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Adult learners : who are they, and what do they need to succeed?

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Adult learners : who are they, and what do they need to succeed?

Abstract

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The adult learner is not fully understood without examining education, andragogy and pedagogy, instructional strategies, motivation, and barriers to learning in adults. This area of research is important to the development of effective adult instruction. A well-designed instructional environment is made richer with the experiences adults bring to the environment. Reflection, support, collaboration, cooperation, creativity, and authentic experiences should also be a part of the adult learning process and strategy. Barriers to adults learning can include money, commitment with family and professional life, courses offered, location, attitude and self-concept.

ADULT LEARNERS: WHO ARE THEY AND

WHAT DO THEY NEED TO SUCCEED?

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ABSTRACT

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INTRODUCTION

Today's adults face learning challenges in their personal and professional interactions due in part to the learning style of their youth (Holton III, Knowles, Swanson, & Tight, 2005). Addressing and satisfying the needs of adult learners becomes a challenge to educators of those adults. Creighton and Hudson reported that an "overall increase in participation in adult education was wide spread between 1991 and 1999" (2002, p. v). Those statistics directly underscore why understanding the adult and their individual learning needs are important. As the number of adults participating in learning increases, so does the need to effectively teach them. The purpose of this paper is to explore: (a) who is the adult learner, (b) what is their unique learning need, and (c) what are effective strategies for teaching an adult learner. This literature review was conducted through looking at various literature sources about adults, their learning needs, and strategies for teaching them.

Analysis of this topic is important because the process of educating the adult learner can be better understood and applied in any learning setting if a learner's individual learning needs and the strategies that promote learning are examined. The results of this review will be used in the development of teaching strategies to enrich the adult learning experience and their needs. This review analyzed learning in adults, typical characteristics of adult learners, and the difference between education and learning. The reviewer hopes the information learned will answer the questions and provide the necessary strategies to effectively teach adult learners. The reviewer identified three research questions for the completion of this review.

1. Who is the adult learner?

2. What are the learning needs of adult learners?

3. What are effective strategies for teaching adult learners?

METHODOLOGY

Finding reliable sources of information on adult learners and their needs was a challenge for the reviewer. To locate sources for this paper, several online databases were selected. The search began with the database links available through the University of Northern Iowa's Rod Library's web page. The researcher used databases such as ERIC, Emerald, EBSCO, Wilson Web, and The University of Northern Iowa's Rod Library catalog system UNISTAR. A keyword search was used with the databases to locate sources about adult learners. The reviewer used UNISTAR mainly for non-periodicals and some research articles. ERIC and Wilson Web databases were fundamental in the reviewer locating sources that were valid research based and peer reviewed journal articles.

Descriptors such as *adult learner, needs of the adult learner, adult learning, human resource development, adult students, adult education* and *teaching adults* were used to locate relevant articles from the databases. The reviewer also utilized the professors both within the University of Northern Iowa's Instructional Technology division and the reference librarians at Rod Library to identify experts in the field. The reviewer was also able to review books from respected leaders in adult learning, human resource development, and adult education.

The motivation for selecting the sources identified above was reliability and applicability. The reviewer also had to verify the credibility and validity of the information to be referenced in this literature review. The reviewer also has a personal interest in adult learners. The researcher plans to use the information from this literature review as foundational in my future endeavors with adult learners in the training and

education sectors. The verification process was achieved by entering the authors name in a search engine; Google was the preferred search engine used.

The researcher also used the following list of criteria to determine the usability of the sources located during the search. The list was compiled based on information from Dr. Herring's and Dr. Zeitz's research courses at the University of Northern Iowa.

a. Can credible information be found about the author?

b. How current are the sources?

c. Does the author have a professional reputation in the field?

d. Has the author been cited by other authors?

e. Does the source contain information relevant to the literature review?

f. Is the information based on previous research?

ANALYSIS AND DISCUSSION

Defining the Adult Learner

Understanding the adult learner, their needs, and effective strategies for teaching

them is grounded in the early theories of learning from children and animals. The need to

establish how adults learn moved from the experimental psychologist with animals to

learning theorist (Holton III, Knowles, & Swanson, 2005). Insight into the adult learner

can be gained by defining the adult.

