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Abstract

Many theories have been covered in the adult learner class, presented by John Dirkx, through Michigan State University. This document will provide a comprehensive review of the research and theories presented in the class, and how the author of the document experienced not only the theories presented, but was also able to use the research and theories in a practical, and meaningful way, outside of the online classroom.

Adult Learning Final

Question Number One: Adult Learning

 The first question to be asked when talking about adult education, or the adult learner, is to define what it actually means to be an adult. Adulthood is typically seen as those individuals between the ages of eighteen and twenty-five. Dr. Jennifer Tanner sums up being an adult as the “period of our lives when the roads taken and not taken diverge and begin to have an impact on the way we live until we die” (Tanner, 2010). Dr. Jeffery Arnett performed a survey to answer the question of what makes up adulthood. According to Arnett’s findings, and adult “is someone who accepts responsibility, makes independent decisions and becomes financially independent” (Tanner, 2010).

 The second question that must be explored deals with what it means to be an adult learner. According to Caffarella, Merriam and Baumgartner (2007) an adult learner was typically Caucasian, from the middle class, employed, younger (meaning in early twenties), and is also better educated. However, today those who make up the adult learner population come from varying cultural and societal backgrounds and age brackets. The age of the adult learner seems to be getting older as more and more adults are attending colleges and professional development opportunities. These adults are attending for either their current career fields or to take a new career path altogether.

 Adults differ from children in many aspects when it comes to learning. Most adults either work full or part time while attending school. Many also have dependents like a child or a spouse, which makes it even more difficult to incorporate learning. Such factors determine if the adult will continue on the path of learning, or will be affected by external factors, factors that children do not have to worry about. One major difference between adult learners and children are their expectations and characteristics. Children for the most part are motivated to learn by external factors such as grades or rewards. Malcolm Knowles points out in his andragogy theory that “the most potent motivators are internal rather than external” (Merriam, Caffarella, & Baumgartner, 2007, p.84). Basically the adult learns to learn, and is rewarded with the knowledge he or she gains.

 The difference between children and adult learners goes beyond intrinsic and extrinsic factors. Adults need their learning to be meaningful. Adults want to learn the material and are not forced to learn it, and the tasks at hand are problem based, which differs from being focused on a single content area such as math. Sandra Kerka (2002) states that adults are: “autonomous, independent, and self directed, and that prior experiences are rich learning resources; their readiness to learn is associated with a transition point or a need to perform a task, and their orientation is centered on problems.” On the other hand, child learners are dependent on others to provide the material, and that material is based on a curriculum that is for a particular age and subject area. Adults learning expectations are also much different from children where adults need to know the purpose of learning the material; they also like to be involved with other adults who share the same common interests. Children are learning new skills and gathering new experiences, and are not able to relate much of the material to past experiences because of lack of experiences. Adults however, like to build upon already established skills and experiences.

 The actual way children and adults learn is another difference. Children learn from listening to teachers give out information. “Passive learners receive knowledge transmitted by teachers” (Kerka, 2002). Children must be taught through a step by step progression of skills and material in order to move on. Adult learning centers are “characterized by flexibility and individualization for self directed empowered adults” (Kerka, 2002). Both children and adults do share something in common. Both seek to have an instructor who sets clear boundaries and directions, and who also knows the subject material in and out.

 In order to help adult students to learn, not only is it important to know what motivates students or hinders their progress, but it is also imperative to know the adult learner characteristics. As previously explored, adults have experiences that they bring to the learning environment. Teachers need to use these experiences to open up dialogue with the students and use the students as resources in the classroom. Adults also have their own opinions, values and beliefs. The teacher needs to allow debate in the classroom, and to allow adults to challenge ideas. Children know they are children, and expect to be treated as children. Adults expect to be treated as adults, so the teacher must be respectful of questions and comments and welcome participation by the adults. Another difference displayed between adults and children is the fact that adults are self-directed. The teacher has the ability to engage the students in the learning process. It is important to allow adults to have some control over the pace the material is covered and when projects are due. Adults want to learn in order to use the information in an applicable manner, so it is important that the teacher focuses more on application and less on theory. Adults want to know how the information will be practical.

