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Peer-Reviewed Article

## **Stratified Development of Knowledge Learning Model: Adult Learning and Curriculum Development**

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**Abstract:** Adult learning has become a major part of education in the last fifty years. Changes in technology, society, and learning modalities mean challenges that academia and curriculum development struggle to meet. Furthermore, the change in student demographics and motivations mean the original attempts to model learning must be reviewed. Now is the time to look more deeply into how adults learn in the current multi-technological venues of higher education. Proposing a learning model that meets the needs of these challenges and changing modalities is now an imperative. Proposal of a new learning model is not done easily or without significant forethought. The Stratified Development of Knowledge Learning Model seeks to identify learning behaviors, recognize behaviors and propose a model that will increase students who meet program outcomes. Time alone will drive the efficacy and pertinence of the model though the conversation starts now.

**Keywords:** learning model, adult learning

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This conversation is the first of what should be many articles that are designed to open the discussion of adult learning and the current models describing curriculum development. Historically, the discussion has been influenced by psychologists, behaviorist, educationists and many other disciplines. However, today we have unique opportunities to consolidate information and access a plethora of thought on any adult learning.

Understanding learning is the basis of all life. All humans are life-long learners in one form or another. From birth until death our knowledge increases based on our life experience and search for knowledge. Historically, learning has been defined by environment, culture, and society (Bastable, 2003). Thus, learning is the foundation for all our activities (Bastable).

How adults learn, how adults assimilate information, and how adults strategize learning is part of every aspect of life. Strategies for learning are often dictated by the developmental stages of life. Jung, Freud, and others have sought to define the developmental model through modeling of stages (Mitchel, n.d.). Barbuto (2000) discussed the historical importance of understanding learning from the student perspective. How we learn, what strategies adults use to learn, and the developmental stages where adults exist when the learning occurs all have an impact on the success of the learning (Bastable, 2003). Learners are also influenced by the environment, conditions when learning and even the organic nature of the learner. Influences such as sitting or standing, blood sugar, health status, and Maslow's Hierarchy of Needs stages will affect the results of learning.

Learning domains define the learning process by narrowing the characteristics of the learner, motivational components, environmental aspects, and even organic components of the learner. While each of the learning domains that have gained popularity in recent years contributes to the learning process none have included all aspects of learning that represent how knowledge is assimilated successfully. Complicating the search for successful learning theory is the interactive nature of all learning. No one domain successfully addresses all aspects of learning. Learning does not exist in a vacuum. Influences on learning can change from lesson to lesson, day to day, and even from moment to moment. Distraction is also an increasingly influential component of learning (Mitchel, n.d.). The ability to access multi-levels of attention gaining activities changes how learners assimilate information and when the learning stays with the learner.

There is growing indication that adults learn by specific methodology that meets the adult need (Gruss, et.al, 2010). Adults choose to learn and apply information according to unique qualities experienced by each learner. There is a growing understanding that providing information when the learner is ready, able, and willing to uptake knowledge produces an increasingly successful outcome. The goal of many learning models is to recognize when this optimal conjoining of situations occurs and apply the learning appropriately. However, since this is unique to each learner, curriculum must seek to address the needs of individuals rather than a mass class presentation approach. Understanding the nature of adult learning, adult motivations, and the structure of adult learning can drive curriculum that provides successful student outcomes. Proposing a learning theory model that builds on components of unique adult learning will increase knowledge and improve adult learning.

Whenever a new model is proposed there are several things that must occur. Perhaps the most profound is simply a test over time. Therefore, any understanding of the efficacy of a learning model must be tested over and over. In recent years, the most significant contributions to adult learning models relate to our increasingly high tech world (Mitchel, n.d.). Recent models seek to identify how adult learners thrive in an online environment. While significant and certainly appropriate to our current modes of education, there is still a lack of understanding regarding how adult learners really learn.

In this discussion, new and pertinent models will be put forth in an effort to open the conversation about adult learning in all environments that meets the needs of our current environment. Introducing a new model of any theory is a difficult task. Putting forth new model in learning and curriculum development is monumental in its audacity. However, in the current environment of learning a new model is desperately needed to meet the colossal change taking place in education. The following model is proposed for review and discussion. The hope is to bring forth all the challenges and meet thus producing students who meet the outcomes of any education venture.

