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**A Synthesized Model for Integrating Principles of Adult Learning in the Higher Education Classroom**

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**Abstract**

The work of adult educators such as Lindeman (1961), Kolb (1974), Knowles (1980), and Caffarella (2002) indicated the needs of the adult learner that should be considered when planning educational activities. Similarly, principles of what should occur in the higher education classroom were identified in the work of Bloom (1956), Fink (2003), and Bain (2004). This research sought to synthesize these two areas of study with the intent of establishing a model by which principles of adult education can be effectively integrated into the higher education classroom. Bloom's Taxonomy and Kolb's model were purposefully selected as pinnacle models in the areas of classroom teaching and adult education respectively. These models were synthesized into a new model that is designed to effectively implement principles of adult education in the higher education classroom while taking the needs of non-adult learners into consideration. The model was tested to verify its effectiveness in community college and regional university settings, which included both graduate and undergraduate courses. Results indicated the model was effective in teaching adult students while also accommodating non-adult students.

**Keywords:** Higher education, college classroom, adult learning, new model

**Introduction and Background**

The percentage of adult students enrolled in higher education increased 43% between 2000 and 2009 with a projected 23% increase between 2010 and 2019. This growth in adult students who are age 25 or older is greater than that of younger students (National Center for Educational Statistics, n.d.). Research in adult education suggests adult students are different from non-adult students, and as a result they need a different form of instruction. According to Knowles (1996), adult students learn best when they can take control of their learning and use prior experiences in their learning process. He described andragogy as the art and science of adult learning where the adult student directs his or her own learning and determines learning outcomes. In addition, Kolb (1981) devised a model learning circle to teach adults. He

believed adult students could achieve a higher level of thinking if they learned content by following a series of succinct steps.

According to Kasworm (2003a, p.3), "A nontraditional student is one who represents the status of age (typically defined as someone 25 years of age or older); the status of maturity and development complexity acquired through life responsibilities, perspectives, and financial independence, and the status of reasonable and often-competing set of adult roles reflecting in work, family, community, and college student commitments."

The adult learner is someone who has an independent self-concept and can direct his or her own learning (Knowles, Elwood, & Swanson, 2005). According to Knowles et al. (2005) adult students learn best when they are

actively involved in the learning process. Due to adult students managing other aspects of their lives, they are capable of assisting in planning their own learning. Knowles believed learners become more self-directed as they mature: "The psychological definition of adult is one who has achieved a self-concept of being in charge of his or her own decisions and living with the consequences" (Knowles, 1996, p. 255). Knowles et al. (2005) went on to define self-directed learning as "self-teaching, whereby learners are capable of taking control of the mechanics and techniques of teaching themselves a particular subject" (p. 185).

The concept of andragogy characterizes adult learners as individuals who are autonomous, free, and growth orientated. Knowles (1996) suggested the learning environment should support adult students by making them feel accepted, respected, and supported. In addition, adult students and the instructors should have a "spirit of mutuality" because they are joint inquirers (Merriam, 2001). The instructor should be viewed as a guide who is there to assist the students in their journey. If the instructor acts as a "boss" of learning, the students will struggle to learn.

Instructors using the principles of andragogy for adult learning will allow adult students to be self-directed. They will utilize life experiences of the adult students to enhance instruction and will provide information that can be immediately applied by the adult student. They will also understand that adult students are motivated by internal factors to engage in the learning process.

### **Statement of the Problem**

A challenge exists in identifying a practical model by which principles of

adult education can be implemented in the higher education classroom. Kasworm (2003a) includes "adults" as those who are 25 years of age or older. In higher education, adults may be present in any given classroom.

These individuals could have worked continuously through undergraduate and graduate degree programs or have returned to school in order to become better prepared for a future career. The mix of adult and traditional students in a given class creates a dilemma for the instructor with regard to establishing the proper instructional methodology that will challenge and motivate the adult learner.

Higher education has recognized this problem. For example, the state of Kentucky established the Kentucky Adult Learner Initiative (KALI) to prepare higher education within the state to accommodate the needs of the adult learner. One practical strategy used by KALI to address this issue was to host a state-wide workshop on adult learning.

Attendees at the conference represented a broad spectrum of institutions of higher education across the state. The guest leader of the workshop reviewed the core needs of the adult learner. However, the principles presented in the workshop did not state which teaching strategies might be appropriate in the higher education classroom or which strategies might not be appropriate. A gap exists between principles of adult education and their successful implementation in the higher education classroom.

