THE IMPACT OF AN EXPERIENTIAL LEARNING COURSE ON THE TRANSFER

OF KNOWLEDGE

A Thesis

by

DANIELLE D'ANN BOURNE

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

August 2010

Major Subject: Agricultural Leadership, Education, and Communications

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Approved by:

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ABSTRACT

The Impact of an Experiential Learning Course on the Transfer of Knowledge.

(August 2010)

Danielle D'Ann Bourne, B.S., Texas A&M University

Co-Chairs of Advisory Committee: Dr. James R. Lindner
Dr. Kim E. Dooley

Experiential education has impacted many classrooms across the United States since its inception. Experiential learning, for this study, is defined as the process of learning by experiences. For this study a specific course at Texas A&M University was observed to identify the aspects of the course that directly impacted the students' transfer of knowledge.

This study identifies the themes within the course that impacted the students over one year after the completion of the course. It describes the five themes that emerged from data collection as: the role of the instructor as facilitator, the student's role is active, learning by experiences, deep learning, and emotional connection. These themes were consistent with previous research on experiential learning.

The findings in this study revealed that knowledge is transferred after deep learning occurs, and that reflection and intrinsic motivation are two contributing factors of knowledge transfer. This study found that an experiential learning based course is effective in promoting deep learning. Since the sole purpose of this course was to teach the students how to teach the content of experiential learning as well as how to use

experimental education methods, this particular course was effective in promoting deep learning. In the future, researchers should continue to observe the higher retention levels due to reflection, and note its results in other disciplines. Reflection is believed to be the key ingredient in experiential learning that contributes to knowledge transfer and application.

DEDICATION

       This thesis is dedicated to my Lord and Savior, Jesus Christ. He deserves 100% of the glory and credit for making this possible, as well as for anything else in my life that is excellent or praise-worthy. It is He who has blessed me with an incredible support system, and He who has given me the talents and perseverance to finish.

ACKNOWLEDGEMENTS

Many thanks to my family and friends, whom I love dearly: to my mom who has always encouraged me to do what I love and follow my heart; to Pam who has always believed in me no matter the odds; to my Dad who challenges me to reach my potential; to all my parents who have supported me both financially and emotionally, two areas which without their support this achievement would not be possible. To my amazing siblings, Conner, Chad, and Alex, who love me and bring me joy. To my friends, who support and love me like family: thank you for encouraging and challenging me to live out my faith.

A special thank you to my committee: if it weren't for your pep talks, belief in me, and continuous help along the way, I'd be at a standstill. Thank you for your guidance and wisdom; it has been a joy working with each one of you.

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CHAPTER I

INTRODUCTION

Background of the Study

At Texas A&M University during the summer of 2008 there was a course offered in the Agricultural Leadership, Education and Communications department known as ALEC 603: Experiential Learning. The purpose of this course was to teach students the method of experience and education, and to show them practical ways to develop experiences within their classrooms to enhance their own students' educational experiences. This course focused on the teacher's role in field trips, service projects, and activity groups. By participating in these events, the learners were able to identify what their students would learn if the learners were to facilitate these activities on their own. Reflecting was a main concept that was emphasized throughout the course, and stems from David Kolb's model of experiential learning (Kolb, 1984). This thesis explored the accuracy of reflection and experiential learning, and added to the literature tangible examples of the transferring of knowledge through this method.

Learning from experience involves actively engaging minds to help convert knowledge from memorization and working memory, to true knowledge embedded in long term memory. The efforts to teach students to actively learn and study for the sake of knowledge are more beneficial to society than teaching to solely pass tests. An

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This thesis follows the style of *Journal of Agricultural Education*.

effective form of experiential learning is the hands-on approaches to learning. An example of hands-on learning in ALEC 603 was going to the George Bush Library to learn about the 41st President of the United States, versus reading a chapter in a textbook. Research has shown the benefits of incorporating experience and education, and this study will expand on that topic to find the lasting connections made between these types of courses and future behaviors. This phenomenological study focused on the effects of an experiential learning course on students' application and transfer of knowledge. Research was conducted to determine the effectiveness of an experiential learning course, to see if the concepts and methods originally taught could be transferred to the students' future classrooms, graduate coursework, or career.

Literature and Theoretical Framework

Constructivism is an educational theory of Jean Piaget's. He suggested that assimilation and accommodation are the two main processes through which individuals construct new knowledge from their experiences (Doolittle & Camp, 1999). Assimilating is the process of categorizing new experiences based upon existing schema. An example of this would be an infant incorporating an existing schema of sucking on a small bottle of milk to drinking out of a larger bottle. Individuals are integrating the new experience into an already existing framework, leaving the framework unchanged (Doolittle & Camp, 1999).

Accommodating is when experiences are categorized based on existing schema, usually because the new knowledge does not relate to a prior schema (Roberts, 2006). An example of accommodating occurs when an individual who believes that all people who smoke are evil, until their son confesses that he smokes. Then the individual would accommodate this to form a new belief: not all people who smoke are evil. These concepts support Piaget's theory of constructivism. They suggest that learners form their knowledge. Learning by doing actively supports constructivism.

Experiential Education

John Dewey points out that from an early age, learners are involved in activities that include rules and subsequently those rules order the conduct of the participants. Dewey observes that rules are part of a game and when there are no rules, there is no game; and if there are different rules then it is a different game. He concluded from these observations that "control of individual actions is affected by the whole situation in which individuals are involved, in which they share and of which they are cooperative or interacting parts" (Dewey, 1997). The participants of these games are agreeing to play according to rules set by the players or another authority. Regardless of how the rules are set, the participants know that by playing by the rules, the game will be more enjoyable and will have a purpose or direction.

The most effective form of learning comes from experiencing knowledge in its natural environment. If one desires to learn about gardening, the most beneficial place to learn would be outside in the garden. If this experience is done inside, it removes vital natural elements such as temperature, natural light, and natural irrigation. Teaching

students in these natural environments and helping them find creativity in teaching the material is an effective way to teach. Teaching the teachers in an experiential way gives them ideas for their own classrooms.