 Multiple intelligences are yet another factor that needs to be explored when teaching adult learners. Like children, adults learn in different ways. Some adults learn by visual means, other by auditory means, and others by tactile means. These individual learning differences also are influenced by age, external factors and cognitive factors. Intellectual abilities and functions change as a person ages. Auditory function, vision, memory and reaction time also changes slowly over the course of time, for the worse. Biologically, adults not only bring experiences to the classroom, but also bring more logic to the discussion. Instructors must take into account these changing biological factors when creating lesson plans or assignments for adults. Teachers who teach adults may have to explain in depth the assignment because of poor memory, and the expectations for the assignment and class may also need to be repeated. The teacher must also be careful not to chunk the material into big sections. Instructors must also take into account that adults cannot put in the hours of studying those high school students and undergraduate students can do, especially after a full day of working.

 Temperament is yet another difference among adults which influences how an adult learner will learn in the class. Temperament as defined by Dictionary.com (2010) is “an individual’s character, disposition, and tendencies as revealed in his reactions; excitability, moodiness, or anger.” The temperament to most people refers to someone’s personality. Adults and children have different temperaments that can affect how the student learns, and also how the student relates to the instructor.

 Learning can be defined as passing information down from a superior or someone who is an expert on the material, to others. In adult learning the material needs to be content that is meaningful and applicable to the student’s needs. Motivation is the main influence on whether a student learns or does not learn. There are also many factors internally and externally that can form barriers to learning. Adults learn best when they know why they are learning the material. Experiences often motivate students to learn. According to Zemke and Zemke (1984) “the key to using adult’s natural motivation to learn is tapping into their most teachable moments.” Stephen Lieb in *Principles of Adult Learning* lists six factors that contribute to the motivation of students. Lieb (1991) lists the factors as:

* Social relationships: make new friends.
* External expectations: to comply with instructions from someone else; to fulfill the expectations or recommendations of someone with formal authority.
* Social welfare: to improve the ability to serve mankind, prepare for service to the community.
* Personal advancement: to achieve a higher status in a job, secure professional advancement.
* Escape/Stimulation: to relieve boredom, or to break a routine.
* Cognitive interest: to learn for the sake of learning.

The best way to increase motivation amongst students is to enhance their learning, provide a safe environment, give the students reasons they should be learning, and decrease the barriers that may prevent the learning. Barriers that may prevent learning can be classified into external and internal factors. Lack of money, little time, lack of information about the class, scheduling problems, finding child care and reliable transportation can all be external factors or barriers towards learning. Internal factors include: confidence in being able to succeed in the class, or just a lack of interest in the class. Why do students learn? Adults learn if required by employers or for specific certifications. Students learn to earn a promotion or increase in pay. Students even learn for the sake of learning, and learn to maintain a skill set.

 Lieb (1991) not only suggests that students learn at different speeds and through different means, but also suggests that the instructor must focus on four elements to ensure learning. The first element is motivation. Lieb (1991) says an instructor should: “set a feeling or tone for the lesson, set appropriate levels of concern, and set an appropriate level of difficulty.” Students also prefer some type of feedback in their learning, whether it is negative or positive. Reinforcement also needs to be used in adult learning, not only negative reinforcement but positive as well. The third factor Lieb (1991) lists for instructors, is the idea of retention. “Students must retain information from classes in order to benefit from the learning.” In order for retention to occur, the student must know why they are learning and how it can be applied. The last factor of adult learning is transference. “Transference is the transfer of learning, is the result of training; it is the ability to use the information taught in a course but in a new setting” (Lieb, 1991).