### **Purpose of the Study**

This study seeks to identify an effective model to implement principles of adult education in the higher education classroom. Specifically,

literature will be reviewed that is related to adult education and its implementation in the higher education classroom. To achieve this, a review was conducted of the adult education model presented by Kolb (1974) and the classroom student learning model presented by Bloom (1956).

### **Potential Significance**

It is hoped the model generated as a result of this research will have an impact on adult education and higher education by establishing a methodology where principles of adult education can be effectively implemented in the higher education classroom. Rather than attempting to embrace all aspects of adult learning, the instructor in higher education will have a model that can be used to effectively teach both adult and non-adult students in his or her classroom.

### **Review of Literature**

Learning that takes place in higher education classrooms can have a unique impact on the adult learner. Kasworm (2003a) conducted 90 interviews among undergraduate adults age 30 and older in a qualitative study to explore “beliefs about their construction of knowledge in the classroom and the relationships between such knowledge and their adult roles outside the classroom” (p. 81). She found (1) the classroom was considered the defining collegiate context for learning, (2) adults viewed knowledge in relation to their adult responsibilities apart from school, and (3) an adult’s perception of the instructor impacts learning. She went on to identify five perspectives of adult learners:

1. Seek out behaviors and understandings to become a successful student
2. See college as necessary to achieving other goals (work, family, personal)
3. See college as something that they must endure
4. Able to connect academic and real-world knowledge
5. Found knowledge liberating

The term “classroom” has taken on a new meaning in recent years. Historically, the classroom was defined as a room with desks and a chalkboard on a college campus. Now the classroom has also evolved to a virtual environment where students are able to conduct coursework on a computer from the comfort of their home. Huang (2002) conducted a study on how to implement principles of constructivism in online learning for adults. She found there is a need to provide the following opportunities in online learning for adults:

1. Collaborative learning
2. Instructor should facilitate learning in a safe environment
3. Learning needs to apply to real life experiences
4. The learner needs to take ownership of the learning process
5. It needs to be a quality experience
6. This research is pertinent due to the migration of many courses and programs to online learning environments. Huang (2002) posed the value of this medium in meeting the challenges faced in providing a dynamic learning format.

It is important to understand the full scope of influences on adult learning in the classroom. Many of these influences come from within the classroom as demonstrated in previous studies, but there are also influences outside of the classroom that affect an adult's decision to engage and continue participation in higher education.

Kasworm (2003b) conducted a study where she sought to "provide an overview of adult student enrollment patterns, their participation motivators and their lifestyle differences from younger college students" (p. 3). She found 85% of adults entering higher education report they are enrolled for career reasons. Personal factors, such as divorce, also influence enrollment. Some adults are seeking new opportunities in "proactive life planning" (p. 6). Others are responding to life transitions. Key factors that were important in selecting a school were: (1) that it was readily accessible, (2) relevant to current life needs, (3) flexible in course scheduling, and (4) supportive of adult lifestyle commitments.

The findings of Kasworm's (2003b) study can be taken into account when considering how adult students are positioned within the context of their personal life situations. As adults, they are in a unique stage of life that is different from the traditional college student (ages 18 to 24). Influences that impact their daily lives may play a role in their engagement in and completion of an academic course of study.

Lundberg (2003) extended this dialogue to include how adult students manage barriers in life that may hinder success in higher education compared to younger students. Through a survey of 4,644 undergraduate students representing a broad spectrum of

institutions, she concluded there was a similarity between younger and older students in that interacting with others on campus and learning from peers facilitated the learning process. A key difference was older adults were better able to handle time limitations like working full time.

Adult students have a reservoir of life experiences that are rich resources for learning (Knowles et al., 2005). Adult students bring their unique learning characteristics to the learning situation (Huang, 2002). According to Kasworm (2003a), adult learners, when compared to younger learners, bring more complex and varied backgrounds of life experience and prior knowledge. "Adults have a broader base of experience to attach new ideas and skills and give them richer meaning" (Knowles, 1996, p. 256). "Learners are more likely to pay more attention to learning that fits with prior knowledge, schema, and, conversely, less attention to learning that does not fit" (Knowles et al., 2005, p. 191).