Experiential Learning Models

Joplin's five stage experiential learning model depicts work that provides experience and applicable skills. The cycle of focus to action, action to challenging, and challenging to debrief is coupled with support and feedback. When a student embarks on an experiential learning opportunity, there are learning goals set in place before the job begins. The mission is to provide students with an opportunity to learn a trade or experience a particular field of interest, in a supportive setting. The debriefing stage in this model is extremely important, so that the student can make physical connections between the newly acquired knowledge and their prior knowledge. Whether this debriefing is done with the teacher or a classmate, the student is provided an opportunity to reflect and apply their experiences. Feedback and support are critical to creating an atmosphere that is welcoming to learning. Learners are free to experiment within limitations and understand the process of trials and errors, enabling them to construct their own knowledge and progress in their thinking (Roberts, 2006).

Kolb's model conveys the grasping of information and the transforming of that information (Roberts, 2006). There are four different starting points on Kolb's model of the experiential learning process: concrete experience, reflective observation, active experimentation, and abstract comprehension. Roberts (2006) explained Kolb's model by using the concrete experience phase as the starting point. A concrete experience can

be characterized as learners grasping information through the five senses: seeing, hearing, smelling, feeling, or tasting the phenomenon. Reflective observation allows the learners to reflect on their experiences and transform information through breaking apart the experience and internalizing what learners have learned (Roberts, 2006). Abstract conceptualization is where learners use logical analysis to solve problems systematically, and is characterized as "theorists" with their hypotheses and generalizations (Muro & Terry, 2007). Active experimentation is the phase where the theories formed in abstract conceptualization are tested, and a learner processes information "by doing" (Kolb, 1985).

Cognitive Science

Zull's method of "test by trial" was observed through one of his students understanding the importance of working through problems on paper versus working them out by memory:

> There is a great difference between imagining that we have done the problem and actually doing it. No matter what ideas our front cortex has created, we cannot know if they are true until they have been tested in a concrete and active way…action is a key part of learning. Action makes the learning cycle a cycle. Physical movement is needed to link our abstract mental notions with new concrete experience.
>
> (Zull, 2002, p. 204)

In order to have an impact on students and have them perform well after class is over, the class must be structured in a way that allows educators to facilitate testing by trial;

the reality-based learning method is most applicable in this scenario. The four assertions underlying the reality-based learning method mean that the professor does the following:

1. Ensures the purpose of each activity is student learning.

2. Ensures the student is co-responsible for learning in each activity.

3. Ensures each activity draws on knowledge and skills beyond the classroom and discipline.

4. Ensures transferability of learning from the activity to outside the classroom. (Dewey, 1997, p. 67)

The research supports that experience enhances education. Courses are being taught in universities across the country that use experiential learning methods to teach various subjects. This study in particular examines the impacts of an experiential learning course that is taught with the purpose of equipping learners to use the knowledge gained to teach others or use that information in the workplace.

Transfer of Knowledge

The transfer of knowledge is the application of skills or attitudes that were learned in one situation to another learning situation. Two types of transfer are near and far transfer. Near transfer deals with transferring knowledge from one scenario to a similar one, usually dealing with procedures (Baldwin & Ford, 1988). Far transfer is more desirable because the learner has the ability to adapt their knowledge to different situations, with a positive ability to approach change.

In an educational setting, positive transfer is important because performance is improved in another context, where learners assimilate their new knowledge to existing

knowledge (Perkins & Salomon, 1992). There are four conditions of transfer: thorough and diverse practice, explicit abstraction, active self-monitoring, arousing mindfulness, and using a metaphor or analogy (Perkins & Salomon, 1992).

Purpose and Research Question

What component is specifically the cause of how students retain and transfer knowledge from class to work, and how to measure the application of knowledge, is the question. What specific courses of action trigger connections made in the brain? Can these actions be simulated in a traditional classroom setting or solely in an experiential learning course? Is the application of knowledge measured merely by memories of the events, or a specific change in action as a result of the event? The purpose of this study is to examine the impact of an experiential learning course on the transfer of knowledge, by specifically looking at one course's effects on students one year later. The objectives of this study were:

1. To examine a course designed to teach experiential learning, and see the results of a non-traditional approach to education.

2. To investigate students' responses to the course, and discover if there was believed to be a higher retention rate.

3. Identify components of the course that were responsible for making this style of teaching different than traditional courses

Methods

This research is a phenomenological, qualitative study that interpreted the events of the ALEC 603 classroom in relationship to students' responses in their future careers. The sample was purposive, focusing on the summer 2008 ALEC 603 course and its 15 members and 1 instructor. The human instrument was used in this study as well as a semi-structured, open-ended interview guide. Data were collected until data saturation was achieved. The interview questions guided the participants in recalling their experiences within the class, with the purpose of observing the events that impacted them the most. From these experiences, key themes were revealed. The semi-structured interview guide focused on discovering the way the class events have transferred into the students' careers or studies. The interviewer guided the participants through recalling experiences as the result of this class. From this point, particular experiences were studied further to see which facets of the events impacted students the most. Through the reflective process over one year later, the most effective components of the class emerged.

Assumptions and Limitations

It is assumed that the students who chose to enroll in ALEC 603 may have preferences for "hands-on" learning. Therefore a limitation of this study is that the findings may not transfer to students with different learning preferences.

Due to the heuristic nature of the study, the researcher's bias was also taken into account during the interviews and analysis. Open-ended questions allowed the

respondents to tell their own story, without being directed by the researcher. Peer debriefing was also instrumental when considering themes, so that the researcher's bias could be minimized. Theoretical triangulation was used after the initial data categories were formed.

Significance Statement

The underlying assumption throughout this study was that the learners will use some form of their experiences from an experiential learning course in their future endeavors, whether that be the classroom where the primary focus was held, or in their day-to-day lives. The ability to transfer this knowledge from classroom to career, or classroom to further studies, is an interesting phenomenon that was studied throughout the interviews.

This course was selected because it used experiential learning. King's requirements that distinguish experiential learning are: the action is direct and done by the learner, the experience involved the use of most of the five senses, the consequences of decisions are quick and personal, there is ownership of the experience in the mind of the learner, at the gut level of the learner there is a perceived risk most commonly shown as emotion, the activity is uncommon not just new, there is an attempt to draw conclusions from reactions and feelings, the activity is in an "uncomfortable" environment, and the activity involves use of both halves of the brain (King, 1988).

The information used to formulate the transfer of knowledge relied heavily on the participants' recollections of the events. With a limited number of experiences within the ten days of class, this increased the possibility of an underlying theme as well as an experience that was transferred into their way of thinking and methods of teaching. It was also limited in the type of sample: this study researched college-aged students pursuing a masters or doctorate in Agricultural Leadership, Education and Communications. It did not look at the effects of other majors, or other age groups.

