult learning theories and their contributions to the understanding and the delivery of adult education. Such theories define and identify characteristics commonly found among adult learners and provide insight regarding factors that can enhance the integration of adult education and information communication technologies. These theories in adult education emanate from educational leaders representing varied perspectives based upon a broad range of activities and interests. However, the commonality among them is to support the unique needs of the adult learner and to contribute to the continual growth and development of the field toward the inevitable incorporation of information communication technologies.*

## INTRODUCTION

The economic climate within the United States has a direct influence on the development of jobs and job training, resulting in parallel programmatic strategies. During the period from 1933 to 1942, difficult economic times and high unemployment rates resulted in the formation of the Civilian Conservation Corps, part of a legislative package that prompted vocational training and a wealth of new jobs (Hill, 1935; Howell, 1976; Salmond,

1967; U.S. Office of Education, 1935). Current economic factors continue to produce a sharply increased focus on the need for adults to pursue training in order to remain viable within an ever-changing world of work.

The American Recovery and Reinvestment Act of 2009 (known as the Recovery Act) is specifically intended to create and support ongoing training mechanisms that will serve to maintain and create jobs in the United States. Two of the guiding principles inherent within the legislation are to "increase workforce system capacity and service levels" along with "using data and

workforce information to guide strategic planning and service delivery" (U. S. Department of Labor, 2009, p. 5).

In preparation for the anticipated new legislation, the U. S. Department of Labor's Employment and Training Administration (ETA) conducted assessments throughout the spring of 2009 in order to ascertain the specific readiness levels of state and local workforce systems and to inform ETA's strategic technical assistance plans. Consultations with all 53 states and territories and 156 local areas throughout the United States produced information that was categorized in two broad areas: *Administrative Capacity* which included financial management, reporting, and communication and partnership; and *Program Capacity* which included adult services through established federal mechanisms such as One-Stop Career Centers, Workforce Investment Act (WIA) programs addressing reemployment, unemployment, integration with trade and industry, and youth services. Included within this assessment was the organizational capacity for *e-learning*, defined as the delivery of instructional content or completion of learning experiences through use of electronic technology.

As a result of this consultation process, ETA determined that 87% of the states have need of assistance in utilizing electronic labor market tools and more that half require some level of technical assistance in communication and coordination of activities with other agencies. Given the time and distance from state to state and agency to agency, electronic learning methods provide a timely and cost-effective means of fulfilling those educational and training needs.

This monumental assessment and consultation effort by the U.S. Department of Labor ETA and the passage of such an unprecedented legislative mandate dramatically emphasizes the importance of continual training for working adults and for those who are seeking to re-establish themselves in new pathways of employment. The current system of work requires training on the part of both trainers and workers to cope with reforms that are necessary due to advancing technology. This system of work as we know it must undergo changes if the United States is to remain competitive in the world marketplace. Therefore, sustainability of our work system is of vital importance. As Fullan (2005) has defined it, "sustainability is the capacity of a system to engage in the complexities of continuous improvement consistent with deep values of human purpose" (p. ix). America's work system faces extraordinary challenges if it is to retool the skills of its stakeholders and maintain viable career pathways for continual economic growth and development.

Lifelong learning is an important vehicle that contributes toward changes in the skills and knowledge of adult workers, regardless of their area of interest. Jobs in all levels of the work hierarchy from retail clerks, secretaries, and electrical linemen to medical workers, bankers, and teachers require that professional skills be updated so as to incorporate new technologies. For example, electrical linemen are faced with learning new ways to build and maintain alternative power sources such as solar and wind powered devices. Retail clerks have gone from the by-gone era of simple cash registers to complex computer programs that track not only sales, but also monitor inventory and total store transactions. Trends toward data-driven decision making have also contributed to an emphasis on developing skills that will assess performance, record data, and produce the most current information through the use of communication technologies.

One of the main objectives of this chapter is to examine the characteristics of adult learners and the factors within adult learning theories that can contribute toward the successful transition from traditional classroom techniques to online learning methods. Specifically examined will be aspects of adult learning theories of Malcolm Knowles, Jack Mezirow, Stephen Covey, and Hanna Fingeret. Contributions of Myles Horton and Paulo Freire laid the groundwork that changed

approaches to informal adult learning, resulting in a significant impact on adult participation in learning and their work will also be reviewed in this chapter. Though varied in their approaches and fields of interest, each of these educational leaders has made significant contributions toward our understanding of adult learner characteristics and their acquisition of knowledge. Their work continues to pave the way for new interpretations and applications to enhance adult learning.

## BACKGROUND

### Adult Learning Theories

A basic premise common among early adult learning theories is that the basis of educational and social changes comes through adult literacy. In the past, literacy focused on reading and writing for acquisition of information. The 21$^{st}$ century has ushered in new meanings for literacy that include the use of information communication technologies. The rapid rate of changing information that circulates around the world in lightning speed requires adult literacy to include software and hardware applications that may seem to some adults to mirror the science fiction gadgets of the comic strip era.