Malcolm Knowles, a forefather in adult learning theories, defines an adult with

two very important and critical distinctions, one of a social context and the other of a

psychological context. His social definition states "…a person is adult to the extent that

that individual is performing social roles typically assigned by our culture to those it

considers to be adult-spouse, parent, responsible citizen, soldier and the like" (Knowles,

1980, p. 24). The psychological definition is essential to understanding the complexity of

the adult in society. Knowles contends, "…a person is adult the extent that that individual

perceives herself or himself to be essentially responsible for her or his own life" (p.24).,

Both Knowles (1980) and Tight (1996) agree that the physiological definition of an adult

is the ability to reproduce and have one's own children. The consideration of adulthood

can be "a state of being which both accords status and rights to individuals and

simultaneously confers duties or responsibilities upon them" (p.14).

In the context of this review of literature and based on the experts cited the term

adult learner will refer to individuals who are fully mature persons, who have reached the

age of legal majority, those who have been engaged in the workforce, who are capable of

handling his or her own affairs, and have interest in additional skills and knowledge to

enrich their personal and professional lives (Creighton, 2002; Holton III, 2005; Hudson, 2002; Knowles, 2005; Swanson 2005 & Tight, 1996).

According to Knowles (1980), adults bring to the learning experience unique characteristics that children lack. Those characteristics are a foundation to be considered to meet the learning needs of adults. Four critically essential characteristics, to understand adult learners, have been established; the first one states that adults have a "different orientation to education and learning" (Smith, 1982, p.38). This characteristic involves the "multiple roles and responsibilities" adults maintain as noted by Brookfield (1986, p. 30). Smith's second characteristic is "an accumulation of experience" (p. 39). This expresses those life experiences Brookfield (1986) suggests that helps develop a preference for a particular learning style and learning environment. Smith's third characteristic "special developmental trends" (p. 42) refers to the changes that adults experience in life. Those changes are often physical, psychological, and social; these changes affect development in adult learners. The fourth characteristic essential to the adult learner is Smith's "anxiety and ambivalence" (p.44). This characteristic refers to the reality that adults often experience fear and uncertainty during the educational process. Adult learners are goal oriented and motivated to accomplish clear-cut objectives (Knowles, 1973; Morrison, Ross, & Kemp, 2007). Ference and Vockell agree that "learning in relation to congruence with goals" is important (n. d., p.1). Equally important characteristics of adult learners include:

    a. Adults want to know how the course's content will benefit them. They expect the material to be relevant, and they quickly grasp the practical use of the content.

b. To adults, time is an important consideration. They expect the class to start and finish on schedule, and they do not like to waste time.

c. Adults respect an instructor who is fully knowledgeable about the subject and who presents it effectively. Students quickly detect an unprepared instructor.

d. Adults bring to class extensive experience from their personal and working lives. These experiences should be used as major resources for helping students relate to the subject being studied.

e. Most mature students are self-directed and independent. Although some adults lack confidence and need reassurance, they would prefer that the instructor serve as facilitator to guide and assist rather than as an authoritarian leader.

f. Adults want to participate in decision-making. They want to cooperate with the instructor in mutual assessment of needs and goals, the choice of activities, and decisions on how to evaluate learning.

g. Adults may be less flexible than younger students. Their habits and methods of operation have become routine. They do not like to be placed in embarrassing situations. Before they accept a different way of doing something, they want to understand the advantages of doing so.

h. Adults like to cooperate in groups and socialize together. Small-group activities and an atmosphere for interaction during breaks are important.

(Morrison, Ross and Kemp, 2007, p. 61)

Learning by adults is voluntary; however, adults bring expectations to the learning experience and environment. When those expectations are not achieved, adults withdraw

from the learning experience (Brookfield, 1986). Educators of adults need to be aware of these characteristics as they pertain to the typical needs of adult learners.

In addition to the previous definition of an adult learner, the complexities of the adult learners' needs can be examined by documenting the definitions of learning and education., Holton III, Knowles and Swanson,(2005) suggest that any discussion of a definition of learning "...must be prefaced with an important and frequently made distinction-the one between education and learning" (p.10). The authors "...are doubtful that a phenomenon as complex as adult learning will ever be explained by a single theory, model or principle"(p.1).