The observation of these students' experiences within this particular experiential learning course expands upon the literature by observing the most influential techniques. It also provides insight into teaching methods, and how those methods transfer from one person to the next, as well as from one education level to the next. The ways that these students grasped the knowledge in advanced education, and incorporated the methods into grade-school education, will be profitable for other educators within universities. The quality of the transfer of knowledge is a concept that can be used for a variety of courses and a plethora of subjects. The emerging common themes from this study enhance the literature stating that experience is a key factor in learning and development (Kolb, 1984) as well as provided new insights into the longevity of these experiences and their impacts over the course of time.

Definition of Terms

- Experiential Learning: learning by doing; using a hands-on approach to educational processes.

- Learning by Doing: a type of learning that incorporates the use of the five senses – touch, smell, sight, hearing and tasting.

- Phenomenological: the way in which one perceives and interprets events and one's relationship to them in contrast both to one's objective responses to stimuli and to any inferred unconscious motivation for one's behavior.

- Transfer of Knowledge: the rate at which students from ALEC 603 take the material learned in the course and apply it to their classroom, graduate program, or business.

CHAPTER II

REVIEW OF LITERATURE

History of Experiential Learning

Kolb defines experiential learning as "the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience" (Kolb, 1984, p. 41). The act of examining and reflecting experiences provides understanding and meaning that "adds value to the particular experience as well as to other prior experiences (Armstrong & Mahmud, 2008, p. 192). Kolb credits the foundation of experiential learning theory to Kurt Lewin, John Dewey and Jean Piaget. This theory starts with an experience that once reflected upon provides appropriate applications, which is a cyclical pattern:

> [Experiential learning] offers the foundation for an approach to education and learning as a lifelong process that is soundly based in intellectual traditions of social psychology, philosophy, and cognitive psychology. The experiential learning model pursues a framework for examining and strengthening the critical linkages among education, work, and personal development. (Kolb, 1983, p. 4)

Experience and Education

Lewin's model of experiential learning has two components that compliment Kolb's model: here-and-now concrete experience is used to prove and test abstract

concepts, and feedback processes are the basis for action research and laboratory training

(Thorpe, Edwards, & Hanson, 1993, p. 139). Lewin discovered that ineffectiveness of

an individual or organization could always be traced back to a poor feedback process
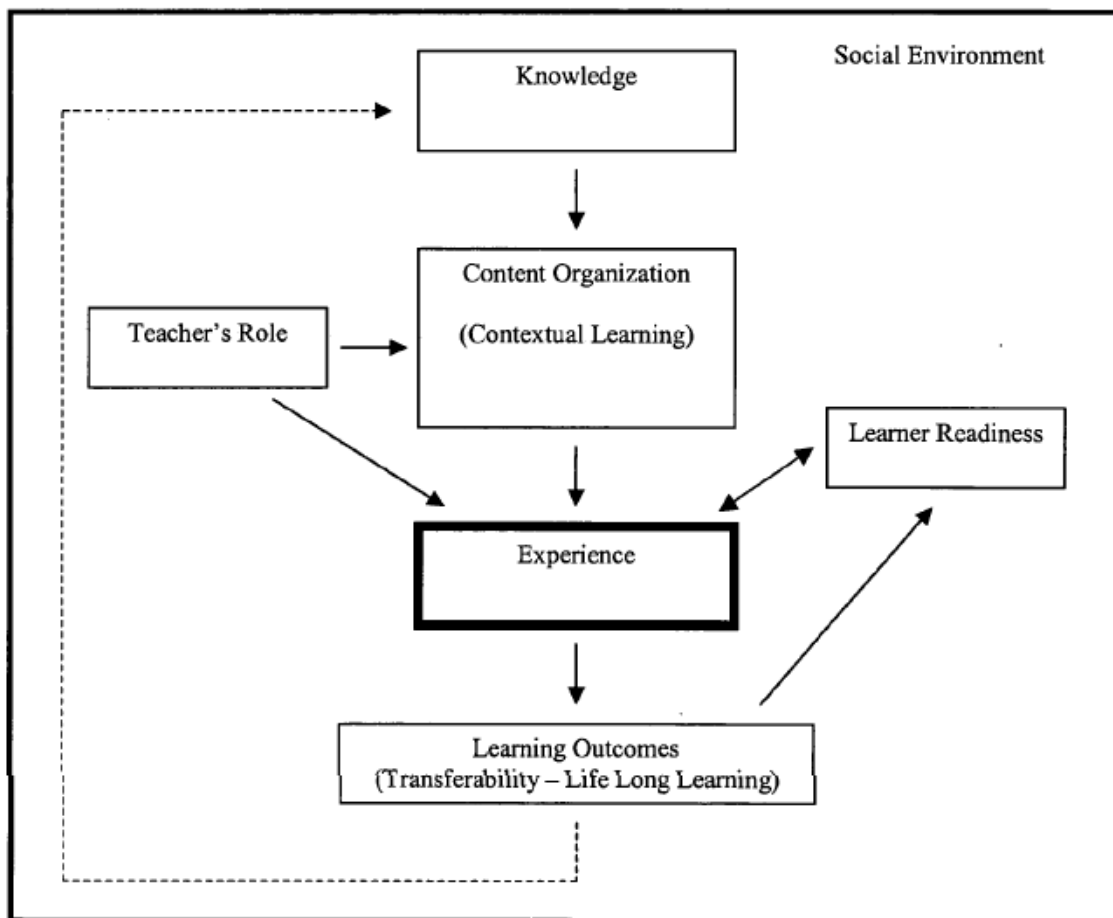
(Thorpe, Edwards, & Hanson, 1993, p. 140).

Figure 1. Robert's Conceptual Model of Dewey's Philosophy of Experiential Education

(Roberts, 2003).

Dewey's model of learning theory begins with an emphasis on the social environment of learners: "The principle that development of experience comes through interaction means that education is essentially a social process" (Dewey, 1938, p. 58 as cited by Roberts, 2003).