 There are numerous theories on how adults learn. Malcolm Knowles’s theory of andragogy has already been mentioned, and as Knowles states: “there are a number of assumptions about the adult learner” (Merriam, Caffarella, & Baumgartner, 2007, p.84). McClusky’s theory of margin is also important in whether a student learns and participates. According to the theory “margin in life is the ratio of load to power (load is the self and social demands; power is the resources)” (Hiemstra, 2002). A summary of the theory presented by R. Himestra (2002) suggests that:

 The theory was relevant for understanding adult lives, especially as they aged and

 various demands and pressures increased. Howard believed that being an adult

 means facing continuous growth, change and integration, in which constant

effort must be made to use energy available for meeting normal living responsibilities.

Erikson’s and Levinson’s theories also affect adult learning. Erikson stated that human’s progress through eight stages of development; “at each stage, there is a choice between opposites, one negative and the other positive” (Merriam, Caffarella, & Baumgartner, 2007, p.306). Erikson states that a person must choose the positive in order to move to the next stage. The theory is important in adult learning because if a student has not progressed past a stage, this conflict can cause a lack of motivation, participation, and may also increase the barriers to learning internally. Levinson provides an age-graded model of development. The theory states that “people evolve through an orderly sequence of stable and transitional periods that correlate with chronological age” (Merriam, Caffarella, & Baumgarnter, 2007, p.307). Adults will learn better during stable time periods in their lives, and will not learn during times of instability and in periods of transition.

 Adults learn in many different ways, and are also influence by external and internal factors. Teaching adults differs dramatically from teaching children, and these differences must be taken into account when facilitating a class. The different theories or adult learning along with the different theories of development allow educators to form a personal theory of adult learning, a theory that allows teachers to teach, and students to learn.

Question Three: Age Related Changes

 There are many differences between how children and adults learn. Many of the differences that occur are based on age. Not only do adults differ from children, but the differences can be seen between young adults and older adults. The changes that occur because of age include: biological, intellectual, cognitive and psychosocial or socio-cultural differences. Educators must recognize these differences in the adult learner in order to motivate and include the students into the lessons.

 Biological changes can affect how the student learns. Biological changes that are age related include: speed, reaction time, visual and auditory acuity, and even how they function intellectually. Instructors need to modify the classroom or learning environment to compensate for these changes. Disease can also affect learning, but many of these changes do not hamper learning until later adulthood. The question of why these changes occur has been theorized in different ways. One theory talks about the breakdown of cells within the body. Merriam, Caffarella and Baumgartner state that “cellular damage occurs during the normal metabolism of oxygen and this cellular damage builds up with age” (Merriam, Caffarella, & Baumgartner, 2007, p.300). Some believe that as a person ages the cells are unable to repair themselves, which causes the breakdown. Another theory suggests that “primary aging is related to how many calories we metabolize per day” (Merriam, Caffarella, & Baumgartner, 2007, p.300). Some changes biologically can be influenced not just internally but influenced by environmental factors such as: exposure to chemicals, noise, and occupational hazards. Merriam, Caffarella and Baumgarnter also suggest that biological changes are also influenced by race and gender. Certain individuals are prone to certain diseases and also have greater opportunities for health care (Merriam, Caffarella, & Baumgartner, 2007, p.301).

 Instructors need to take these biological changes into account when teaching classes. If the population of the class tends to be older, a teacher must make sure that everyone can hear him or her during a lecture. Because of loss of hearing and a slower reaction time, the instructor may have to slow down the lecture, or may have to allow students to record the lecture. For teachers who write on boards, including Smart Boards, the instructor must make sure that the lettering is large enough to read by those who might be losing their vision. If a teacher does not take these factors into account, and the student cannot hear, see or react to the material, the student will ultimately become frustrated, motivation to learn will cease, and the student may drop the course; something that reflects onto the teacher. Biologically, the central nervous system is also affected by age. The central nervous system consists of the brain and the spinal cord. Merriam, Caffarella and Baumgartner suggest it is not just the dying of cells in the brain that causes difficulties, but that “aging is a complex phenomenon characterized by reorganizing, optimization and enduring functional plasticity that can enable the maintenance of a productive and happy life” (Merriam, Caffarella, & Baumgartner, 2007, p.304). Since brain cells do die, those left “increase their connections” (Merriam, Caffarella, & Baumgartner, 2007, p.304) so intellect and function to remain. However, because these cells are in essence working harder, there are some changes in reaction time and cognition.