Based on the literature reviewed, it has been established that adults bring unique characteristics to their learning experiences. Understanding the foundational characteristics of adults encompasses having multiple roles and responsibilities, life experiences, different orientations to learning, development trends, and possible anxiety and ambivalence. These characteristics are essential to understanding the needs of adult learners. It's important to also remember that adult participate voluntarily in the learning process, and bring expectations to the learning environment. If expectations are not met, adults withdraw from the learning experience (Brookfield, 1986).

Learning Needs of Adult Learners

What is Learning?

A definition of learning is dependent on its context and has also proven difficult to assign one meaning that is universally accepted by all. Smith acknowledges that:

...the term *learning* defies precise definition because it is put to multiple uses.

Learning is used to refer to (1) the acquisition and mastery of what is already

known about something, (2) the extension and clarification of meanings of one's experience, or (3) organized, intentional process of testing ideas relevant to problems. In other words, it is used to describe a product, a process, or a function. (1982, p. 34)

Boyd confirms, "learning is the act or process by which behavioral change, knowledge, skills and attitudes are acquired . . . the term learning, in contrast, emphasizes the person in whom change occurs or is expected to occur (1980, p. 100-101). Driscoll defines learning "as a persistent change in human performance or performance potential" (2005, p. 9). According to Driscoll this means "that learners are capable of actions they could not perform before learning occurred and this is true whether or not they actually have an opportunity to exhibit the newly acquired performance''(p. 9). Learning is a process within which behavior is changed, shaped, or controlled. (Knowles, 1973). Adults learn by choice and what is learned is purpose based. Smith acknowledges six general observations of adults and how they learn.

    a. Learning goes on throughout life. To live is to learn.

    b. Learning is a personal and natural process.

    c. Learning involves change.

    d. Learning is bond up with human development.

    e. Learning pertains to experience or experiences.

    f. Learning has an intuitive side. (1982, p. 36-37)

In the context of this review of literature, *learning* will refer to the act of acquiring knowledge in a general connotation, which brings about change in the individual. Although difficult to assign a universally accepted definition of learning,

experts agree that learning is a process of change in an individual. In adults, learning is an intentional and chosen action that is natural. Learning is considered life long, intentional or not.

What is Education?

The literature identified the need to distinguish between learning and education (Holton III, Knowles, & Swanson, 2005). Education, as defined by Webster's Ninth New Collegiate dictionary, is the "action or process of educating or of being educated" (Merriam-Webster, 1990, p. 396). Holton III, Knowles, and Swanson (2005), note that:

> Education is an activity undertaken or initiated by one or more agents that is designed to effect change in the knowledge, skill and attitudes of individuals, groups or communities. The term emphasizes the educator, the agent of change who presents stimuli and reinforcement for learning and designs activities to induce change. (p.10)

This type of education, is mentioned in a general context and should be distinguished from adult education. Knowles (1980) stated the confusion with adult education is the use of at least three different meanings. The first one is that

> … adult education encompasses practically all experiences of mature men and women by which they acquire new knowledge, understanding, skills, attitudes, interests, or values. It is a process that that is used by adults for their self-development, both alone and with others, and it is used by institutions of all kinds for the growth and development of their employees, members, and clients. It is an educational process that is often

used in combination with production processes, political processes, or

service processes. (p. 25)

The second one is adult education's more technical meaning that "...describes a set of

organized activities carried on by a wide variety of institutions for the accomplishment of

specific educational objectives" (p. 25). The third and final definition:

> ... combines all these processes and activities into the idea of a movement or
>
> field of social practice. In this sense 'adult education' brings together into a
>
> discrete social system all the individuals, institutions, and associations concerned
>
> with the education of adults and perceives them as working toward the common
>
> goals of improving the methods and materials of adult learning, extending the
>
> opportunities for adults to learn, and advancing the general level of our culture.
>
> (p. 25)