Roberts deducts from Dewey's theory (Figure 1) that experiential learning "provides for learning from the opportunities of the present as opposed to learning for a remote future" (Roberts, 2003). This type of learning is significantly different than the learning styles of Dewey's time as well as the traditional classrooms of today. It contrasts the textbook and test approach, which presents students with books as the primary way to gain knowledge versus their life experiences. Experiential learning content also differs significantly from traditional courses, as it focuses on an experience in order to integrate multiple subjects (Roberts, 2003). This particular experiential learning course that was examined for this study follows this format, with the bulk of the learning starting with a comfortable environment that lead to a shared experience. Another key part of the setup of an experiential learning course is the role of the teacher as a facilitator: "the teacher loses the position of external boss or dictator but takes on that of a leader of group activities" (Dewey, 1938, p. 59 as cited by Roberts, 2003). Dewey's theory points out that learners already have a base of knowledge from their past experiences, and that in experiential learning it is the role of the teacher to build upon those experiences to promote deeper learning.

Constructivism

The concept of constructivism is related to Kolb's experiential learning theory. It produces additional theories by scholars such as Jean Piaget on assimilation and accommodation, which are two types of learning within the four learning styles Kolb defines. Von Glasersfeld (1984, 1998) proposed three essential components of constructivism:

1. Knowledge is not passively accumulated, but rather, is the result of active cognizing by the individual;

2. Cognition is an adaptive process that functions to make an individual's behavior more viable given a particular environment;

3. Cognition organizes and makes sense of one's experience, and is not a process to render an accurate representation of reality.

4. Knowing has roots both in biological/neurological construction, and in social, cultural, and language-based interactions. (Gergen, 1995)

These ideas emphasize the important role experience plays in the creation of knowledge. Learner's have an "active role in the personal creation of knowledge" (Doolittle & Camp, 1999, p. 6) and these "four fundamental tenets provide the foundation for basic principles of teaching, learning, and knowing process as described by constructivism" (Doolittle & Camp, 1999, p. 6).

Piaget suggested that assimilation and accommodation are the two main processes through which individuals construct new knowledge from their experiences. Assimilating is the processes of categorizing new experiences based upon existing

schema; accommodating is when experiences are categorized based on existing schema, usually because the new knowledge does not relate to a prior schema (Roberts, 2006). These concepts which support Piaget's theory of constructivism suggest that learners form their knowledge. Learning by doing actively supports constructivism.

Joplin's Experiential Learning Model

Joplin developed a five-stage learning model in order to "communicate an experiential action strategy to teachers as they planned their courses" (Joplin, 1981), and sums up her model as such:

> The five-stage model is organized around a central hurricane-like cycle, which is illustrated, as challenging action. It is preceded by a focus and followed by a debrief. Encompassing all is the environment of support and feedback. The five stages are one complete cycle, where completion of the fifth stage is concurrent with commencing the first stage of the following cycle.

The first stage is "focus" which presents the task while isolating the learner's attention to promote concentration. Action places the learner in a situation where they are faced with the problem and it is unavoidable. This step "involves the learner with the subject, occupying much of his attention and energy in sorting, ordering, analyzing, moving, struggling, emoting, embracing, etc. The action phase gives the learner great responsibility" (Joplin, 1981, p. 18). Support and feedback are present through the entire learning experience and cycle. Appropriate support motivates the student to continue to

attempt learning in different ways and not give up. Sufficient feedback gives the student vital information to evaluate the experience and progress, and move forward. Just as Dewey emphasized learning as a social process, Joplin's five-stage model casts support as vital in showing that "the learner is not working alone but has human responsiveness that accepts personal risk taking" (Joplin, 1981, p. 19). Constructive feedback is an important step in learning, because it shows the learners their strengths and weaknesses. Through a system that is surrounded by support and continuous feedback, the learner is free to learn in ways that best suit their individual learning types, and as well as reinforce concepts or learn additional ideas from every experience because of the feedback.

The final stage in Joplin's experiential learning model is the debrief stage, or reflection. Debriefing can occur within the individual privately, but in experiential learning it is important that it is done collectively. This can be done through various outlets such as online journal entries, group discussion, or a class presentation:

> The public nature of debrief also ensures that the learners conclusions are verified and mirrored against a greater body of perception than his alone. The process of reflecting on the past often includes decisions about what needs to be done next or how it should be been done initially. The public nature of debrief helps turn these comments into focusing agents for the next five-stage cycle. (Joplin, 1981, p. 19)

Joplin's work, along with Lewin, Dewey and Piaget, helped Kolb to identify the consistent themes throughout the research, and create an inclusive experiential learning model that explains experience and education to instructors, learners, and the general

public. Today his model of experiential learning is the basis for core research in this area.

Kolb's Experiential Learning Model

David Kolb combines the work of these three scholars to form his widely accepted experiential learning model. The cyclical learning process of a concrete experience as the starting point, followed by a reflective observation, which results in abstract conceptualization, and finally resulting in abstract experimentation, has four underlying learner themes. These learner styles are diverger, assimilator, converger, and accommodator (Muro & Terry, 2007). Concrete experience puts the learner in an active role in the educational process and allows the learner to take personal ownership and responsibility over the material; it emphasizes the "immediacy of the moment" (Atkinson & Murrell, 1988, p. 375, as cited in Muro & Terry, 2007). Reflective observation gives students an opportunity to "create ideas that integrate their observations into logically sound theories (Atkinson & Murrell, 1988, p. 375). Abstract conceptualization is the mode in which learners solve problems systematically through logical analysis (Kolb, 1985). Active experimentation is the step of the cycle that produces the "learning by doing" reputation that experimental learning has developed over the years (Smith & Kolb, 1986, p. 28).

Kolb expands upon Piaget's learning styles by adding divergers and converters. Sugarman (1985) describes the attributes of Kolb's four learning styles by noting the different demands for learners throughout each stage. Divergers "prefer concrete to

abstract learning situations and reflection to active involvement" (Sugarman, 1985, p. 265). Assimilators also favor reflection but do so in abstract learning environments, versus a diverger's preference of concrete learning situations; they are "dissatisfied with programs that emphasize single perspectives […] they will not accept such things at face value" (Sugarman, 1985, p. 265). Convergers have a more hands-on approach, and like to be active in experiences as well as test any ideas that surface during their experience. "Their interest is in the application of theories" (Sugarman, 1985, p. 265). Research done by other scholars equates accommodators with executors (Carlsson, Keane, & Martin, 1976). This "executing" mentality shows the accommodators' preference in solving problems based on trial and error, and not solely based on information provided to them through an instructor, peer, or textbook. The validity of Kolb's model of experiential learning and the learning process has been confirmed by research throughout academia (Carlsson, Keane, & Martin, 1976).