Reforms that embrace new technology bring into play strategies that are complex and include many unknowns. Therefore, transitioning into such reforms requires that the adult learner reconcile differences and approach learning with an open attitude that invites inquiry and exploration of new ways of gaining information. The resulting paradigm shift has the power to unlock the adult learner's established cognitive framework and support a quest for sustainable transformative learning experiences that are both complex and evolutionary. Weil and McGill (1989) observed that in the information age, the challenge for training and educational programs is to assist in developing competent individuals "who have

initiative, sensitivity to others and awareness of practical realities, along with sufficient confidence, insight, skill and flexibility to act effectively in a changing world" (p. 36).

When discussing cellular phones, computers, and electronic entertainment equipment, one frequently hears adults declare that they "don't know how to use that thing" and that they must rely on teens in their lives to set up and program such devices. Adapting to the use of current devices seems, in many ways, to be less challenging to those who have grown up in this age of rapid technological change versus those who have previously relied on less complex means of information communication. Integrating the previous knowledge and practice with current knowledge and practice requires a connective transfer of learning that spans between the old and new. The challenge for educators in the field of adult learning is to find strategies that will assist in building the knowledge bridge.

Sfard (1998) asserted that, "learning transfer means carrying knowledge across contextual boundaries" (p. 9). An inherent goal of each adult learner is to complete a self-selected training program with the knowledge and confidence to use the acquired skills in their daily professional or personal activities. But how can that best be accomplished?

## FOUNDATIONAL PRINCIPLES AND PRACTICES

The majority of adults choose to be active participants in the learning process rather than simply passive recipients who merely receive knowledge (Caffarella, 1992; Knowles, 1980; Silberman, 1990). Hence, the role of instructor includes not only the task of providing information, but also includes serving as a facilitator and resource advisor of learning (Brookfield, 1986; Hiemstra & Sisco; 1990). Research and understanding of the most effective practices in teaching adults have

led to the establishment of a body of instructional strategies and techniques that target such students. Educational leaders with expertise in this area provide multiple perspectives that combine to create the field of adult education.

## Malcolm Knowles: Key Assumptions About Adult Learning

The development of learning strategies that focus on the specific needs of adult learners became formalized in the work of Malcolm Knowles, who adopted the use of the term *andragogy* as a collective term for such strategies (Knowles, 1975, 1984a, 1984b). The principles inherent within the andragogical approach to adult learning emphasize the self-directed nature that propels adults to enter and persist in educational training programs. Knowles (1984a, 1984b) established six key assumptions that contribute to successful adult learning:

1. Adults need to see the relevance between things that are being taught and how they are applicable in real life (*Why do I need to know this?*).

2. Adults have a wealth of accumulated a wealth of experiential knowledge and that serves as the foundation for new learning activities (*How does this relate to what I already know?*).

3. Adults are self-reliant and self-directed, therefore, they must be engaged in the decision-making processes for acquiring new knowledge (*What are my preferred methods of achieving this task/goal?*).

4. Adults are goal-oriented and need to clearly see the immediate relevance in each step of their educational program so as to confirm that it is applicable toward ultimate goal achievement (*Will this help me attain my goal?*).

5. Adults are practical and require problem-centered learning tasks rather than content-

oriented tasks (*How is this applicable in my life/work?*).

6. Adults respond positively to a collaborative consensus approach in which all learners are respected for their knowledge and experience (*Are my thoughts and ideas respected in this learning experience?*).

The characteristics of adult learners as defined by Knowles translate into practices that are valid guides for adult education programs as they transition into online and distance learning instruction. First, organizations and training programs would be wise to assess both the technological and informational skills levels of adults prior to entry into a program of training. Formal written assessments and thorough intake interviews will provide a departure point for entry that will lessen frustrations and heighten success. Clear short-term steps to achieve long-term goals can be designed with input from the adult learner as a parallel to certification or licensure requirements. Inclusion of the learner as decision-maker produces commitment and motivation that will serve as a support system when inevitable obstacles emerge. This process is particularly strengthened when program recruitment and enrollment personnel are trained and committed to understanding the issues and problems inherent in the lives' of adult learners.

Secondly, the principles of Knowles' adult learning theory would dictate that online and distance education programs design a high-interest curriculum that is flexible enough to meet the needs of individuals learners, but is structured enough to provide clear direction on the path leading to goal achievement. Tasks and projects within each level of the curriculum should contain elements of choice that allow the adult learner to tailor such learning experiences so as to be relevant and applicable to their specific needs. For example, an accounting class in an online course would, of course, contain specific core elements of instruction, but could also include an opportunity to ap-

ply such elements in a personalized project that would have meaning and relevance to the learner.

Lieb (1991) concludes that these assumptions identified in Knowles' theory of adult learning form the basis of another vital factor for engaging adult learners: *motivation*. Lieb notes five factors that serve as major motivators for adult learners:

1. *Social interactions* that contribute to the formation of work associations and personal friendships.
2. *External requirements and expectations* such as mandated or voluntary training to retain or upgrade employment status as recommended by supervisors.
3. *Internal or personal expectations* resulting from a desire to rise in rank and achievement in a job or to compete for advancement with peers or competitors.
4. *Social responsibility* derived from a desire to serve in a community for the common good or for the betterment of mankind.
5. *Self-challenge* born from a desire to seek knowledge simply for its own sake or to decrease boredom and provide contrast in daily life.