Merriam and Caffarella note: "adult education is a large and amorphous field of

practice." The field lacks "neat boundaries such as age, and mission found in elementary,

secondary and higher education" (1991, p.62). Adult education is defined by Darkenwald

and Merriam, (as cited in Merriam & Cunningham, 1989) "as a process whereby persons

whose major social roles are characteristic of adult status undertake systematic and

sustained learning activities for the purpose of bringing about changes, in knowledge,

attitudes, values or skills." Adult education as distinguished by Merriam and

Cunningham (1991) " is an intervention into the ordinary business of life--an intervention

whose immediate goal is change, in knowledge or in competence" (p. 24). The five

identified core principles that form the foundations of the field of adult education,

according to Merriam and Cunningham (1989) include:

a. Whether society is basically good or is inherently flawed, it can and should be improved. In this, adult education can and should play a major role.

b. If individuals, and ultimately society, are to prosper, learning must continue throughout life.

c. Adults are capable of learning and should be treated with dignity and respect.

d. All adults should have access to learning the things required for basic functioning in society.

e. Although adults may or may not differ from preadults in respect to the basic cognitive processes of learning, the context of adult education differs substantially from the context of preadulthood. Hence adults should be educated differently from preadults. (p. 48)

The literature has identified the difference between learning and education. Learning is an acquiring of knowledge and is a change process. Education is knowledge gained within the process of learning. Adult education as identified by the literature is a change of knowledge, attitude, or skill of an individual that performs social roles assigned to the adult population. The literature also identified that adult education should play a major role in society, adults are capable of learning and deserve respect, adults should be educated differently from non-adults and access to basic information to function in society should be available to all adults.

Andragogy and Pedagogy

Understanding adult learners involves the theory identified as andragogy. Knowles (1980) defined andragogy "as the art and science of helping adults learn, in contrast to pedagogy as the art and science of teaching children" (p. 43). Adult educators

in the twentieth century noticed difficulty with the pedagogical model as it was applied to adult learners (Knowles, 1980). Adult learners wanted a more rewarding educational process that included more than "lectures, assigned reading, drills, quizzes, rote memorization and examination", which are a part of pedagogy used with children (p. 40). According to Forrest III, and Peterson (2006) " a pedagogical teaching paradigm is predicated upon the concept of dependency. Students are assumed to know little", while "… andragogy is considered a learner-centered educational paradigm" (p. 115-116). Knowles (1980, 2005) identified a comparison of the assumptions of pedagogy and andragogy that illustrates the differences between the two. The teacher has full responsibility for all learning that occurs teaching children: what, how, when and if any learning will be acquired during an experience that is teacher lead. Knowles identified assumptions about the non-adult learner:

(a) The need to know. Learners only need to know that they must learn what the teacher teaches if they want to pass and get promoted.

(b) The learner's self- concept. The teacher's concept of the learner is that of a dependent personality; therefore, the learner's self-concept eventually becomes that of a dependent personality.

(c) The role of experience. The learner's experience is of little worth as a resource for learning: the experience that counts is that of the teacher, the textbook writer, and the audiovisual aids producer.

(d) Readiness to learn. Learners become ready to learn what the teacher tells them they must learn if they want to pass and get promoted.

(e) Orientation to learning. Learners have a subject-centered orientation to learning; they see learning as acquiring subject-mater content.

(f) Motivation. Learners are motivated to learn by external motivators (e.g. grades, approval or disapproval of teachers, parental pressures). (p. 62-63)

Andragogy, as it applies to adults, consists of a set of core adult learning principles which can be applied to all adult learning situations" (Holton III, Knowles, & Swanson, 2005, p. 2). The six principles of andragogy to include:

(a) The need to know. Adults need to know why they need to learn something before undertaking to learn it. Potent tools for raising awareness of the need to know are real or simulated experiences in which the learners discover for themselves the gaps between when they are now and where they want to be.

(b) The learners' self-concept. Adults have a self-concept of being responsible for their own decisions, for their own lives. Once they have arrived at that self-concept, they develop a deep psychological need to be seen by others and treated by others as being capable of self-direction. They resent and resist situations in which they feel others imposing their wills on them.

(c) The role of the learners' experience. Adults come into an educational activity with both a greater volume and a different quality of experience from that of youths. By virtue of simply having lived longer, they have accumulated more experience than they had as youths. It assures that in any group of adults there will be a wider range of individual differences than is the case with a group of youths. It also means that for many kinds of learning, the richest resources for learning reside in the adult learners themselves. There is another reason for

emphasizing the experience of the learners; it has to do with each learner's self-identity.