History of Deep Learning

Deep learning begins with motivation, and a learner who is intrinsically motivated has an open mind for deep learning to occur. "Motivation is intrinsic if an activity is undertaken for one's immediate need satisfaction. Intrinsic motivation is valued for its own sake and appears to be self-sustained" (Calder & Staw, 1975, p. 599). Deep learning has the following characteristics (Buckland, 2001):

1. Intention to understand the material for oneself,

2. Interacting vigorously and critically with content,

3. Relating ideas to previous knowledge and experience,

4. Using organizing principles to integrate ideas, and examining the logic of the argument.

Well-designed courses, textbooks, or educational experiences contain a "design and a curriculum that reflects the expert's understanding and enables students to go beyond the information they are given to reflecting on what they have read" (Buckland, 2001, p. 124). The key ingredient to deep learning is the art of reflecting. The mere act of experiencing something is empty without its reflective counterpart. Through reflection, learners are able to understand what happened in the experience, what that means, and what it means to them personally. Once personal meaning has been established, the learner can truly learn the material or the concept rather than learning on the surface.

Intrinsic Motivation

Instructors and scholars are finding that fostering intrinsic motivation in learners is an important step in establishing deep learning. In traditional coursework, students are apt to learn for the grade, and even when learners are learning for more than the grade, their motivation is skewed (Cake, 2006). Students with intrinsic motivation "look to personalize their own experience and thus must perceive the course to be of personal relevance to them (beyond simply passing or gaining the degree) or perceive some tangible connection to the 'real world'" (Cake, 2006, p. 267). Early research shows that learners were motivated by basic survival needs (McCombs, 1991). Different needs that fit Freud's assumptions were that of hunger, physical comfort, shelter, and other needs as seen on Maslow's pyramid. Recent scholars have expanded on this research and have

identified one's self as having "nothing to do with external situations, circumstances, or personality" (Mills, 2004). The idea that one's self is the source of wisdom and a true sense of what makes up an individual, sometimes even referred to as "common sense" or insight, is noted by Mills (2004):

> Motivation comes from a desire to contribute; one also wants to learn for the sheer joy of learning, to be productive and creative, and to perform at peak capacity for the intrinsic satisfaction of doing something as well as it can possibly be done. (p. 69)

Intrinsic motivation also requires not only an interest in the subject, but a "positive 'relationship' with the course presented" (Cake, 2006, p. 267). When learners are in an environment that fosters learning through a course, many factors come together to create one's perception of the course: classmates, subject matter, textbook, and the instructor all play key roles into the overall experience. A positive instructor-student relationship is important, and instructor traits "crucial to facilitating student confidence and independence include acceptance of divergent student views, provision of effective feedback, and the ability to stimulate and convey a sense of their own interest in the subject" (Cake, 2006, p. 267).

Mills (2004) further identifies qualities of positive relationships between students and instructors, by listing characteristics of effective instructors that engage students' "metacognitive levels of awareness":

1. Involve people who are aware of the existence of, and function themselves from, this intrinsic state of motivation;

2. Provide feelings of respect, noncontingent regard, genuine care, and acceptance;

3. Are not reactive to, do not take personally, judge, analyze, or focus on the part of the youth's behavior that stems from their learned self-concept;

4. See and directly point toward the potential in students for metacognitive awareness, helping them bypass their learned, insecure frame of reference; and

5. Provide models of people who enjoy their work, are an example of unconditional well-being and self-assurance while being enthusiastic, upbeat, and productive themselves, in their work with students.

The experiential learning course that is studied in this research is one that meets these standards set forth by Mills and other scholars. The entire framework of the course was set up in a "safe" environment, where students were able to learn according to their own learning style. The instructor not only created a safe environment, but also maintained students' responsibility throughout every facet of the course, including reflections. A positive relationship was built between the students, and extended between the students and instructor.

<div align="center">Promoting Active Engagement</div>

Cake (2006) points out that learning is a generative process, where learners are actively adding to and changing their understanding of principles, instead of just transmitting knowledge on the subject. Three elements are present in active learning: a

form of questioning, a collaborative activity, and reflective activity (Cake, 2006). A

form of questioning can be any type of session where students are forced to think deeper

into the subject matter and deduce the root of the issue or the reason behind it. In the

experiential learning course examined by the researcher, the form of questioning was the

Socratic Method. As the instructor would present new material to the class, he would

ask questions that expanded upon the learners' knowledge of the subject. Socrates used

this method as a means to receive truths from his students, and instructors today can use

this method to make sure that students understand the concepts. A question and answer

session between the instructor and the student allows for the student to present the

material and show the depths of his knowledge. This course also included many

collaborative activities as a means of learning, so that there would be shared experiences

by the students and an opportunity to learn from other students, not just the instructor.

Finally the reflection piece, which is essential to any learning experience, was present at

the end of every activity. As Cake (2006) points out, reflection is important upon

completion of the activity so that the learning cycle can be completed. Active

engagement is not just a physical activity, but it is involving the brain through reflection

and deep learning.

Cognitive Science

The term experiential learning comes from the proposal that the cycle starts with

a concrete experience, but the experience is only the beginning of the cycle and not the

entire learning experience (Zull, 2002, p. 17-18). "Learning depends on the experience,

but it also *requires* reflection, developing abstractions, and active testing of our abstractions" (p. 18). Zull (2002) points out that the cycle proposed by Kolb follows the natural structure of our brain; engaging the entire brain allows for a deeper form of learning. Learning is not only a product of the brain; emotions play a significant role as well (Hannaford, 1995, as cited by Zull, 2002). In order to effectively teach, one must find out what is intrinsically motivating the learner. With intrinsic motivation comes deep learning, which will result in the transfer of knowledge. Any change in knowledge creates a physical change in the brain. Zull (2002) points out that no learner, even a newborn baby, has a clean slate in his or her brain when new knowledge is presented. All learners have prior knowledge, and that knowledge will not be wiped away by "a dismissive comment by a teacher or a red mark on a paper" (Zull, 2002, p. 93). There is nothing a learner can do to rid themselves of their previous knowledge they have gained and stored through past experiences. Prior knowledge is not merely a myth or idea; it is a physical connection in the brain. "It builds as brains physically change, and it his held in place by physical connections" (Zull, 2002, p. 94). Knowledge is formed in the case of neurons, and each neuron has a branch off of it known as an axon, and other branches known as dendrites. The dendrites and the axon branch comprise the makeup of a cell body. As learners acquire new information, new neurons are formed that connect to other neurons. In a sense, every time new information is learned, a new neuron makes a physical connection with an old neuron through the form of a dendrite, thus creating a neuronal network that is the foundation of our learning ability (Zull, 2002, p. 97). "It seems that every fact we know, every idea we understand, and every action we take has

the form of a network of neurons in our brain" (Zull, 2002, p. 99). An instructor's ability to expand upon the prior knowledge students have when they enter the classroom allows for the instructor to be more effective, as well as promote deep learning amongst the students. The idea of expanding upon, adding to or modifying the prior knowledge is an aim of many instructors, both in the classroom and outside of it.