While Phillips (2005) researched active and passive techniques for teaching to different learning styles, Kolb (1981) discovered a teaching approach to meet different students' learning needs called an experiential learning model. Based on the research of Carl Jung's concept of personality types, the experiential learning model stimulates higher level learning by teaching to students' different learning styles. Kolb believed learning was conceived as a four-stage cycle.

The four-stage cycle of experiential learning involves the learner progressing through four steps to learn: First, Concrete Experience (CE); second, Reflective Observation (RO); third, Abstract Conceptualization (AC); and

Active Experimentation (AE). Each stage of the cycle requires the learner to think differently and apply new thinking to tasks for learning to take place (Kolb, 1981).

Kolb (1981) differed from Phillips (2005) on one passive learning strategy. Phillips believed teaching techniques like showing videos to students was passive and produced low-level learning. Kolb, on the other hand, believed videos could be used during the third step of the learning circle called Abstract Conceptualization. Kolb believed once students passed through the first two steps of the Experiential Learning Cycle (ELC) of Concrete Experience and Reflective Observation, videos provided students the opportunities to think about topics in different ways. Then, when the students use abstract thinking in the last stage of the ELC called Active Experimentation, higher-level learning occurred.

Fenwick (2000) pointed out individuals learn as a result of interacting with their environment: "Experience embraces reflective as well as kinesthetic activity, conscious and unconscious dynamics, and all manner of interactions among subjects, texts, and contexts" (p. 244). This spectrum of experience provided the backdrop against which she identified five categories of experiential learning. She identified the perspectives as reflection (makes meaning from reflection on personal experience), interference (psychic conflicts between conscious and unconscious thought), participation (based on situations in which an individual participates), resistance (structures of dominance in relation to social relationships), and co-emergence (sensorimotor capacities).

Experiential learning is prevalent in literature related to MBA coursework. Herremans and Murch (2003) researched experiential learning to establish a methodology for teaching MBA students through the use of case studies and role playing. This methodology proved to be useful because it gave students the ability to gain experience and knowledge through activity rather than absorb information through an instructor-led course. A criticism of MBA programs is they provide a great deal of academic knowledge without technical skill. This study was a step in bridging that gap. Herremans and Murch concluded through "this approach and its incorporation of guided practice and experience with follow-up and learning, perhaps we can provide a solid grounding for establishing educational programs that are living and sustainable" (p. 81).

Li, Greenberg, and Nicholls (2007) went one step further by examining a marketing course taught from a purely experiential perspective. They surveyed 588 MBA students asking them to rate the experiential course compared to traditional lecture-style courses. The survey focused questions in the areas of career preparation, educational goals, use of time, involvement, and satisfaction. Paired sample t-tests indicated there was a significant difference between the experiential course and a traditional lecture-style course. Students perceived the experiential style of learning as better than the use of lecture.

Wittmer (2004) explored experiential learning by surveying scholarly literature to identify ways community service is integrated into the MBA curriculum. His study reviewed the results of a community service

requirement that was part of the “Values in Action” course that is part of the core MBA curriculum at the University of Denver’s Daniels College of Business. An assumption that was made in requiring community service as a component of the educational process was “development and change is best achieved through action or experiential learning” (p. 364). Students reported it was a positive experience. The community service requirement may also increase the likelihood of commitment to future community service.

The business school at the University of Northern Iowa utilized experiential learning in an effort to integrate communications in the curriculum (Cyphert, 2002). Rather than complete random assignments to develop communication skills, MBA students engaged in a capstone course where they worked on a team consulting project with a local business. Students delivered written and oral presentations to faculty and the client at the end of the course. The experience of working through the project and compiling the report for the presentation at the end of the class was designed to provide a more fertile learning opportunity for students in the area of communications. After studying the results of this class design over two years, it was found integrating communication into the curriculum was achievable and students were able to take advantage of primary interests and abilities in completing the project.

BizEd (2008) reported on a crisis management exercise held at the Ross School of Business at the University of Michigan. Students were placed in a role-playing situation where they acted out leadership behavior in response to their fictitious pharmaceutical company

being tied to a product safety issue that threatened the public.

This review of literature establishes a backdrop against which the current research can be viewed. Adult education in higher education has been an identified issue and work is being done to address it in numerous environments. However, the current research presented here establishes a model that can be used in higher education as a standard tool to address the needs of the adult student while not sacrificing the needs of the non-adult student.