A contributing construct to the subtheme of motivation is found in relation to expectancy-value theory as derived from Murray's concept of need for achievement (Pintrich & Schunk, 2002). Perry, Turner, and Meyer (2006) proposed that expectancy-value theory explains motivation "in terms of individuals' expectations that an outcome is likely in a given situation, and the extent to which they value that outcome" (p. 329). As affirmed in Knowles' assumptions, adult learners who desire and value training are more likely to successfully engage in and complete training programs.

Sansone and Harackiewicz (2000) found that intrinsic motivation serves to push an individual toward earning a reward or, in the case of adult learners, satisfying a need to acquire new or updated knowledge. Perry, Turner, and Meyer (2006)

concluded that "cognitive theories of motivation privilege intrinsic sources of motivation (e.g., interest, increased knowledge and skill) more than extrinsic rewards, assuming individuals are naturally motivated to develop intellectual and other potentials and take pride in their accomplishments" (p. 329). Lieb (1991) asserts that enhancing an adult learner's reasons for enrolling and decreasing barriers to training serve to substantially heighten the level of motivation for adult learners.

Knowles' ideas of adragogy or adult-centered principles of learning helped to form the theoretical basis for the practice of adult learning strategies. Tried and true, their validity extends into online and distance learning developments that can transition adults from pencil and paper traditional learners into 21st century learners who are comfortable with current information communication technologies.

## Jack Mezirow: Transformational Theory

Each individual brings their own knowledge, experience, and perspective to every learning situation. Utilizing that unique foundation requires the learner to reflectively connect past knowledge with current knowledge. Jack Mezirow (1990) set forth the theory that critical reflection around the assumptions, beliefs, and values that one holds can produce insights that assist in making meaning out of common, everyday experiences. This intellectual activity can lead one to change his/her perspective and that is the key to *transformative learning*.

Mezirow's (1991) overview of transformational theory asserts that failure to acknowledge the key role of an individual's personal frame of reference limits the lens through which meaning is construed and learning occurs. Transformation begins when the individual examines the juxtaposition of communicated ideas with prior learning and the biases that may accompany such learning. Assumptions, beliefs, social norms and ideologies, cultural codes (both spoken and unspoken), and

behaviors are evoked and brought to the forefront when adults are confronted with unfamiliar ideas.

Inherent within transformation theory are 12 "key propositions" as summarized by Mezirow (1996):

1.  Transformation theory is a model grounded in the process of finding consensus in the interpretations and beliefs that are central to human discourse and learning.

2.  Learning is a process whereby one seeks to integrate prior interpretation and current or new interpretation of an experience for the purpose of guiding future action.

3.  Past images and symbolic models from prior learning are projected into current experiences to form analogies that help us to interpret new experiences.

4.  Interpretation of meaning is derived in multiple ways including intentional, incidental, or presentational (as through kinesthetic experiences, intuition, or feelings).

5.  Sense making utilizes filters put into place by the individual's frame of reference, which shapes perception, cognition and feelings.

6.  There are two dimensions within a frame of reference—that of *meaning perspective* that incorporate generalized predispositions and *meaning scheme* which incorporates specific clusters of beliefs and feelings.

7.  Actions are guided by beliefs and, as such, result in the belief being tested. If found to be impractical or problematic through a change in circumstance, an individual's frame of reference may be transformed if examined through internal critical reflection. This is a vital component in the adult learning process.

8.  Transformation involves both *objective reframing* (as in redefining a task-oriented problem) and subjective reframing (recognizing the inaccuracies within a frame of reference and analyzing the foundational underlying assumptions). Critical reflection

of one's self has the potential to produce powerful transformations.

9.  Within the learning process are two separate and distinctive domains, each with a different purpose: *instrumental learning*, used in controlling or manipulating others or the surrounding environment; and *communicative learning*, involving understanding of meanings as communicated by others.

10. Communicative learning utilizes rational, thoughtful, objective, and informed discourse that enables participants to arrive at consensual conclusions that may potentially be reframed through review of a broader group of participants.

11. Reflective insights can guide action that is predicated upon an informed decision, causing action to be immediate or delayed, and resulting in a transformational learning experience.

12. Transformation through the learning process involves participation in problem-solving and task-oriented performance skills that may involve self-reflection (instrumental competence) as well as the ability to express one's own ideas and values independently from the thoughts and ideas of others.

In summary, Mezirow's transformative learning theory brought an internal reflective focus to the adult learning process, thereby giving validity and acknowledgement to the importance that each individual's worldview brings to any learning experience and elevating the personalized aspects that contribute to adult learning. It provides a dynamic model that includes constructs, language, and categories that facilitate understanding of the adult learning process as found in myriad cultural settings. The contributions of prior learning and experience are given value and credibility.