 Psychological changes also occur as individuals get older. The psychological model of aging “explores the internal experiences of the individual” (Merriam, Caffarella, & Baumgartner, 2007, p.355). Two theorists who provide for this model are Erikson and Levinson. Erikson believed in a hierarchy of stages that an individual must pass through. Each stage consists of a “series of crises or issues that need to be dealt with” (Merriam, Caffarella, & Baumgartner, 2007, p.306). Erikson’s model does not have to be correlated with a particular age. Levinson also used a stage model, but did incorporate age. Levinson stated “people evolve through an orderly sequence of stable and transitional periods that correlate with chronological age” (Merriam, Caffarella, & Baumgartner, 2007, p. 307). Teachers need to know these two theories so they can provide learning activities that are not only based on their chronological age but also where they are in the stages of development. Merriam, Caffarella and Baumgartner (2007) sum up why educators need to know these models. “Educators need to encourage students to examine their assumptions, and facilitate critical reflection on these assumptions. Through mentoring and learning activities…teachers can achieve this transformation” (p.312).

 Socio-cultural factors also influence adult learning. This model illustrates how social factors can affect development and learning. Factors such as: age, gender, and socioeconomic status determine how the student learns. Social roles are factors that also determine development. As we progress in adulthood, the roles also change. A single man is labeled a bachelor, than as a spouse once he is married, and as a father once a child is born. Merriam, Caffarella and Baumgartner state that these role changes “may be initiated by the individual or by others” (Merriam, Caffarella, & Baumgartner, 2007, p.313). As students there are certain roles that are taken, and as an educators another set of roles are taken. Kidd and Knox explored how social roles influence development. Kidd and Knox outlined that “not only the roles, but the competencies related to those roles” (Merriam, Caffarella, & Baumgartner, 2007, p.314) influence development. This is important for educators so they know who is in the class. Obviously if the class is predominately married individuals with children, the work load will have to be modified as compared to young, single individuals.

 How an adult thinks changes as he or she gets older. Cognitive development is defined as “how thinking patterns change over time” (Merriam, Caffarella, & Baumgartner, 2007, p.325). Jean Piaget is one theorist who created a model for cognitive development. Piaget suggested that individuals go through four stages of development. The stages are: sensory motor (age 0-2), preoperational (age 2-7), concrete operational (age 7-11) and formal (age 11-adulthood). It is the fourth stage that adult educators must focus on. In the formal operational stage, individuals develop the ability to use abstract reasoning, and are also able to draw conclusions from the material being presented. This means that the teacher does not have to “spoon feed” the information to the students, but must also recognize that students may see the material in a different way.

 William Perry is another theorist in the cognitive development discipline. Perry proposed nine positions that individuals move or progress through in development. Perry states that “each position is descriptive of individual cognitive growth” (Merriam, Caffarella, & Baumgartner, 2007, p.330). Perry’s positions are not just for the learners, but the educators as well. The positions describe how people view instructors’ roles and their own roles as learners. Perry’s model focuses on how students move “from a dualistic (right and wrong) to a relativistic view” (Merriam, Caffarella, & Baumgartner, 2007, p.330). A teacher who is familiar with Perry’s model, experiences the classes where the students write down every note and memorize every fact to pass the test, this is an example of the dualistic position. A teacher wants to get students to look at the bigger picture and have students relate the material.

 King and Kitchener are also theorists who proposed a stage type of model. King and Kitchener propose seven levels in their model. King and Kitchener focus on “how people make judgments about complex or ill-structured problems that cannot be defined with a high degree of completeness, and… cannot be solved with a high degree of certainty” (Merriam, Caffarella, & Baumgartner, 2007, p.332). Their model is very similar to William Perry’s model. The difference is that Perry “focuses on expanding his ideas using relativistic thinking in a responsible way. King and Kitchener use knowledge construction in their model” (Merriam, Caffarella, & Baumgartner, 2007, p.335). King and Kitchener differ from Piaget in the fact that in these seven stages, a person can be in more than one stage at the same time. Teachers can use this model to understand the learning process of the students, and can also use this model to create a lesson or curriculum in a way that allows the students to move at the higher stages.