(d) Readiness to learn. Adults become ready to learn those things they need to know and be able to do in order to cope effectively with their real-life situations. An especially rich source of "readiness to learn" is the developmental tasks associated with moving from one development stage to the next.

(e) Orientation to learning. In contrast to children and youths' subject-centered orientation to learning (at least in school), adults are life-centered (or task-centered or problem-centered) in their orientation to learning. Adults are motivated to learn to the extent that they perceive that learning will help them perform tasks or deal with problems that they confront in their life situations. Furthermore, they learn new knowledge, understandings, skills, values, and attitudes most effectively when they are presented in the context of application to real-life situations.

(f) Motivation. Adults are responsive to some external motivators (better jobs, promotions, higher salaries, and the like), but the most potent motivators are internal pressures (the desire for increased job satisfaction, self esteem, quality of life, and the like) (p. 64-68).

The differences between learners with respect to pedagogy and andragogy are at different ends of the spectrum. Non-adult learners are lead throughout the process and are dependent on the teacher for all information within the learning process. The learners are characteristically dependent, lacking internal motivation, and they are subject-centered learners. These learners learn when told they should be ready to learn, life experience is

not a foundation to connect learning experiences. Adult learners are self-motivated

learners who want to know the importance of what they are learning. They are

responsible for decisions made and their prior life experiences form new learning.

Holton III, Knowles, and Swanson state that:

> ...andragogy presents core principles of adult learning that in turn enable those
>
> designing and conducting adult learning to build more effective learning
>
> processes for adults. It is a transactional model in that it speaks to the
>
> characteristics of the learning transaction, not the goals and aims of that
>
> transaction. As such, it is applicable to any adult learning transaction, from
>
> community education to human resource development in organizations.
>
> (2005, p. 2)

The literature reviewed has shown the distinct difference between pedagogy and

andragogy. Pedagogy is the art and science of teaching children. The learners are

dependent upon an instructor while andragogy is the art and science of teaching adults

who are self-directed in their learning.

Motivation and Self Efficacy

The literature has established that adult learns are responsible for their own

learning, they want and need to be considered self directed individuals who are ready to

learn what they need to manage their lives. Where does motivation and self-efficacy fit

into the learning needs of adults? Wlodkowski (1999) believes "if we keep culture in

mind a useful functional definition of motivation is to understand it as a natural human

process for directing energy to accomplish a goal" (p. 2). Self-efficacy as defined by

Bandura (as cited in Driscoll, 2000) as: "perceived beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 310). The beliefs attached to self-efficacy

> influence the courses of action people choose to pursue, how much effort they
> put forth in given endeavors, how long they persevere in the face of obstacles and
> failures, their resilience to adversity, whether their thought patterns are self-
> hindering or self-aiding, how much stress and depression they experience in
> coping with taxing environmental demands, and the level of accomplishment they
> realize. (Bandura, 1997, p. 3)

Motivation is intangible, making it difficult to understand. Wlodkowski (1999) acknowledges that we should look for signs—effort, perseverance, completion, and listen for the terms 'I want to...,' 'We will...' and 'You can count on it'. The author explains that the deeply learned mix of language, beliefs, values, and behaviors that pervades all aspects of life significantly influences motivation. Adding that motivation is important not only because it apparently improves learning but because it can mediate learning and is a consequence of learning as well.

Providing a learning environment that is culturally responsive can encourage adult learners and their motivation to learn. Ginsberg and Wlodkowski (2000) identified four conditions for culturally responsive teaching. This motivational framework includes:

> 1. Establishing inclusion refers to employing principles and practices that
> contribute to a learning environment in which students and teachers feel respected
> by and connected to one another.

2. Developing a positive attitude, refers to employing principles and practices that contribute to, through personal and cultural relevance and through choice, a favorable disposition toward learning.

3. Enhancing meaning, refers to bringing about challenging and engaging learning. It expands and strengthens learning in ways that matter to students and have social merit.