Ebert (2000) surmised that "the essence of transformational learning theory to the field of adult education was that it promoted a deeper understanding of change—change in the ways

learners perceived themselves and their world" (p. 97). Smith and Reio (2006) contended that "transformative learning is rooted in life experience and the fundamental human need to make sense of our lives" (p. 127). This intellectual activity can lead one to change his perspective and that is the key to transformative learning, removing the finite barriers of one's perceptions and leading to new insights and personal meanings, which lead to new roles and behaviors.

## Stephen Covey: Self Empowerment

In 1989, a phenomenon entitled *Seven Habits of Highly Effective People* swept the United States, leaving behind a model for success in business and in life that became the ideal for thousands of people. The author, Stephen Covey, believed that, "our society and our educational system need a common vision, a vision in which people become empowered by developing proper habits of living. Once empowered, people become increasingly more responsible for their own learning process" (Fenwick & Parsons, 1995, p. 3).

Covey (1989) delineated seven habits that were grouped to lead individuals from a state of dependence to one of proactive independence that allowed one to experience synergistic interdependence. The first three habits honed internal attitudes and self-reflection: *Be proactive*; *Begin With the End in Mind*; and *Put First Things First*. The subsequent three habits focused on expanding outward toward interdependence: *Think Win/Win*; *Seek First to Understand...Then to be Understood*; and *Synergize*. The final habit, *Sharpen the Saw*, affirmed the need for continual renewal of physical, spiritual, mental, and social/emotional wellbeing if one is to live a productive and balanced life that is congruent with personal values.

Illustrative examples throughout Covey's landmark book enabled its readers to instantaneously identify with ideas, situations, and actions that they encountered on a daily basis. The seven habits were, in actuality, not new, but were presented as interrelated human strengths that could provide a potential pathway that would allow adults to assimilate new experiences into their personal frame of reference. They made a way for change, the inevitable force that manipulates individual realities and brings about new ways of being through paradigm shifts that "move us from one way of seeing the world to another...Our paradigms, correct or incorrect, are the sources of our attitudes and behaviors, and ultimately our relationships with others" (p. 30).

Covey's principles were embraced by individuals and large corporations alike. Entities such as Proctor and Gamble, Blue Cross & Blue Shield, Federal Express, and Shell Oil aligned and infused their employee development programs with Covey-defined principles. Evidence of the high level of interest in the book was reflected in its sales of over two million copies in 20 languages (Fenwick & Parsons, 1995, p. 4). Covey continued to inspire readers toward principle-centered ways of being through additional writings that addressed change factors and personal development in multiple settings such as business and education. His contribution to the field of adult education lies in his demonstrated success in developing programs that produce growth and positive change for those who engage in them.

## Hanna Fingeret: Qualitative Research in Adult Learning

Understanding the effectiveness of adult education programs requires that practitioners engage in research. It is in this capacity that Hanna Fingeret is best known. Fingeret's qualitative research studies (Fingeret, 1982, 1983) have examined both the programs and the participants in programs of Adult Basic Education. Her insightful research in the field of adult education, specifically in adult literacy, has revealed a deeply authentic interest in adults who have limited literacy skills and the resulting impact that the deficit brings in their everyday lives, in their learning and survival strate-

gies, and in their educational activities (Newman & Beverstock, 1990). Her work has enlightened the field regarding the methods employed by illiterate adults who must develop strategies to cope with the demands of a literacy-dominant society.

Fingeret has been a proponent of qualitative ethnographic and participatory action research methods because, unlike quantitative methods, they lend themselves to delving deeper into the multiple aspects that shape the lives of adult learners. "We can best understand the lives of adults who are different from ourselves by asking them to teach us, to show us, to explain to us, to allow us to participate in their lives" (Fingeret, 1982, p. 9).

Fingeret's belief that research can involve both the practitioner and the participant has been echoed by others who seek to examine issues from a holistic perspective. Carr and Kemmis (1986) defined action research as "research into practice by practitioners" (p. 199). It involves cycles of inquiry, action and reflection that address a particular issue or subject and allows for all participants to reflect on the previous action in order to plan the next one (Dick, 1993). Action research embraces the belief that "all people—professional action researchers included—accumulate, organize, and use complex knowledge continuously in everyday life" (Greenwood & Levin, 2007, p. 4). The individuals engaged in the research derive from this process new skills and insights.

The action research methodology departs from other research traditions in that it

is an iterative process that involves distinctive steps that are normally linked to planning, acting, observing, and evaluating (McTaggart, 1991). The number of steps and the identified name of each step varies from author to author, but the reflection stage in all of the schemes signals for a new plan of action to be formulated, thus beginning a new cycle (Dick, 1993; Jarvis, 1998; McNiff, 1988; Peters, 1994; Ziegler, 2001).

Greenwood and Levin (2007) observed that action research differs from other research traditions that focus mainly on theoretical work in

that it seeks to "create a research situation where active manipulation of the material and social world defines the inquiry process" (p. 107). In this way, new knowledge gained through action research is created through active experimentation, tested in real life, and validated through workability. Fingeret's work to develop more effective adult literacy programs incorporated such active experimentation and, as such, resulted in new strategies that enhanced the field.