Building upon prior knowledge is more effective than building off of nothing at all. It allows for the students to enhance their foundation of knowledge, and prove or disprove hypotheses they have formed throughout their lives. The roles of neurons in learning are often overlooked. Neurons are responsible for not only the formation of knowledge, but also its recall:

> Specific groups of neurons fire when we hear middle C on the piano, but different groups fire when we hear C sharp […] Name anything that humans can know, think, feel, or do, and we can find a part of the brain, or a combination of parts, that specializes in that thing. But at the same time, combinations of these neuron groups can also fire at the same time. The more complex the task, the more parts of the brain that are needed, and the larger the neuronal network that comes into play.
>
> (Zull, 2002, p. 101)

Cognitive science has a significant role in education, especially experimental education. When the instructors set out to teach according to the strengths of the individuals, these neuronal networks are strengthened and expanded.

Knowledge Transfer

The goal of learning is not to attain more knowledge, but to apply that knowledge in different areas of life. The ability to transfer knowledge from a classroom to a career, volunteer opportunity, or personal life, is the aim of learning and a product of deep learning. The experiential course in this study was examined to find what parts of the course affected the high rate of knowledge transfer. Students in this course were taking the material learned and applying it to almost every facet of their lives. The material learned is in continued application in their jobs environment, volunteer opportunities, and personal lives. Knowledge has no value unless the new skill sets can be transferred to a job setting (Kozlowski & Salas, 1997). If material is learned and never applied or tested beyond memorization, then it proves to not be valuable to the learners. This theory is interwoven with intrinsic motivation, because the learner's perception of value starts within themselves.

If one learns the task in the exact same way that it is to be replicated, then the learner is merely memorizing and regurgitating information. In the example of this experiential learning course, the material was not identical to all careers but it could be replicated. In some instances, educators who took the course were able to implement those strategies in their classrooms, or with their student organizations. They were able to imitate the teaching style taught through this course and capitalize on its student-centered philosophy. By becoming more of a facilitator and giving the students a more active role, the students that took the course studied throughout this research were able to transfer the knowledge learned in almost an identical setting. But most were able to

take the concepts learned from this course and apply them to their personal lives, to their core makeup, and use knowledge learned in a different capacity. A transfer of knowledge does not mean a mere replication, but a deep application.

There are three "mechanisms of transfer" (Perkins & Salomon, 1992): abstraction, transfer by affordances, and high road and low road transfer. Abstraction is important to understand because a concept might have a different context, but can have "highly abstract identical elements" (Perkins & Salomon, 1992). The action opportunities are seen as key points of transfer, because if the participant recognizes the potential transfer opportunity, the action schema will be adapted. Low road transfer is similar to near transfer, in that semi-automatic responses are generated when conditions are similar (Perkins & Salomon, 1988). High road transfer depends on reflection and mental investment, and is generally not reflexive. These two types of transfer can work together, but are both highly valued in their individual effects on knowledge transfer. In order to encourage a high rate of transfer, an instructor should encourage both experiential learning and abstract conceptualization.

Summary of Review of the Literature

Experiential learning is an educational theory that has inspired many educators to take a more active approach to learning. It has put the responsibility of learning the material into the hands of the learner, which has changed the role of the instructor into more of a facilitator. This change has given the learners more ownership of the material. Learning is cyclical, and in experiential learning it is believed to start at the point of a

concrete experience. This experience is the basis for the learning cycle, which is surrounded by support and feedback. As the learner goes through the learning cycle, a key component to not overlook is the reflection piece. Feedback, reflection, and debriefing are terms used to describe what takes place at the end of all learning experiences. When learners reflect on what they have learned, it allows for them to understand what took place on deeper levels.

Experiential learning helps promote deep learning, by exploring the meaning of every experience. Deep learning is a result of an intrinsically motivated student. Fostering active engagement and promoting intrinsic motivation allows for learners to truly learn, not just experience surface learning. When deep learning occurs, students are more apt to transfer the material because they have applied it to their prior knowledge. Cognitive science has shown that learning is a physical process, and that the brain changes as new material is learned. It also has been proven that the added neurons connect with other neurons to build upon prior knowledge, as well as recall information when one encounters it again.

The deep learning which is a result of the active nature of experiential learning, and the connections made between previous and new knowledge, is the foundation for knowledge transfer. When the material is deeply embedded in the brain, it can be modified and applied to other disciplines. The theory has shown that the goal of learning, specifically experiential learning, is to deeply impact the student so that the material can be passed on to other areas of life. This study will explore the characteristics of an experiential learning course at Texas A&M University, and what

components of the class have produced a high level of retention. This course was

specifically designed to follow experiential learning theory, so the researcher will also

compare the findings to the theory to evaluate the course's effectiveness.

CHAPTER III

METHODOLOGY

The purpose of this study is to examine the impact of an experiential learning course on the transfer of knowledge, by specifically looking at one course's effects on students one year later. As a fellow participant in this course, offered summer 2008, the researcher was intrigued by the amount of information retained and used over a year after the class was completed. This chapter will discuss the research design, sampling, data collection, data analysis used in this study, as well as describe the trustworthiness of the findings.

Research Design

This study is a qualitative study, due to the nature of the material. By using this method, it will better "help us understand and explain the meaning of social phenomenon with as little disruption of the natural setting as possible" (Merriam, 1998, p. 5). A qualitative study will help the researcher to "understand the meaning people have constructed" through these shared experiences in an educational setting (Sherman & Webb, 1988, p. 7). The research also fits the other characteristics Merriam lists as essential components of a qualitative study: "the researcher is the primary instrument for data collection and analysis, it involves fieldwork, and the product of the study is richly descriptive" (Merriam, 1998, p. 7-8).