4. Engendering competence, refers to employing principles and practices that help students authentically identify that they are effectively learning something they value. (p. 45)

In addition to teaching from a culturally responsive perspective, an adult's belief system and ability to accomplish a task also increases their motivation to learn and self efficacy.

Motivation and self-efficacy, as the literature indicates, involves the learner's energy and beliefs required to accomplish goals. Although motivation cannot be directly observed, clear indicators are apparent in an individual's actions. Motivation is important because it builds confidence in learners to continue learning. Cultural needs have also been established when teaching in the motivational framework. Adult learners are culturally unique and what is learned through life can encourage their motivation to learn throughout life. The teaching environment should include all learners, foster positive attitudes, make meaning of what is learned, and add value to the learners overall experience. The next section will address effective strategies that foster learning in adults as an important consideration for learning.

Instructional Strategies

This section will discuss effective instructional strategies that increase motivation and relevance. The literature relative to barriers to effective adult learning will also be presented. Morrison, Ross, and Kemp emphasize that "our primary goal is to design effective and efficient instruction that produces reliable results each time it is presented to the learner"(2005, p. 150). The literature has established that adults bring their life experiences and expectations to the learning environment. Effective strategies are important when considering adults and how they should be taught.

Learning is an active process in which the learner constructs meaningful relationships between the new knowledge presented in the instruction and the learner's existing knowledge. A well-designed instructional strategy prompts or motivates the learner to actively make these connections between what the learner already knows and the new information. (Morrison, Ross, & Kemp, 2004, p. 150)

This learning process is known as generative learning, it also includes the construction of knowledge. "The concept of generative learning is an extension of the concept of constructivist learning...students cannot construct their own learning without generating something through active involvement" (Jonassen, 2004, p. 675). The literature emphasizes that students learn through construction, reflection, support, collaboration, and authentic experiences in their learning process. Learning is an active process and well-designed instructional strategies support the construction and meaning made from current knowledge and newly acquired knowledge.

Generative learning discussed earlier has advantages that include "...the learner's deeper understanding and longer retention of what is learned" (p. 151). Generative learning, a component of REAL (rich environments for active learning) provides much more than a deeper understanding for learners. Generative learning requires that students "engage in argumentation and reflection as they try to use and then refine their existing knowledge as they attempt to make sense of alternate points of view" (Cognition and Technology Group at Vanderbilt, as cited in Jonassen, 1996, p. 675). A shift occurs in generative learning as "students become investigators, seekers, and problem solvers; teachers become facilitators, and guides" (Jonassen, 1996 p. 675). The four generative categories identified by Jonassen (as cited in Morrison, Ross, Kemp, 2004) are recall, integration, organizational and elaboration.

(a) The first, *recall* is helpful for learning facts and lists for verbatim recall. Specific strategies that facilitate recall include repetition, rehearsal (e.g. mental practice), review, and mnemonics.

(b) The second type, *integration* strategies, are useful for transforming information into a more easily remembered form. Strategies that help the learner transform new content include paraphrasing, which requires learners to describe the new material in their own words, and generating questions or examples from the new information.

(c) The third type of strategy, *organizational*, helps the learner identify how new ideas relate to existing ideas.

(d) The fourth strategy type is *elaboration,* which requires learners to add their ideas (elaborations) to the new information. Strategies to facilitate elaboration

include the generation of mental images, creating physical diagrams, and sentence elaborations. (p. 151-152)

Generative learning involves, inactive information learned that can be transferred to a form of "fluid, flexible usable knowledge" (Jonassen, 2004, p. 675). The generation of projects is essential to learning, and also to creating solutions to authentic problems.