### **Methodology**

The methodology employed in this research included the review of archival data and the conduction of a comparative analysis of two educational models. The review of archival data included the investigation and identification of appropriate educational models in the fields of adult education and higher education. Comparative analysis (Patton, 2002) was utilized to investigate the two models that were selected.

**Research Questions.** This research sought to answer two questions regarding the integration of adult education principles in the higher education classrooms. They are as follows:

1. What models are available that can be used to understand both adult education principles and what should occur in the higher education classroom?
2. Can a model be developed that provides the instructor in higher education with a method to integrate principles of adult education into the classroom

where both adult and non-adult students are present?

**Data Collection.** The data collected included the themes that were identified in the two models selected for the purpose of comparison. The Bloom (1956) Model included themes of knowledge, comprehension, application, analysis, synthesis, and evaluation while the Kolb (1974) Model included the themes of experience, reflection, concept, and experiment.

**Analysis of Data.** The Bloom (1956) and Kolb (1974) models were analyzed using the process of comparative analysis (Patton, 2002). Comparative analysis is “the central analytical approach in one of the major schools of qualitative inquiry, that being Grounded Theory. Comparisons can be important in illuminating differences between programs and evaluation” (p. 56).

### Research Findings and Analysis

#### Bloom’s Taxonomy

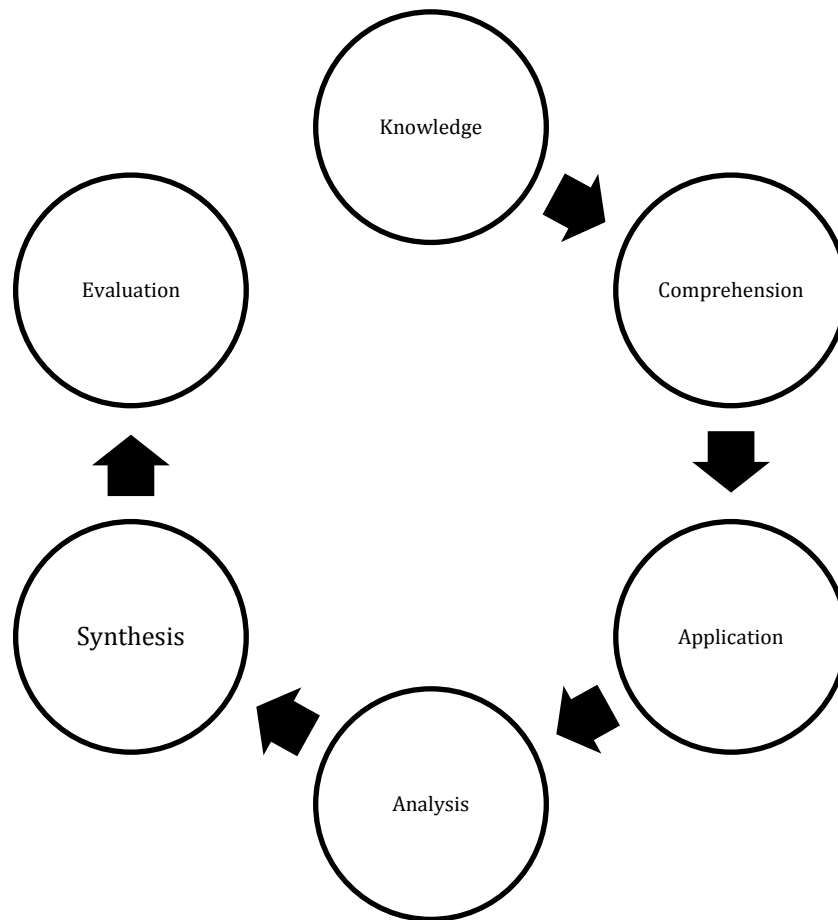
Bloom (1956) presented the classroom learning process as a developmental process that occurs through six stages. These stages are:

1. Knowledge – Knowledge refers to “those behaviors and test situations which emphasize the remembering, either by recognition or recall, of ideas, material, or phenomena” (Bloom, 1956, p.62).