The Stratified Development of Knowledge Learning Model (SDKLM) will test the efficacy of layering information into a curriculum. Testing the model will use many learners over long periods of time. The concept of repeated exposure to information as meritorious in many domains of learning is the foundation of SDKLM. In the adult learner exposure and re-exposure to information is often dependent on the receptivity of the learner. The personal experiences

since last exposure to the information and motivational qualities of understanding the information at a higher level influence the success of applicability. Often the 'why' is a key component of learning retention motivation in the adult learner. SDKLM recognizes the unique qualities of the individual learner. The SDKLM takes advantage of the individual learner motivation and seeks to build on all learning over time, exposure, and experience expansion.

### **Understanding the Adult Learner**

Adult learners bring unique and ever changing characteristics to learning. The learner has interactive components that drive the ability to assimilate information on an ever-changing landscape. Developing a learning theory and construct that addresses this new learner has driven the quest to understand the learner and then revisit the way information is imparted. Stratified Development of Knowledge Learning Model builds on the concept that each person learns in any given developmental stage. This learning can vary from learner to learner. Historically, learning is shown to vary within a given student depending on many factors. (Minasian-Batmanian, 2002). Developmental stages play an important role in the assimilation and applicability of learning. Developmental stages can be described as the place at which a person resides intellectually during a given learning experience (Jung, n.d.). Stratified Development of Knowledge Learning Model uses developmental components of the learner to improve knowledge uptake and applicability. Repeated exposure to information increases the likelihood of learner exposure at the optimum time for assimilating information. Why stratified learning? Because reaching students for successful outcomes has become the driving influence of education. Therefore, curriculum must present outcomes, address outcomes, and then prove the outcomes have been met. This mandate would imply that curriculum must provide the learning and then the student is the receiver. Less and less there is an onus on the student to learn and more for the curriculum to provide learning. Meeting this changing dynamic begs for a new model that will meet the expectation.

#### **Developmental Stages**

Jung's developmental stages contributed to Kegan's refinement of a developmental learning model. Kegan's (1982) Developmental Model shows the importance of assessing the stages of the learners in the learning process. In this model the different stages are: incorporative or the very basic stage which depends on reflexes and sensorimotor orientation; impulsive a stage in which action and reaction are based on pleasure or pain; imperial being the stage in which egocentric responses drive learning; interpersonal where relations with fellow students motivate learning; institutional in which the student is more self-motivated and self-identity and ideology figure prominently in the learning process; and finally inter-individual in which the student is self-motivated and generally an autonomous learner (Kegan). For some time now this model has been recognized as the definitive developmental descriptor of learning. Kegan fails to recognize the organic nature of learning. Kegan recognizes each learner is unique however, there seems little understanding that the information should be presented when the student is able to assimilate the information. Instead, Kegan asks the educator to find the place the student exists at and adjust the learning. This model no longer addresses the asynchronous environment of online learning.

Current theorists seek to apply developmental theory to inform learning models. Scandura, Kegan and others have developed models that attempt to reflect current educational challenges including online delivery of knowledge at different stages of learning. Specific mobile technology theories recognize the unique challenges of education in the twenty-first century. Curriculum development attempts include these concepts to improve learner uptake of knowledge and ultimately applicability of the information. The current milieu influencing learning adds to the complexity of developing a model which addresses the real outcome of learner success.

### **Influencing Milieu on Learning**

Over the last two-hundred years the milieu of learning has changed dramatically. In the late eighteenth century learning was often seen as siloed to the wealthy and religious. Information was conveyed to the masses through channels that were narrow and specific to the leadership of the time. As our world milieu changed and growing technological achievements influenced the nineteenth century there was increasing access to knowledge by the masses. The mass printing process was an important influence on the growing trend to educate everyone.

In the early twentieth century learning culture remained knowledge siloed in most of the world. Yet the European and North American model was changing. With every decade, the culture changed until post World War II academia recognized the importance of both basic education and higher education. With the onset of mass education educators sought to identify models that successfully educated the largest number of learners. Freud, Gestalt, Jung, and others, even Maslow, developed emotional and psychological theories that seemed to contribute to modeling learning.

Freud's psychoanalysis identified barriers to learning and assimilation of any behavior including learning. Freud identified the ability of humans to exist on multiple cognitive levels that were both present and reticent. Freud proposed psychological conditions that identify important factors in the uptake of knowledge. Freud recognized the importance of healthy ego to the successful human condition. This led educators to review how the sub-conscious influenced learning. Swiftly the ego factor became a part of learning models. Models recognized how ego in all states changed how learners assimilated information.