 Dialectical thinking is the last theory to be explored in cognitive development. Dialectical thinking is the ability to view issues from varying points of view, and come to a logical conclusion. Basically, it is analytical reasoning. Dialectical thinking is thinking within more than one perspective, where opposing viewpoints are presented and debated. Teachers can include dialectical thinking into the class to spark debates, and have students view the other side of the issue. It is also important that teachers know this model since not every student will agree with the view of the instructor. Critical thinking is a major factor along with the support of the instructor to make dialectical thinking work in the classroom.

 Intelligence is the last factor influenced by the age of the student. The question over whether an intelligence decline with age is still be debated and researched. Intelligence seems to stay constant as a person ages. On standardized tests or intelligence quotient tests, older adults do not do as well as young adults. This trend however may not be due to a decrease in actual intelligence. As adults get older, they slow down and take their time, whether it is on tests or in real life situations. Older adults want to avoid making mistakes and are more cautious than younger students. Standardized tests are not only measure on correct answers, but also the number of questions answered in a particular time frame.

 As adults age, changes biologically, psychologically, and cognitively affect how the student learns. It is imperative that an educator be familiar with these changes, in order to provide an environment that is conducive to learning, and allows the student to feel safe to learn.

Question Five: Critical and Embodied Thinking

 Theories of adult learning have changed dramatically in the last decade. Some of these theories challenge the mainstream views of adult learning, but have also given greater insight into how an adult may learn. Two theories that will be focused on are embodied thinking and critical thinking.

 Embodied thinking can be best described as “learning through the body” (Merriam, Caffarella, & Baumgartner, 2007, p.190). Many of the theories in adult learning deal with the mind and the brain, and fail to suggest how the body is also needed for learning. One example of how the body is connected is presented by Merriam, Caffarella and Baumgartner: “the body communicates to us, whether it is a panic attack brought on by stress, a gut reaction, or an upset stomach caused by some emotion” (Merriam, Caffarella, & Baumgartner, 2007, p.190). Embodied thinking is not an alternative theory, but a theory that works in conjunction with the mind and with cognition. The theory also relies on the senses to gather information, not just using mental representations and abstract reasoning like the cognitive theories. An example of embodied thinking can be described when describing an automobile. Individuals do not just verbalize about the car, but by using senses describe how it looks, feels, sounds and even smells (the new car smell comes to mind).

 Emotion is also a key component in embodied thinking. Thinking and emotions are interconnected. When an individual becomes emotional, there are physiological changes in the body like heartbeat, breathing and skin response (Merriam, Caffarella, & Baumgartner, 2007). A polygraph relies on these changes in emotions and body to give the examiner the results if a person is lying or not. Some theorists however, reject the idea of the body being tied to cognitive theories. Goldenberg, Pyszazynsk, Greenberg and Soloman reject the theory of embodied thinking because “the body is a constant reminder of the inevitability of death” (Merriam, Caffarella, & Baumgartner, 2007, p.191).

 Embodied learning can also be linked to experiential learning, meaning learning from experiences. One theorist who gives a model to embodied thinking is Tara Amann. Amann suggests that there are four parts that make up embodied learning. First is kinesthetic which deals with the movement of the body. The second is sensory learning, which is how individuals use senses to gather information. The third component is the spiritual aspect which means that “learning is meaning-making through music, art, imagery, symbols and rituals and overlaps or intersects with the other three dimensions” (Merriam, Caffarella, & Baumgartner, 2007, p.195). Although embodied learning differs from many of the cognitive theories, it does share some things in common with transformative learning. Mezirow stated that transformative learning consists of ten steps. Mezirow also believed in “four main components: experience, critical reflection, reflective discourse and action” (Merriam, Caffarella, & Baumgartner, 2007, p.134). Like embodied thinking, experience plays a major role in transformative learning, but as Merriam, Caffarella and Baumgartner state on page 134: “just having experiences is not enough. The learner must critically self-examine the assumptions and beliefs that have structured how the experience has been interpreted” (2007). Embodied thinking and transformative thinking are also tied in the fourth component of action. Action can mean different things, it can mean making a decision mentally, or it can mean reacting with the body to the response, which is the main focus of embodied thinking.