Specifically, Kemmis and McTaggart (2005) delineated action research as having a "spiral of self-reflective cycles" (p. 563). The elements within the cyclical spiral are *planning, acting and observing, reflecting,* and *replanning*. These cycles are continually repeated and, through this process, individuals engaged in action research derive new skills and insights. As opposed to other research traditions, it is a dynamic rather than linear process, allowing for adaptations and interventions along the way that can serve to tailor aspects within the research as brought to light through the reflecting cycle. The dynamic nature of Fingeret's qualitative research into adult literacy took advantage of this cyclical spiral and produced new understandings and approaches to the emerging issues surrounding adult learning.

Reason and Bradbury (2001) stated that there is no brief, succinct definition for action research, but conclude that a basic, working definition can be established as a departure point for understanding the methodology. To that end, they describe action research as:

*...a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes, grounded in a participatory worldview which we believe is emerging at this historical moment. It seeks to bring together action and reflection, theory and practice, in participation with others. (p. 1)*

Reason and Bradbury's stance on action research acknowledges that action research serves

to enable participants to work toward practical outcomes and new forms of understanding since "action without reflection and understanding is blind just as theory without action is meaningless" (p. 2).

The framework for action research rests upon the participatory knowledge approach which advocates "inquiry completed 'with' others rather than 'on' or 'to' others" and, as such, engages the participants as active collaborators (Creswell, 2003, p. 11). As the researcher, Fingeret has studied the practices of adult literacy programs and the development of literacy education in the United States. Her multiple research studies (Fingeret, 1994; Fingeret & Danin, 1991; Pates & Fingeret, 1994) have examined the activities, the participants, and the processes of evaluation from the perspectives of the learners, teachers, and project staff. Her findings have served as a baseline for reflection, analysis, and change in the field and have resulted in the acceptance and use of nontraditional methods for personalized instruction and assessment.

## Formal, Nonformal, and Informal Learning

The National Center for Educational Statistics (NCES) in the U.S. Department of Education has monitored adult participation in education through a series of surveys since 1969. Initially, adult education was equated with organized or *formal* instruction and included any full or part-time course or educational activity taken by adult education respondents who were seventeen years old and over. Such courses were sponsored through established educational institutions or employers and were, therefore, considered to be formal instruction. However, the monitoring of participation in informal education activities was not included until their 2001 survey. Collins, Brick, and Kim (1997) caution that changes in NCES's research design over the years prevent making direct comparisons among the survey results.

Merriam, Caffarella, and Baumgartner (2007) investigated who and why adults participate in educational activities. In reviewing the continuing spectrum of data found in NCES surveys, they found that participation percentages of adults rose dramatically when both formal and nonformal education programs were examined. Inclusion of nonformal or informal education programs broadened the programmatic scope to incorporate a variety of activities. "Work-related informal learning activities included supervised training or mentoring, self-paced study using books or videotapes, self-paced study using computers, attending 'brown-bag' or informal presentations, attending conferences or conventions, and reading professional journals or magazines" (Kim, Collins Hagedorn, Williamson, & Chapman, 2004). Acknowledgement of the importance of adult participation in informal learning settings brings us to the examination of popular education.

## Freire and Horton

"Knowledge is power" is an oft-quoted phrase attributed to Sir Francis Bacon, noted English author and philosopher (1561-1626). Observations throughout history can be found to illustrate and affirm that, indeed, knowledge has frequently been used as a divisive tool in societies to separate people, elevating some and repressing others.

Paulo Freire examined the discordant use of education to oppress specific classes of people and sought to transform the use of knowledge from a tool for further oppression to an instrument for changing existing social structure. Freire (1970) viewed educational processes at the time as resting on "banking" principles wherein knowledge was "deposited" by those who possess it into those who have none. In such practice, the learner is projected as being abjectly ignorant while the teacher is projected as all-knowing, a parallel characteristic in the ideology of oppression, thereby negating any processes of inquiry. It was Freire's assertion that, "The capability of banking educa-

tion to minimize or annul the students' creative power and to stimulate their credulity serves the interests of the oppressors, who care neither to have the world revealed nor to see it transformed" (p. 73). Freire sought to disarm those in power by bringing the opportunity for literacy to all, thus giving voice to the oppressed.

Transforming educational practices from "banking" into processes of inquiry and dialogue gives learners power to act and has the potential to change societal practices and structures built on oppression and exploitation. Teaching literacy begins a continuum that empowers learners to participate as equals with teachers in the learning process. Freire's ideas have profoundly impacted theory and practice of adult education around the world by shedding light on the power relationships in society and teaching learners "how to participate in and change those power structures" (Newman & Beverstock, 1990, p. 105).

Similarly, Myles Horton significantly impacted adult education through his work to empower those who are oppressed. His method was to bring people together in an environment that valued the knowledge and experience of each individual and where all could use such knowledge to fully participate in learning that would be mutually beneficial for everyone. Horton was an organizer and the founder of the Highlander Folk School that has been a major catalyst for social change in the United States since its inception in 1932 (Horton, Kohl, & Kohl, 1998). "Seeking to develop a form of education to change society rather than maintain the status quo, Myles Horton created a pedagogy which leads people to challenge the system, to take risks" (p. xix).