2. Comprehension – Comprehension is “when students are confronted with a communication, they are expected to know what is being communicated and to be able to make some use of the material or ideas contained in it” (Bloom, 1956, p. 89).
3. Application – Application is the ability to select the right implementation of an item “without having to be shown how to use it in that situation” (Bloom, 1956, p. 120).
4. Analysis – Analysis is “the breakdown of the material into its constituent parts and detection of the relationships of the parts and of the way they are organized” (Bloom, 1956, p. 144).
5. Synthesis – Synthesis is “the putting together of elements and parts so as to form a whole” (Bloom, 1956, p. 162).
6. Evaluation – Evaluation is “the use of criteria as well as standards for appraising the extent to which particulars are accurate, effective, economical, or satisfying” (Bloom, 1956, p. 185).

Though often presented graphically in the form of a pyramid in which knowledge is the base, it can also be depicted as cycle that originates with knowledge:



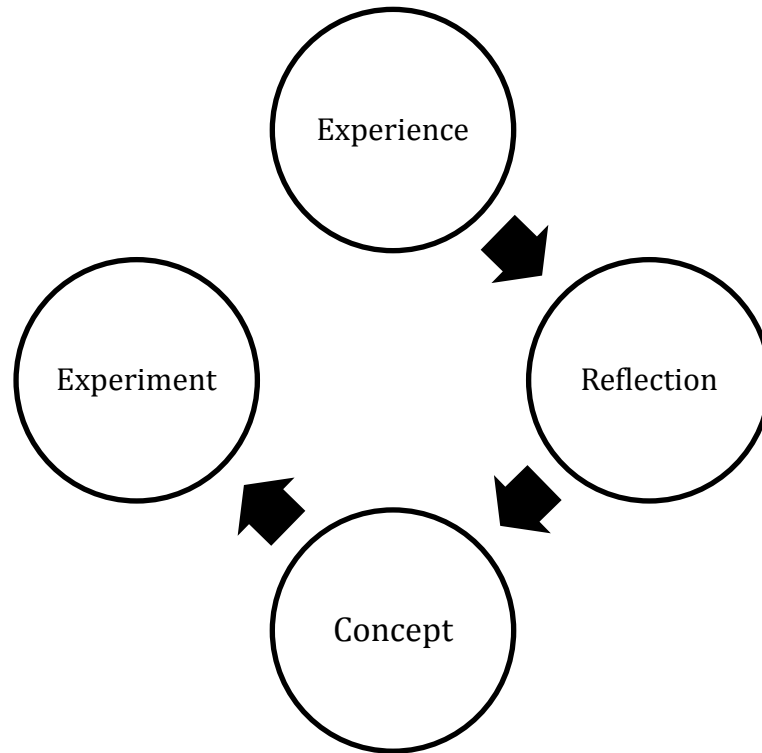
**Figure 1: Bloom's Taxonomy**

This model is designed as a hierarchy in which the initial stage must be mastered and then the student can progress to the next stage. Bloom (1956, p. 120) stated, “The application follows this [hierarchy] rule in that to apply something requires “Comprehension” of the method, theory, principle, or abstraction applied.”

### **Kolb and Adult Learning**

Kolb (1974) described adult learning from the perspective of “how experience is translated into concepts which in turn are used as guides in the choice of new experiences” (p. 28). He believed this process occurred in four stages:

1. Experience – Concrete experience is the new experience that can initiate the learning process
2. Reflection – Reflective observation occurs on the experience from “numerous perspectives”
3. Concept – Abstract conceptualization brings reflection into “logically sound theories”
4. Experiment – Active experimentation occurs when the newly constructed theories are used to “make decisions and solve problems.”