Rich environments for active learning (REAL), mentioned previously are comprehensive instructional systems that:

(a) Are evolving out of constructivist philosophies and theories

(b) promote study and investigation within authentic (i.e. realistic, meaningful, relevant, complex, and information-rich) context

(c) encourage the growth of student responsibility, initiative, decision making, and intentional learning

(d) cultivate an atmosphere of cooperative learning among students and teachers

(e) utilize dynamic, generative learning activities that promote high-level thinking processes (i.e., analysis, synthesis, problem solving, experimentation, creativity, and examination of topics from multiple perspectives) to help students integrate new knowledge with old knowledge and thereby create rich and complex knowledge structures

(f) assess student progress in content and learning to learn through realistic tasks and performances. (Jonassen, 2004, p. 668)

Two additional important features of learning include integration and comprehensiveness. Jonassen defines integration as a "...process of linking new knowledge to old and modifying and enriching existing knowledge" (p. 668). Comprehensiveness, Jonassen

(2004) states is the importance of linking learning in a general, but pragmatic context rather than specifics of knowledge gained. Effective instructional strategies that combine active learning in a rich environment when combined with recall, integration, organization, and elaboration strategies helps learners construct new meaning with existing knowledge.

A goal of an instructional strategy Morrison, Ross, and Kemp (2004) contends, "... is to design the instruction so that the learner is motivated to generate or construct these meaningful relationships. The design should activate the existing knowledge structures (i.e., recall of prior knowledge) and then assist the learner in altering and encoding the new structures" (p. 151). "Adults learn everywhere - in the workplace, at home, in their community. They do so to function effectively in the changing world around them" (Fiddler, Marienau, & Taylor, 2000, p. 4).

The plethora of experiences adults bring to the learning experience make learning new information and connecting them part of a well-designed instructional environment. The literature also states that students need to construct learning first with active involvement. Reflection, support, collaboration, cooperation, creativity, and authentic experiences should also be a part of the adult learning process. Incorporating the richness of what has been learned helps adult connect to prior information.

Barriers in Adult Learning

Understanding that motivation in adults, as the literature states, involves action connected to goals, it is important to examine barriers adult have to learning. "The research and literature on motivation has many constructive suggestions for instructors to implement while teaching adults; however, without some method of planning for those

suggestions, instructors will probably apply them weakly and inconsistently"

(Wlodkowski, 1999, p. 24). Barriers to learning in adults can be better understood using

the following context: situational, institutional, and dispositional. "Situational barriers are

those arising from one's situation in life at a given time" (Cross, 1981, p. 98). Situational

barriers that cause a lack of participation in adult learning is time and cost (Cross, 1981;

McGivney, 1990). Time barriers include job and home responsibilities. Cost are

considered another deterrent that can include "tuition, books, transportation, and lost time

from work" (Cross, 1981 p. 98). "Institutional barriers consists of all those practices and

procedures that exclude or discourage working adults from participating in educational

activities- inconvenient schedules or locations, full-time fees for part-time study,

inappropriate courses of study" (Cross, 1981 p. 98). The learner's attitude and self-

concept of themselves as a learner can affect participation, as suggested by Cross and

McGivney. As the literature states barriers to learning in adults can vary including

difficulty with family and job commitments, affordability, and lack of confidence in

ability to learn. These barriers are important to consider when examining adults and their

participation in learning.

CONCLUSIONS AND RECOMMENDATIONS

In conclusion and based on the literature reviewed, the reviewer has identified the adult learner. The reviewer also itemized adult learning characteristics that affect learning and education in adults. My first research question asked: Who is the adult learner? Understanding the foundational characteristics of adults encompasses having multiple roles and responsibilities, life experiences, different orientations to learning, development trends, and possible anxiety and ambivalence. The literature indicates adults are highly motivated to learn, and goal oriented. Learning in adults is voluntary; however, adults bring expectations to the learning experience and environment.

Although difficult to assign a universally accepted definition of learning, experts agree that learning is a process of change in an individual. Research question two asked: What are the learning needs of adult learners? The literature reviewed documents that learning is considered life long, intentional or not. Education is knowledge gained within the process of learning. Adult education should play a major role in society, adults are capable of learning and deserve respect, adults should be educated differently from non-adults and access to basic information to function in society should be available to all adults. Teaching non-adults based upon pedagogy is an approach that gives the teacher control over the entire learning process; what, how, when, and why. Andragogy used with adult learners is an approach that allows adults to become self-directed in their learning. The learner's belief system or self-efficacy and motivation used to accomplish goals is another essential aspect of adult learning. Motivation is important because it builds confidence in learners to continue learning. The teaching environment that

motivates should include all learners, foster positive attitudes, make meaning of what is learned, and add value to the learners overall experience.