Both Horton and Freire acknowledged their similar philosophies regarding the power of education to transform individuals and change societal norms (Horton & Freire, 1990). Ebert (2000) and Conti (1977) noted that similarities between the Horton and Freire include beliefs that:

1. Processes of reflection and action are inherent in learning;
2. Traditional education and such practices associated with it are maintained by those in power;
3. Empowerment of the oppressed requires that they value and acknowledge their dignity and become full participants in the educational process; and
4. Social actions require cooperation and communication on the part of all participants if success is to be achieved.

Freire and Horton established foundational principles and philosophies that continue to be currently operative in the field of adult education in both formal and informal educational settings. Group experiences that empower learners to inquire, question, and seek additional knowledge are enacted in organized educational settings on a routine basis, along with opportunities for informal learning that abound in myriad situations.

## Concluding Thoughts about Learning Theories

The contributions of each of these educational leaders have expanded adult learning theories while adding depth and varied perspective to the understanding and delivery of adult education. The characteristics and needs of adult learners have been reviewed congruent to these established theories. The integration of adult education and information communication technologies suggests that delivery of knowledge must be adapted to accommodate the dynamic needs of the adult learner while infusing new practices to address technological advances.

## FUTURE TRENDS

According the U. S. Department of Education National Center for Educational Statistics (NCES),

the number of adult students entering or returning to college has steadily increased over the past two decades and will continue to increase incrementally for the future decade (NCES, 2004). It is estimated that in 2001, 92 million (46%) of adults in the United States participated in some kind of formal adult education in order to keep their skills current, accommodate new job requirements, earn an advanced degree, or to satisfy the desire for additional knowledge (Allen & Seaman, 2005).

The projected increase in adult participation in both formal and informal educational opportunities paired with the rapid economic and technological changes in our information and communication-based world have elevated lifelong learning from a casual pursuit to one of necessity. The confluence of time, demographics, finances, and personal/professional responsibilities make distance learning or e-learning an efficient and effective method of reaching the adult learner (Rasheed, 2007). E-learning offers opportunities for flexible learning schedules, varied options for learning pace, and practical applications of instructional content delivered in means that may be replicated in actual job situations (ASTD/NGA, 2001).

The evolving vision for future training incorporates appropriate levels of e-learning that would allow adult learners to engage in a continuous updating of information so as to keep pace with the lightening speed of changes in business and industry. However, as with any changing process, the blending of adult education and information communication technologies requires adaptation and accommodation on the part of the learner and the teacher.

## New Paradigms for Adult Learning

Organizations, educational institutions, and entities in business and industry create the learning delivery procedures to be utilized within their specific educational and training programs. In creating such procedures, an important consideration is the role of the adult educator in transitioning adult learning to include new technologies. A paradigm shift on the part of the instructor is required to adapt basic curriculum and updated information to new strategies congruent with e-learning. Rather than serving in the traditionally defined role of teacher, the instructional role becomes, in large part, one of facilitator. Adult educators will certainly design curriculum content appropriate for the specific course, but the actual delivery of instruction utilizing information communication technology requires a more active interplay with the learner who must assume more responsibility for choosing delivery methods related to time, individual versus group work, and ways of completing and presenting assignments.

Considering the previously discussed needs of adult learners, establishing a positive environment that will support the learning style of the student depends on the facilitator's skill in creating a safe, nurturing, and accepting atmosphere. Why is safety so important? The answer lies in the hierarchy of human needs as set forth by Maslow (1954) which placed survival and safety as the initial foci for individuals, but identifies the goal of self-actualization as an innermost striving for human beings. As the basic need for humans, it is essential that a participant in an adult learning group feel safe both in the actual physical sense and in the psychological sense in order to reach self-actualization, which represents the highest level of psychological health, and also the full utilization of talents and capacities.

It is incumbent on the adult educator as the facilitator to help the group establish an environment wherein all members feel safe enough to explore beyond their perceived level of familiarity and comfort. Inherent within competence and control beliefs is the construct of self-concept that "reflects one's collective self-perceptions formed through experiences with the environment and interpretations of those experiences and influenced by interactions with significant other persons"

(Shavelson & Bolus, 1982, as cited in Schunk & Zimmerman, 2006, p. 352).

Another characteristic inherent in the role of the facilitator is found in Vygotsky's (1978) zone of proximal development, a theory that suggests that a level of competent performance can be achieved by an individual when supported or mediated by a more competent other. In discussing this theory, O'Donnell (2006) concluded that

*...the zone of proximal development is jointly constructed by the interacting participants...and is best accomplished when one partner is aware of the current level of functioning of the other and is able to prompt, hint, or otherwise scaffold the developing competence of the other. (p. 787)*

Scaffolding is an instructional technique that incorporates the teacher as a model for introducing a desired learning strategy or task. The responsibility for replicating the task is then gradually shifted to the students. The term *scaffolding* derives from the works of Wood, Bruner, and Ross (1976) and was developed as a metaphor to illustrate the assistance that a teacher may provide in order to help a student accomplish a task or understand a concept that was initially beyond that student's capability.