Gestalt sought to identify assimilation of behavior in a chaotic environment. Gestalt helped learning models recognize the environmental chaos that both enhances and limits learning. In many ways, Gestalt more nearly identified the numerous influences of learning than other psychologists. However, Gestalt also failed, in many ways, to consider the ability of humans to overcome the limitations of chaos and use the situation to advance learning. Gestalt and fellow proponents of Gestalt Theory often saw the learner in a static rather than kinetic environment. Gestalt theory application provide valuable information thought seemingly with a one-dimensional quality.

Jung recognized the stages of development over time that would change how all educators viewed learning. Jung identified the limitations of learning at different ages and stages of human life. Initially, this was not the intent of Jungian research. Still, the result of his work

provided information that drove curriculum development and learning for most of the last half of the twentieth century. Identifying these stages revealed learning behaviors which stunned the educational world. Educators revised learning to meet the stages of the human dynamic. Jung's developmental stages do not exist in a predictable pattern, though, and assuming all humans followed the same stage developmental failed to meet the learning needs of many.

Adding Maslow's Hierarchy to the learning model helped to fill gaps in the theories proposed by Freud, Gestalt and Jung. Maslow recognized the influence of human need on the human condition including learning. Learning motivation is influenced by an enormous number of factors including the ability of the human to uptake the information based on the state of need. Historically, many human needs were at the most basic level over two-hundred years ago. Learners were focused on survival. As the human condition improved through changes in society, affluence, and technology learning changed. As human needs became more advanced and less basic, higher education and pursuits of knowledge took center stage in society.

Changing milieu of learning is only on part of how learning and learning models changed education. Educators have always sought to use the learner as the model. The learner is the key motivation for education, however, the entire model is not centered on the learner. Instead, learning exists in an interactive web of influences that are difficult to conceptualize since the threads of the web are ever changing. Even the organic nature of the learner influences the ability to uptake knowledge for applicability.

### **Organic Motivation to Learning**

Further compounding the complication of identifying how learners gain knowledge is the concept that cause and effect influence knowledge uptake. For centuries, the positive/negative behavior change is recognized as valid learning modality. In recent years, the positive/positive methodology has gained a great following based on successes with training animals. E. R. Guthrie as quoted in This & Lippit (1979) proposed the S-R Contiguity Theory in which stimulus was identified as a factor in learning. For example, if one is in a sitting posture when learning the information then recall is best done while sitting. Situational experiences contribute to knowledge retention. The concept that negative shock influence can imprint knowledge in easily retrievable portions of memory has merit. In strict memorization, the idea of slapping a table loudly while stating the required learning will increase recall over long periods of times even years. Conversely, positive reinforcement will accomplish a similar goal though perhaps not as dramatically.

### **Learning Domains**

Historically there are six learning domains. They consist of Behaviorist, Functionalist, Gestalt, Freudian, Mathematical models, Current learning theories (This & Lippit, 1979). Unfortunately, each of these domains have an interactive nature where sub-domains and specific learning theories intertwine through more than one school of thought. For example, the mathematical school seems to focus on concepts of concrete measurement without taking into consideration the organic nature of the learner. While learning domains remain vital to curriculum development there must be a model that allows each domain to exist in the time and

place appropriate for the learning. Further, the learning must occur allowing the domains to transcend each other and work interactively. Thus, the SKDLM seeks to include all learning domains and not silo learning into one at a time.

### **Learner Characteristics**

The characteristics of a learner have an impact on their ability to retain the learning (Dix & Hughes, 2004). Furthermore, each learner can be said to have a unique learning style. In this particular learning scenario, the characteristics of the learners come in a wide variety of variables. In addition to the general characteristics of age, sex, motivation, personality intelligence, experience, and learning style; the students can have very different educational backgrounds from Masters level participants to those who have not finished high school. With such a varied group of students the instructor/student relationship can also vary in its characteristics. Students who exhibit adult learning characteristics usually have a peer like relationship with the instructor while students who have more traditional characteristics exhibit more traditional relationships with their instructors (Ross-Gordon, 2003). Since each of these characteristics has an influence on what the student learns and how they have learned, the approach the instructor takes must include methods that will address as many of these characteristics as is reasonably possible (Dix & Hughes).

A key component of the development of SDKLM is understanding the role of learner readiness to uptake and assimilation of information. According to Waldman, Glover and King (1999) "...readiness to learn is about a transition to a somewhat complex and overlapping set of expectations for professional development..." (p. 221). Since each learner comes to the orientation program at a different level of readiness it is important to be sure the teaching strategies utilized are developed so that the objectives will meet this varied group of people at every session.