The type of qualitative study is phenomenological. These types of studies are based on an assumption that "there is an essence of essences to shared experience. These essences are the core meanings mutually understood through a phenomenon commonly experienced. The experiences of different people are bracketed, analyzed, and compared to identify the essences of the phenomenon" (Patton, 1990, p. 70). These assumptions shape the way the phenomenological study is conducted.

The researcher is able to be the primary instrument for data collection and analysis in this phenomenological study, because it was a shared experience as the researcher was enrolled in the class and participated in the same setting. There is extensive fieldwork, as all members of the classroom completed every experience. The diversity in the participants involved creates a richly descriptive study, as each experience was unique to each individual.

Sample

The population selected for the research was through purposive sampling. The participants in the study must have been enrolled in the Agricultural Education; Experiential Learning course offered Summer 2008 at Texas A&M University. This course was unique in that its duration was ten consecutive class days divided by only one weekend, and was four hours in length each day. The intensity of the schedule separates these individuals as a selective group to be sampled. When choosing this form of sampling, the researcher took into account "the assumption that the investigator wants to discover, understand, and gain insight and therefore must select a sample from which the

most can be learned" (Merriam, 1998, p. 61). These students were specifically selected because "of their special experience and competence" (Chein, 1981, p. 440). This sample is also unique, in that it is based upon the occurrences of this specific phenomenon.

Of the fifteen students and one instructor involved with this phenomenon, seven students and the instructor were contacted for interviews, with eight interviews being conducted. The researcher's heuristic experience was also considered upon the completion of data collection.

Data Collection

Upon completion of the class, the researcher reflected on the differences between this particular course and traditional courses. The retention rate for the researcher was higher in this course than traditional courses; this caused the researcher to further look into why the retention rate was higher. Many theories were formed with the reasons of a high retention rate, focusing on the experiential learning concept and the format of the class. After investigating the researcher's own experiences, fellow classmates were contacted to provide more insight into this phenomenon.

Interviews were the primary source of data collection, while other sources included documents and observation of the class. Interviews were conducted to learn from people "about their experiences, options, feelings and knowledge," as well as to collect "detailed descriptions of people's activities, behaviors, and actions" to provide evidence of knowledge transfer (Patton, 1990, p. 10).

A semi-structured interview took place with the 8 participants. Since the researcher was a part of the experience as well, a semi-structured interview was used to guide the participants through their experience, while allowing freedom to discuss key components of the class that were mentioned on their own. The interview had two questions that were structured to identify the respondents' definition of experiential learning as well as the basis for that definition. The remaining questions allowed freedom for the respondents to answer as they chose, while the researcher further inquired about responses to fully understand what was answered.

After conducting the first two "pilot" interviews, the researcher modified the interview protocol to include questions that were less directive and questions that provided the respondents with more freedom. With the researcher's knowledge of the subject and familiarity with the respondents, further questions were added on an individual basis as to explore the reasons behind why they answered the way they did. Upon completion of an interview, the researcher would code the responses and compare to previous interviews, to make sure the questions were being interpreted correctly and that data saturation had not been met.

Data Analysis

Throughout the interview process, and upon its completion, transcripts were analyzed using an open coding system. Categories were constructed by observing the "concepts indicated by the data" (Taylor & Bogdan, 1984, p.139). The first interview transcript was analyzed using the open coding system to form the initial set of

categories. Once this list was created, other transcripts were coded and constantly compared to the initial list; if new categories arose from emerging themes, those would be added to the first draft of the categories.

Each set of data was unitized, so that any "meaningful (or potentially meaningful) segment of data" could be used to create categories (Merriam, 1998, p. 179). Once these units of data were assigned to categories, another list was made that represented the categories used for this research, as well as units that would become the sub-categories. These categories "reflect the purpose of the research" and are the "answers to [the] research question(s)" (Merriam, 1998, p.183). The final categories were defined as: role of the instructor as facilitator, student role is active, learn by experiences, deep learning, and emotional connection. These five themes were present throughout the interviews, and were the umbrella categories that incorporated all units of data.

Trustworthiness Criteria

All interview respondents' data was compared to other respondents, the researcher's experience, and course documents to test the validity of the statements and events that occurred. Internal validity was accomplished through triangulation, using literature, the students' experiences, and the instructor's experience. Triangulation helped with testing that the data was consistent, and also strengthens reliability. Through this method the question as to whether the results are consistent with the data collected is answered (Merriam, 1998, p. 206).

Peer debriefing memos were created each meeting between the researcher and committee members. These sessions allowed for faculty to confirm the work of the researcher in data collection and analysis. Along the way, these meetings were held to promote continuity and reliability of the study. Persistent observation allowed the researcher to test the data and ensure that it was consistent with the findings and the documents of the course; it also allowed for restructuring the categories or findings to maintain accurate descriptions.

An audit trail was used to connect the codes to the categories. Respondents were identified as "R1," "R2," and so forth, in order to maintain ethical research and maintain the privacy of the respondents. These codes were linked to the categories so that the original data would be easily identifiable throughout the research. Purposive sampling was used so that there was no discrepancy in the responses. The researcher interviewed fellow classmates that were identified from first hand experience.

There was a member check after the transcripts were recorded so that the respondents could verify the transcript was accurate. This was for validity in the findings, to make sure the researcher heard the information correctly as well as interpreted it accurately.

CHAPTER IV

FINDINGS AND DISCUSSION

When considering the effects of this particular course on the transfer of knowledge, the researcher asked the instructor if knowledge transfer was because of the intensity of a ten-day course, or if it was the material. The instructor for this course has also taught this course over an entire semester, and found that the students had "pretty vivid memories of the things we did. The ten-day condensed course made some of those things even more intense. The methodology itself has an impact, but I think cramming it in ten days further intensified those things." The instructor noted that this style of learning affected students' motivation to succeed in this class because it was:

> A learning environment that is safe in a way that people are comfortable sharing ideas and stepping out of their comfort zone. [They're] not worried about sounding stupid or worrying about what other people think. Because of that people are more willing and motivated to go that extra step and put themselves out there where they're vulnerable, which has greatly impacted the way they've learned and the amount that they've learned.