**Figure 2: Kolb Model**

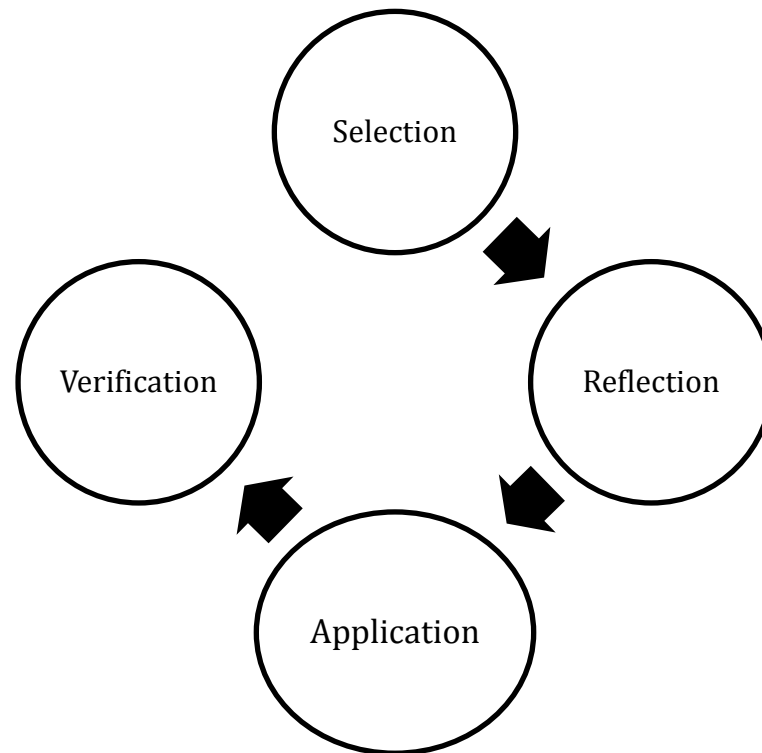
Similar to the Bloom Model (1956), the Kolb Model (1974) is also progressive in nature. The event of an experience leads to the ability to reflect on that experience and make meaning of it, develop a concept regarding the experience, and then experiment with the success of the developed concept.

### **Blended Model of Adult Learning in Higher Education**

Due to the active and dynamic nature of adult learning, as presented in the Kolb Model (1974), a challenge exists for the instructor in higher education to integrate the phases of the model while also attempting to address phases of the Bloom Model (1956)

which should occur in the classroom. For example, Kolb focused on experience as the catalyst for adult learning, but creating an environment in which experience can occur may vary among college instructors in different disciplines. Creating an experience may also be challenging due to the maturational levels among non-adult and adult students that exist in a given course.

A comparative analysis of the Bloom (1956) and Kolb (1974) models has led us to create a new blended model for integrating principles of adult education in the higher education classroom. This model is presented in the following form:

**Figure 3: Blended Model of Adult Learning in Higher Education**

**Selection.** The selection phase is based on the need for adults to have control over their learning (Kasworm, 2003a). On a macro level, adults exercise control of their learning through the selection of a course of study. However, selection can also be utilized in the classroom through the adult being given the opportunity to select an avenue to pursue a given project that is assigned in a course. Rather than assign a book to read, the instructor could provide options of different books for the adult learners to select. Therefore, the opportunity is provided for them to select a book that allows them to make meaning because it is relevant to their personal life circumstances.

This phase is consistent with the Bloom (1956) phases of knowledge and comprehension. The adult is able to exercise selection to further develop knowledge and comprehension on a

given topic through identifying a book that is perceived to have value in building upon past learning experiences. Selection is also consistent with the Kolb (1974) phase of experience in that the reading of the book is an experience in which the adult learner can build new knowledge. Selection places power in the hands of the adult learner to make a choice to enhance the experience through identifying a book which has meaning and value in relation to the students' previous and current life experiences.

Integrating selection into the classroom may also benefit non-adult learners who are present in the classroom. Though their life experiences might be more limited than those of the adult learner (Kasworm, 2003b), the phase of selection still provides them freedom of choice. Based on the maturational level of the non-adult

students, the instructor may need to be available to assist such students in the selection process. Though life experience can prove to be helpful in facilitating selection, it is not essential to the learning process for the non-adult learner due to the potential of being facilitated by the course instructor.

**Reflection.** Following the selection phase and engaging in the desired activity, the adult learner can utilize critical thinking to explore possibilities and reflect on what was experienced. Continuing the example of selecting a book to read, the adult learner can think critically about what the author presented and reflect on the application of the material in an actual situation.

This phase is consistent with the Bloom (1956) phases of analysis and synthesis. The process of critical thought and reflection allows the adult learner to exercise the ability to break down what was presented to determine the relationships between the various parts and to synthesize their relationship to the whole. This phase is also consistent with the Kolb (1974) phase of reflection in that the adult learner can engage in critical thinking regarding the learning experience.

Non-adult learners who may be present in a given classroom will not be hindered by the integration of reflection into the class experience due to their ability to also think critically and analyze a learning experience (Nosich, 2009). More assistance may need to be provided to them by the instructor in developing this skill.

**Application.** The adult learner can now identify ways in which the information learned can be applied. This is a critical phase because adult learners need to

know how the information applies in their life situations (Kasworm, 2003a). Meaning is made for the adult learner in light of application.