My final research question asked: What are effective strategies for teaching adult learners? A well-designed instructional environment is made richer with the experiences adults bring to the environment. The literature also states that students need to construct learning first with active involvement. Reflection, support, collaboration, cooperation, creativity, and authentic experiences should also be a part of the adult learning process and strategy. One effective methodology is Generative Learning, this is considered a component of REAL(rich environments for \active learning) which requires on active student engagement in their own learning. Barriers to adults learning can include, money, commitment with family and professional life, courses offered, location, attitude and self-concept. These barriers are important to consider when examining adults and their participation in learning.

As a future facilitator of adult instruction, the reviewer believes that these findings are key to her future success. The one quote that has resonated with her during this review is:

> With few exceptions, when educators come into their learners' lives, these adults are at the threshold of change. To facilitate change may ultimately require that we move toward our learners, as persons on an equal footing, open to the possibility that we will learn as much as they do. (Taylor, Marienau, & Fiddler, 2000, p. 334)

This goal of a shared experience is only possible by knowing our learners and guiding them with the appropriate instructional strategies.

Future areas for suggested research include looking at the older adult learner over age 65 and their use of technology in the workforce. This area is important as the number of older adults in the workforce increases and mortality rates decreases. This area of further research gives new meaning to the term life-long learner.

REFERENCES

Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York: W. H. Freeman.

Boyd, R. D., Apps, J. W., & Associates (1980). *Redefining the discipline of adult education.* San Francisco: Jossey-Bass.

Brookfield, S. D. (1986). *Understanding and facilitating adult learning.* San Francisco: Jossey-Bass.

Creighton, S., & Hudson, L. (2002). *Participation trends and patters in adult education: 1991 to 1999.* NCES 2002-119. Washington D.C.: Government Printing Office.

Cross, P. K. (1981). *Adults as learners.* San Francisco: Jossey-Bass.

Driscoll, M.R. (2005). *Psychology of learning for instruction.* Boston: Pearson Allyn and Bacon.

Ference, P.R., & Vockell, E. L. (n.d). *Adult learning theories.* Retrieved March 30, 2007 From http://edweb.sdsu/courses/edtech540/SCANS/540_Anadrogogy.html.

Forrest III, S. P., & Peterson, T. O. (2006). It's called andragogy. *Academy of Management Learning & Education.* 5, (1), 113-122.

Holton Ill, E., Knowles, M. S., & Swanson, R.A. (2005). *The adult learner: The definitive classic in adult education and human resource development.* Burlington: Elsevier.

Jonassen, D. E. (1996). *Handbook of research for educational communication and technology.* New York: Simon & Schuster Macmillan.

Knowles, M. (1973). *The adult learner: A neglected species.* Houston: Gulf publishing company.

Knowles, M. (1980). *The modern practice of adult education: From pedagogy to andragogy.* Chicago: Association Press.

McGivney, V. (1993). Participation and Non-participation. In Edwards, R., Sieminski, S., and Zeldin, D., (Eds). *Adult learners, education and training* (11-30). Routledge: London

Merriam, S. B., & Caffarella, R. S. (1991). *Learning in adulthood.* San Francisco: Jossey-Bass.

Merriam, S. B., & Cunningham, P. M. (1989). *Handbook of adult and continuing education.* San Francisco: Jossey-Bass.

Merriam-Webster (1990). *Webster's ninth new collegiate dictionary.* Philippines: Merriam-Webster.

Morrison, G.R., Ross, S. M., & Kemp J.E. (2007). *Designing effective instruction.* New Baskerville: John Wiley & Sons, Inc.

Reiser, R. A. & Dempsey, J. V. (2007). *Trends and issued in instructional design and technology.* New Jersey: Pearson Education, Inc.

Smith, R. M. (1982). *Learning how to learn.* Chicago: Follett.

Taylor, K., Marienau, C., & Fiddler, M. (2000). *Developing adult learners: Strategies for teachers and trainers.* San Francisco: Jossey-Bass.

Tight, M. (1996). *Key concepts in adult education and training.* London: Routledge.

Wlodkowski, R. J. (1999). *Enhancing adult motivation to learn: A comprehensive guide for teaching all adults.* San Francisco: Jossey-Bass.