### **The Learner and Learner Theory**

Scandura Structural Learning Theory. Theoretical approaches to learning and the learner provide insight into how the process works and assist in developing ways to increase the effectiveness of the learning (Ross-Gordon, 2003). Here there will be an in-depth evaluation of one learning theory, however there are many learning theories that thoroughly evaluate and interpret the importance of learning theory to the learner.

According to Merriam (2001) as quoted in Ross-Gordon (2003) Malcolm Knowles was one of the foremost authorities on the concepts of adult learning theory. Knowles initially applied four principles and later with the help of his colleagues a fifth to the theory of adult learning. These principles are regarding the concept of the learner, regarding the role of the learner's experience, regarding readiness to learn, orientation to learning, and finally regarding motivation to learn.

- Regarding the concept of the Learner- in this principle adults are responsible for making the day to day decisions in their lives and frequently these decisions influence directly or indirectly the lives of others

- Regarding the Role of the Learner's Experience- here the learner brings a huge storehouse of experience to the learning process
- Regarding Readiness to Learn- adults come to the learning process ready to learn especially if they have determined their educational direction
- Orientation to Learning- because the adult learner frequently comes to the learning process with a pre-developed plan for use of the education they also bring experience and information about the subjects to be learned
- Regarding Motivation to Learn- in this principle the theory states that the adult learner may respond to external motivations but is driven by potent internal motivators (Ross-Gordon, 2003).
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Each of these principles applies to the adult learner's concepts applies to adult learners but none are a standalone model of how students and adult learners in particular uptake information and assimilate the information into behavior. When the students are predominantly adults many have already experienced different levels of the learning process and perhaps different levels of the information (Kearsley, n.d.) . The adults are nearly all responsible for the day to day decisions in their lives since many live independently or in family groups in which they figure as part of the leadership. Most of the adult learners bring a plethora of experiences to the learning. Because many are seeking new job roles, the learners are generally excited and anxious to do well and succeed. Many are experiencing higher education for the first time, however, a large number have already experienced higher learning in some form or another. Furthermore, because most education is preparing the student for a specific job role much of what they are taught is associated with their new job. When the student can see a correlation between the learning and the role sought there is likely to be an increase in attention to learning (Dix & Hughes, 2004). Finally, the learner's motivation to learn is internally driven by the requirement to attend and most of the educational requirements of obtaining the knowledge. Incorporating these principles in conjunction with the developmental stages previously discussed will help to increase the effectiveness of and curriculum but still the quest for an understanding of how best to craft the curriculum and thus meet the needs of the most adult learners.

### **Stratified Knowledge Development Learning Model**

The Stratified Knowledge Development Learning Model (SKDLM) is a unique adult learning model that seeks to describe adult learning by recognizing how adult learners assimilate knowledge. Consistency of knowledge through curriculum SKDLM is in the empirical stage of model development. Adult learners utilize value added methodology for learning. To do that adult learners often need multiple exposures to knowledge to integrate information into behavioral change. Over time recognizing the value of information increases the use of the information. The SKDLM recognizes and illuminates the importance of layering information throughout a curriculum to ensure mastery. In the SKDLM model curriculum builds on itself at higher and higher levels of integration incorporating information in aggregate. The building of information resembles the stratified nature of layering earth which can ultimately end by building a mountain. The same accomplishment is apparent for knowledge integration and mastery in the initial stages of empirical data collection for the SKDLM. The data is revealing that adult learners layer information in a clear line of building for integration and mastery of knowledge that is recognized as having value. How do we improve online curriculum using

SDKLM? The graphic representation shown in Figure 1 shows how layering can build something more than the sum of the parts. A person built this layer of rocks. The goal of the structure is not specifically known though it could have been to mark a trail, or an occurrence at that site, perhaps a warning. Something that imparts knowledge. Curriculum development can do the same thing. By building and layering information throughout carefully developed information exposure, there will be an increase the assimilation information into a learner's outcomes.



Permission retrieved at: <http://cocoasmiles.com/2014/04/08/stacking-rocks/>

Figure 1: Graphic representation of layering with intention.

### **Conclusion**

When developing a curriculum, the characteristics, developmental stages, learning theory, and learner readiness are all used to develop a plan of action that is appropriate to the student's needs. The ongoing discussion started here represents an attempt to clarify and drive curriculum into a successful construct for imparting information through learner characteristics and needs. Any instructor that designs a program without these considerations is less likely to impart information. Student's that take the time to sit and learn deserve an instructor that takes the time to teach on a solid foundation. With these principles that foundation will not only be strong it will be effective.

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