This is consistent with Bloom's (1956) phase of application where the adult learner can select the right application without being directed. It also goes beyond this narrow result in that the adult learner can build upon critical thought and reflection to identify varying applications of the material learned. It is also consistent with the Kolb (1974) concept phase in that the adult learner can develop and apply theories based on the information that has been learned.

Utilizing application in the classroom should not be disruptive to non-adult students. Though their life experiences might be more limited than those of adult learners, they can still draw on experiences they engaged in to determine how learned information can be applied.

**Verification.** The final phase is for the adult learner to confirm if the application meets the intended need through the process of verification. If the book selected by the adult learner was on the topic of leadership, verification might include evaluating the success of applied leadership strategies presented in the book. The adult learner will determine if the strategies were effective or if changes need to be made to ensure a positive outcome.

This phase is consistent with the Bloom (1956) phase of evaluation where the adult learner will determine if a favorable outcome has been achieved. It is also consistent with the Kolb (1974) experiment phase where the adult learner actively experiments and evaluates the

results to determine if what has been applied is appropriate for the situation.

The process of verification should not be disruptive for the non-adult learner. Life experiences, combined with previous education in the scientific method, should provide a sufficient foundation for the non-adult learner to appreciate the phase of verification in a wide variety of courses rather than simply accepting information as true.

### Testing the Model

The Blended Model of Adult Learning in Higher Education was tested in two environments to determine its effectiveness. The first environment was a southeastern regionally accredited public university. The model was implemented in three graduate courses that contained both adult and non-adult students. The second environment was a community college in the southeast. The model was implemented in three undergraduate courses that contained both adult and non-adult students. In both environments students were provided educational experiences that included each of the four elements of the model. For example, in one of the graduate courses students were given an assignment that required them to write a paper that allowed them the ability to:

1. Select a court case study that was of interest to them
2. Reflect on the court decision that was rendered through the use of critical thinking
3. Apply the information to a contemporary environment
4. Verify the reality of the implications through investigating other sources

Students were provided a survey at the close of each of the three graduate and three undergraduate courses to

measure their experience in the courses. With respect to each of the four components of the model, the survey sought to:

1. Verify opportunities were provided to the students to engage in each phase of the model
2. Determine if support was provided if needed
3. Determine if students liked engaging in each step in the model.

Data were coded so responses from non-adult students could be compared to those of adult students. The results of the comparison were:

1. The majority of students in both graduate and undergraduate courses confirmed each phase of the model was utilized within the classes
2. The majority of students in both graduate and undergraduate courses agreed support was provided if needed
3. The majority of students in both graduate and undergraduate courses liked engaging in each step of the model

Table 1 indicates the percentage of adults and non-adults who responded either “agree” or “strongly agree” to the survey items. When comparing between the adult (N=19) and non-adult students (N=37), we find both groups responded positively to the model. A proportional z-test (2-tailed) between the two groups reveals no statistically significant difference between the proportions of each group giving positive responses. This indicates a pedagogy aimed at adult learners can also meet the needs of non-adult learners.

**Table 1. Percentage of “Agree” and “Strongly Agree” Responses to Blended Model of Adult Education in Higher Education Survey Questions**

Model Phase and Participant Category	Opportunity to Engage	Support was Provided	Liked Engaging in the Model
<b>Select</b>			
Non-Adult	89.2	83.8	86.5
Adult	100	100	100
<i>Proportional z-test: p =</i>	.28	.16	.24
<b>Reflect</b>			
Non-Adult	86.5	89.2	78.4
Adult	100	100	100
<i>Proportional z-test: p =</i>	.24	.16	.08
<b>Apply</b>			
Non-Adult	81.1	83.8	83.8
Adult	94.7	100	100
<i>Proportional z-test: p =</i>	.32	.16	.16
<b>Verify</b>			
Non-Adult	78.4	78.4	86.5
Adult	84.2	94.7	73.7
<i>Proportional z-test: p =</i>	.86	.24	.62

### Discussion and Implications

Challenges exist when embracing adult education principles while teaching in the higher education classroom. While there should be a partnership between instructors and students, the “guide” aspect (Merriam, 2001) has its limitations in the college classroom. The higher education system is dependent on all instructors to ensure certain learning outcomes are met in the classroom. For example, in Arkansas all state colleges are required to comply with the Arkansas Course Transfer Systems Act (ACTS). According to the Arkansas Department of Education:

The Arkansas Course Transfer System (ACTS) contains information about the transferability of courses within Arkansas public colleges and universities. Students are guaranteed the transfer of

applicable credits and equitable treatment in the application of credits for admissions and degree requirements. Students may complete specified General Education courses anywhere in the public system as well as many courses in the degree/major that have been pre-identified for transfer (Arkansas Department of Higher Education, 2010a, para 1).