The scaffolding of tasks and responsibilities of the adult learner add yet another characteristic to the adult educator who is in the role of learning facilitator. A shift in levels of responsibilities of the adult learner results in a shift in the role of the facilitator. O'Donnell (2006) discussed the role of the teacher in varying theoretical perspectives on peer learning. She identifies the role of the facilitator to be present in multiple perspectives, including social cohesion, sociocultural, elaboration. She also identified the role of facilitator as being essential and noted that in Vygotskyian terms the role of facilitator is identified as model/guide. Within these varying perspectives, the facilitator works to ensure teambuilding, directing

instruction in help-giving, modeling, valuing of contributions, and building a sense of community.

Lyman and Foyle (1990) noted that leadership of a group is accomplished by modeling skills and behaviors that support group development, embedding principles and practices within the process that will move the group toward self-facilitation. As the facilitator, the adult educator will be challenged to build such a shifting of responsibilities into the progression of learning tasks so as to keep adult learners engaged in the learning process. O'Donnell (2006) suggested that in a reciprocal peer tutoring situation, the role of the teacher as the initial model is essential for a complex cognitive activity. To that end, a skilled teacher "is capable of making her or his thinking visible, allowing students to gradually practice increasingly complex skills, and eventually fading the support needed by the students" (p. 797).

Another description that applies to individual learning spaces or "zones" is classified within an experiential learning model (Schoel & Maizell, 2002). When one is functioning within the realm of the familiar, one is in the *comfort zone*. Little challenge is found here—status quo is maintained. Beyond that is a realm of risk-taking known as the *stretch zone* wherein optimal growth may occur. The learner is challenged in new ways that produce growth and understanding, paving the way for expanded abilities and knowledge that are just beyond their comfort zone. When the level of challenge pushes the learner into feelings of uncertainty, doubt, and fear, the *panic zone* is reached and survival becomes the main focus. Growth is replaced with a "shutting down" or retreat so as to distance one from the situation and affect a return to a safer environment. This process relates to collaborative learning in the need to establish a "space" where collaborative learning is fostered and can potentially grow.

Adult learners engaged in the continual processes of inquiry and acquisition of new information may find themselves confronted with multiple methods of instruction that are unfamiliar and may,

as a result, produce uncomfortable challenges to learning. Computerized assessment and evaluation techniques, televised interactive lectures, videoconferencing, podcasts, webinars, blogs, professional networking sites, and electronic portfolios are just some of the instructional tools utilized in e-learning that have the potential to produce frustration and reduction in motivation to learn. It is in this context that the role of the instructor becomes essential in establishing a safe and encouraging learning environment for adult learners.

## Interactive Elements to Promote Learning

The potential for adult learners to participate in training and educational programs based upon their own selection and schedule requires an increase in each learner's level of personal responsibility for his or her own learning. Dependent upon the structure of the educational task, each individual learner must engage in finding, analyzing, assimilating, retrieving and storing pertinent information. However, each learner can still benefit from appropriate assistance from outside sources.

O'Donnell (2006) used the term *peer learning* to describe various forms of learning in which peers help one another. She includes cooperative and collaborative learning, peer tutoring, and cross-age tutoring among the many forms in which peers interact to learn from each other. Johnson and Johnson (1991) suggested five basic elements that assist in promoting learning together: (a) positive interdependence; (b) face-to-face promotive interaction; (c) individual accountability and personal responsibility; (d) interpersonal and small group skills; and (e) group processing. In the world of e-learning, such strategies are still applicable in the form of online learning communities, instant messaging, chat rooms, and other electronic methods for interaction.

Another perspective for formulating instructional strategies that promote positive interaction for adult learners involves reciprocity and mutuality. Greenberg (2000), defined *reciprocity* as the "positive connection of acceptance, trust, and understanding" that is derived from being in relationship with another (p. 212). *Mutuality* is defined by Greenberg and Williams (2002) as being "dependent upon openness, flexibility, spontaneity, and a willingness to be changed by the relationship" (p. 100). From their observations, they asserted that:

*Reciprocity ...provides a dynamic connection between people that sets up a propensity for change; a propensity for movement that might not occur without the interaction. The intent of each participant, the meaning they bring to the experience and share together, and any insight they gain at a level that goes beyond the specific learning experience is determined in many ways by the degree to which they establish effective reciprocity, both in being with and doing for others in the learning experience. (p. 96)*

Once fully established within the group environment, either face-to-face or in an online learning situation, reciprocity and mutuality as described above becomes an integral part in helping to bring about both individual and group change.

Additional Factors to Ensure Success

Once the decision is made by an organization or group to transition to e-learning through the use of information communication technologies, the question arises as to where to begin. Assessing the level of readiness for e-learning is an efficient way to set appropriate expectations, prevent false starts, and avoid costly mistakes. Claire Schooley of Forrester Research cautions that distance learning programs fail to reach their full potential if organizational goals are not aligned with actual employee tasks. Support from upper level management and executives can also ensure e-learning success by encouraging development of appropriate distance learning strategies, and by promoting e-learning usage throughout an organi-

zation. Factors such as access, time, convenience, and motivation also impact the potential success of e-learning.