 Knowles’s theory of andragogy emphasizes how adults need to take responsibility for their decisions, and that adults are self-directed when it comes to their learning. Students need to know why the material is being taught, the lessons need to be task-oriented, and that instruction should take into account the different backgrounds of the students. Using the theories of Jurgen Habermas, Paulo Friere and Jack Mezirow, critical theory challenges andragogy. According to Deborah Kilgore (2001) “critical theorists believe that knowledge is socially constructed and takes form in the eyes of the knower rather than being acquired from an existing reality that resides out there.” One major aspect of the critical thinking theory deals with how learning institutions become learning centers. Jurgen Habermas states that “while all institutions are educative not all are true learning communities. An institution whether family, corporation or state agency may be organized to block free and non-coerced learning processes” (Merriam, Caffarella, & Baumgartner, 2007, p.255). Critical theories purpose is to question whether institutions are allowing individuals to hit their full potential. Deborah Kilgore gives the definition of critical theory in learning as “reflecting on and challenging what we know and how we knew it and perhaps acting to change material and social conditions of oppressed people as well as the commonly held assumptions that reinforce their oppression” (Kilgore, 2001, p.53).

 Critical theory also implies that power is influential in learning. Welton proposed “the notion of the interplay between the life world (informal, everyday interactions of daily life) and the system (structures based on money and power) have an impact on the life world” (Merriam, Caffarella, & Baumgartner, 2007, p.256) meaning that power has the ability to oppress individuals, especially when it comes to critical thinking. Critical theorists see power as a commodity, where power can free a person from being in the group, to being a free thinking person. Brookfield is another theorist who proposed ideas for the critical thinking theory. Brookfield proposed that “critical theory should have at its core an understanding of how adults learn to recognize the predominance of ideology in their everyday thoughts and actions and in the institutions of society” (Merriam, Caffarella, & Baumgartner, 2007, p.257). Brookfield also proposed seven tasks associated with critical thinking: 1.Challenge ideology 2. Contest hegemony (accept an unjust social order) 3. Unmask power 4. Overcome alienation 5. Learn liberation 6. Reclaim reason 7. Practice democracy.

With any of the theories of critical thinking the problem or drawback is that the theories suggest that individuals discover learning and knowledge, but have no impact on shaping that learning or knowledge.

 How does critical thinking tie with transformative learning? Mezirow’s theory of transformation draws heavily from Jurgen Habermas. Habermas was one of the theorists to propose a critical thinking model; so many factors of these two models are shared. By making students think critically about the material or the society around them, if students see an unfair balance of power, or oppression of others, it is sensible that the students will want to transform these factors either for the good of themselves, or the good of others.

 Teachers can no longer just lecture and assume that the students are learning. Students must be introduced to active learning. Teachers need students to think independently which is what is at the heart of critical theory. In order to achieve this independent thinking, teachers can have students write critically in a journal, where they use what they have learned and reflect on the material. The questions for the journal will tend to be opinion based where a student must take a stance on an issue.

 Teachers tend to use the same methods for educating students year after year. Most teachers fall back on lecturing because it is the easiest tool to use. By incorporating the theories of embodied and critical thinking, the learner is included in the lessons, and is more likely to continue with the course, and will also participate. Using critical thinking allows the classroom to become an environment where students are expressive and democratic, and the when this occurs the school loses some of its power. Once power is lost, students are no longer “oppressed” and have a say in their learning. Embodied thinking allows students to use movement to express ideas and thoughts, which also allows the “oppressive school” to lose power, which in turn motivates and incorporates the students.