All instructors in Arkansas who teach at state-funded colleges and universities must abide by a list of course objectives and outcomes. For example, the following list describes the outcomes students must attain to pass Composition I:

1. Respond appropriately to various rhetorical situations, purposes, and audiences

2. Use writing and reading for inquiry, learning, thinking, and communicating
3. Integrate original ideas with those of others
4. Develop flexible strategies for generating, revising, editing, and proof-reading
5. Use collaborative writing processes
6. Demonstrate knowledge of structure, paragraphing, tone, mechanics, syntax, grammar, and documentation (Arkansas Department of Higher Education, 2010b)

These guidelines are provided to ensure all college students in Arkansas institutions of higher education receive the content they need to transfer their courses to different universities. Instructors have flexibility in how they deliver the course content. For example, instructors can choose the textbooks, materials, and general information for their classes, but they cannot change the course outcomes decided by the state. Therefore, students will not be able to take complete control of their learning outcomes and still transfer their courses. The instructor must direct the students' learning outcomes due to compliance with the state mandates for acceptable transfer status. However, the instructor can utilize instructional design to accomplish the goal of providing selection and control of the learning environment by allowing adult students the flexibility to choose things such as a book to read or topic for an assignment.

According to the Arkansas Department of Higher Education, in the fall of 2008, 51.3% of all incoming freshman students tested into a remedial course (Arkansas Department of Education, 2009). Students test into

remedial courses by receiving a score lower than 19 on their ACT test. To make up for their deficient content knowledge, students must enroll in remedial courses to become proficient. Students can test into remedial math, English, or reading courses.

With a high number of students testing into remedial courses, Kolb's learning circle could present challenges in an undergraduate classroom. According to Kolb, the first step of the learning circle requires students to have concrete experiences on which they will later reflect. Students are encouraged to participate in learning activities such as engaging in debates, telling self-stories, and administering self-tests. In light of 51.3 % of college students not having the necessary experience with which to reflect, it seems Kolb's first step in the learning circle could have its limitations. Kasworm (2003a) confirmed this paradox, which could create difficulty implementing principles of adult education in a class which contains both adult and non-adult learners. Students who do not have significant past experiences may not have concrete experience for the topic they are learning. Students lacking prior experience may encounter difficulty in advancing to the second step in the Kolb learning circle, that being reflective observation. Students cannot engage in reflective observation when there are no prior experiences on which to reflect.

With these challenges before the instructor in higher education, the Blended Model of Adult Education in Higher Education provides a synthesized process, which takes into consideration the Bloom Model (1956) utilized in the classroom and the Kolb Model (1974) utilized in adult learning. The instructor can utilize the phases of selection,

reflection, application, and verification to integrate principles of adult education in the classroom while remaining sensitive to the needs of non-adult learners.

### Future Research

Future research can be conducted on the integration of adult education principles in the higher education classroom through the use of this blended model in courses covering a variety of subjects. Such research could be conducted in courses which range from those that are naturally more practical skills based, such as a nursing class, to those that might be more literary based, such as an English course.

### Summary

The higher education classroom provides a unique challenge for integrating principles of adult education due to the dynamic mixture of adults and non-adults in a given class. The work of

Bloom (1956), in the classroom, and the work of Kolb (1974), in the field of adult education provide us with models to evaluate and synthesize to construct a new model whereby principles of adult education can be implemented while also benefiting the educational experience of traditional students. Due to the demographics and subject matter being taught, the instructor can use the Blended Model of Adult Learning in Higher Education, which includes the phases of selection, reflection, application, and verification to meet the needs of adult students while maintaining a focus on non-adult students. Though adults may be more self-directed in nature (Knowles, Elwood, & Swanson, 2005) and may readily embrace coursework delivered using this model, the instructor can maintain a focus on the non-adult students by providing direction and support where needed.

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