Money earmarked for training is decreasing as the need for training increases. E-learning and e-conferences take the place of face-to-face training and conferencing as time and money are dwindling. *Microtization* is a term that describes the trend of computers and other technology devices to shrink in size while expanding in capacity. However, it is also applicable to the specialized tasks that fuel the drive to learn. The information needed to complete specific, work-related tasks requires continual updating if the skills of the worker are to remain fresh and viable.

Micro-virtual conferences, new methods of assessment and delivery of information, and certifications that focus on single skill sets are necessary to support broad skill sets. Developing strategies that incorporate the best of traditional adult learning theories along with effective new strategies will establish e-learning options that will provide the needed answers.

## FUTURE TRENDS

The future trend toward increased usage of e-learning will inevitably continue at a rapid rate as business, industry, and education strive to keep pace with technological advances. Maintaining status quo in knowledge and technological practices is no longer adequate is such a fast-paced environment. "Keeping up" in the 21st century digital economy has established expectations for learning to be continuously ongoing in every field.

E-learning provides the fastest, most convenient methods for accomplishing this task. As explored in this chapter, successful transitioning to e-learning requires creating a favorable climate that promotes:

1.  Reinforced expectations that continuous learning is necessary for continued employment and economic survival;

2.  Greater access to computers and other forms of technology so that barriers to e-learning are diminished;
3.  Development of curriculum that incorporates flexibility for individualized learning needs and multiple delivery methods;
4.  Restructuring the role of the instructor from that of traditional teacher to one of learning facilitator;
5.  Transforming best practices of adult education to be congruent with online learning; and, most importantly,
6.  Empowering adult learners to assume increased responsibility for their own learning. Attention to these factors will help fuel increased levels of training and contribute toward a better, more efficient workforce that will meet the needs of the future.

## CONCLUSION

The integration between adult learning and information communication technologies is fast becoming the inevitable method of choice for teaching and training adult learners. In summary, e-learning brings higher, more up-to-date education and training that can be acquired with fewer barriers and the greatest deference to each learner's individual learning style. As early as a decade ago, Sfard (1998) asserted that,

*Our ability to prepare ourselves today to deal with new situations we are going to encounter tomorrow is the very essence of learning. Competence means being able to repeat what can be repeated while changing what needs to be changed. (p. 9)*

More recently, the National Governors Association (ASTD & NGA, 2001) predicted that the utilization of e-learning has the potential to bring multiple benefits to the United States through:

1.  Development of a higher level of quality in education and training programs;

2.  Greater access to training leading to greater employment opportunities;
3.  Higher levels of efficiency and performance in business and industry;
4.  A workforce that is competitive in the world marketplace; and
5.  Strengthening of both families and communities through higher levels of employment and productivity.

Additionally, the incorporation of e-learning into the world of adult learning could possibly influence the development of models for changes in future learning that may be applied at all educational levels from kindergarten to college.

The challenge for organizations, from universities to businesses, is to acknowledge and utilize the full potential of e-learning. Productivity and performance gains may be achieved in all aspects requiring updated information and communication. Governmental policies, as reflected in the American Recovery and Reinvestment Act of 2009 and other legislative mandates, provide a nurturing environment for e-learning. Barriers to e-learning can be removed through the collaborative efforts of government, industry, and educational institutions. Embracing e-learning in personal and professional capacities paves the way to a new era of unprecedented growth and opportunity for the United States and a brighter future for all of its citizens.

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## KEY TERMS AND DEFINITIONS

**American Recovery and Reinvestment Act (ARRA) of 2009:** The ARRA is also known as the Recovery Act. It was specifically intended to create and support ongoing training mechanisms that will serve to maintain and create jobs in the United States.

**Andragogical Approach:** The principles inherent within the andragogical approach to adult learning emphasize the self-directed nature that propels adults to enter and persist in educational training programs.

**E-Learning:** This term is defined as the delivery of instructional content or completion of learning experiences through use of electronic technology.

**Expectancy-Value Theory:** This theory explains motivation in terms of individuals' expectations that an outcome is likely in a given situation, and the extent to which they value that outcome.

**Individual Learning Spaces or Zones:** When one is functioning within the realm of the familiar, one is in the *comfort zone*. Little challenge is found here—status quo is maintained. Beyond that is a realm of risk-taking known as the *stretch zone*

wherein optimal growth may occur. The learner is challenged in new ways that produce growth and understanding, paving the way for expanded abilities and knowledge that are just beyond their comfort zone. When the level of challenge pushes the learner into feelings of uncertainty, doubt, and fear, the *panic zone* is reached and survival becomes the main focus.

**Learning Transfer:** When we talk about learning transfer, we mean carrying knowledge across contextual boundaries.

**Microtization:** This a term that describes the trend of computers and other technology devices to shrink in size while expanding in capacity. However, it is also applicable to the specialized tasks that fuel the drive to learn.

**Self Empowerment:** Once empowered, people become increasingly more responsible for their own learning process.

**Transformational Theory:** This theory asserts that failure to acknowledge the key role of an individual's personal frame of reference limits the lens through which meaning is construed and learning occurs.