Profile of Respondents

The department of Agricultural Leadership and Education offered an experiential learning course summer 2008. It was a ten-day course spanning two weeks of class, four

hours per day. The respondents for this study were 8 of the 15 students in the class, including the researcher, as well as the instructor for the course. For confidentiality reasons, the instructor's responses will be coded the same way as the students. The purpose of this course was to teach students how to use experiential learning in their teaching styles; there was also room for application into other fields beside the classroom. The underlying attitude of the class was that every experience lends itself to learning, and at the end of each lesson there was a reflection piece which allowed students to process what they had learned and relate it to material they had already known. The instructor "attempted to teach in the manner that we were actually talking about on any given day. For example, when we were talking about outdoor adventure learning, one piece of that was going out and participating in the challenge course. From the beginning, my mindset was to follow an experiential learning cycle to teach this class." All of the respondents participated in the same phenomenon, and this chapter will discuss at lengths the perceptions of the instructor and students, and align that with existing literature on experience and education.

Upon personal completion of an experiential course at Texas A&M University, the researcher noticed a relatively high retention rate and application of material learned compared to traditional courses previously completed. This idea caused the researcher to investigate the components of the class that affected the transfer of knowledge. After eight interviews were conducted and data was analyzed, five themes emerged: the role of instructor as facilitator, the student role is active, learn by experiences, deep learning, and emotional connection. All eight respondents identified four of the five themes as

relevant to the study; the role of instructor as facilitator was mentioned by half of the respondents. Due to the overwhelming number of responses regarding each theme on the audit trail, there was no need for further data collection after the eighth interview because data saturation was achieved. First each respondent was asked about their definition of experiential learning and where that definition came from, in order to confirm that the participant understood the concept and could answer questions appropriately. Experiential learning was defined as a "hands-on approach to teaching" (R1) that includes "project-based learning and service-based learning" (R1) and emphasizes "learning by experiences" (R1). The majority of respondents (R1, R2, R3, R4, R7 and R8) agreed that this definition was based upon "the class" (R1, R2, R3, R4, R7) as well as "theory" (R8).

Role of Instructor as Facilitator

The instructor's role in the experiential learning model, and in this particular course, is that of facilitator. The instructor guides the process and allows the students to think and experience for themselves, as well as discussing within debriefing periods and not lecturing on a subject. This theme also includes formal instruction, or traditional learning in a classroom where the professor gives a talk on a topic and the students sit in silence and take notes. Teaching techniques are also results of the instructor's facilitating, as the students were able to observe the way the instructor taught the course and conducted himself, and could emulate that later on in their classroom or career.

Theoretical framework is included in this category, as the instructor provided articles and reading assignments that taught the foundational theory to this subject.

In this particular course there was an importance of facilitating a hands-on approach with the students. One respondent transferred this method into their career:

> When teaching how to design a database, I sit down next to them and show them while explaining it to them. I let them guide the process and let them be in the driver's seat. They're actually doing it but I'm there to help them understand the basic concepts and answer any questions. (R1)

Within the classroom there was more of a "Socratic questioning and discussion" (R2) approach to teaching, while there were "never lectures" and the class was "just the interaction that we had with each other and discussions" (R2). The instructor's approach to teaching also helped others to learn more about "teaching techniques and learning styles" (R4).

The structure of this course showed the students that teaching in an experiential learning style takes more time and preparation beforehand since it is not just lecture based. One class period each student was required to teach the classroom on a topic of their choosing. The instructor found that in comparison to traditional courses, in this course "there was more time spent on logistical things, making the appropriate arrangements and having the materials." Every day was different, and even though there was a syllabus that directed the students in the topics discussed, the conversations and activities would look however the students shaped them. The teaching part of the course was dynamic and evolved throughout the class, which was something that allowed

students to contribute to each other's learning. The class was about "creating an experience" (R6) to help the students "make sense out of something that otherwise might be kind of abstract" (R6). Within the debriefing sessions, students were able to understand "what [the instructor] did as the students were working on these projects" (R6).

Many respondents identified with the instructor's methods of personalizing the material, and some have already implemented them in their classrooms within two years of completing the course: "I try to provide the application piece that is as experiential as possible and individual to the learner as possible" (R8). It all boils down to "providing opportunities" (R8) for the students to learn, and finding ways to engage students. "The experiential learning philosophy helps you to see that you'll become a better teacher if you give students an opportunity to test things on their own. You challenge them" (R8).

Student Role Is Active

Closely related to the role of the instructor as facilitator, is the idea that the student role is active. This category includes similar themes such as a hands-on approach, active participation and an interactive classroom. The instructor facilitating an active role for the student allows the student to learn using all senses. Student autonomy, the "freedom" to move around, and no real rules, allowed the students to learn according to their individual learning styles, which allows for students to have an opportunity to remember more of what they learned in the experiences. The fact that the

student's were active was an overwhelming piece of data that echoed throughout

respondents:

> The inquiry-based activity was really helpful because it was the one that
>
> the majority of the students had the hardest time grasping the concept of.
>
> When we were able to go out in the building and ask questions and figure
>
> it out on our own, it helped us understand the concept of what inquiry
>
> based learning was. I didn't just see the material on a piece of paper or
>
> hear about it, I learned what it was because I participated in it. (R1)

Incorporating the senses was also a key component to retention: "the more senses you

incorporate the more you are going to remember it and process it" (R3).   For some, the

physical activity of doing it helped to retain information: "I'm a kinetic learner, therefore

I learn better by actually doing an activity rather than hearing it or seeing it" (R4). Many

other students echoed this response, valuing the level of activity within the classroom:

> My learning type is geared toward this type of class. I don't like to just
>
> sit and read a chapter because that bores me. But I learned better because
>
> it was hands on, and also it was interactive. Traditional classes you sit
>
> there and are lectured at, but the way students are heading is more active.
>
> Most students don't want to read or sit through lectures, that's why you
>
> don't go to class. But this class was fun, every day was a new
>
> experience. You were sitting there physically experiencing what he was
>
> talking about. That's what helped me learn; I probably only remember

5% of traditional classes, but because this class was more interactive, I

remember a lot more of the key points of the class. (R2)

Within the class, field trips were taken so that the students could learn how to

facilitate a field trip, as well as experience the learning that is involved with different

types of field trips. After observing the methods the instructor used to prepare the

students for field trips, the facilitating throughout the field trip, and the debriefing period

at the end, one student explains how this helped in a career setting:

> Often times I tell my volunteer leaders and committee members to go to
>
> another event and observe, and take notes of what is going well and what
>
> brings people to the events. Then they write down challenges and
>
> changes to the events that might get more people involved. That often
>
> makes it more personal; they see it, they process it [for themselves].
>
> (R4)

Even with the typical assignments to determine knowledge in a traditional class, students

were able to view them as more beneficial in this experiential setting: "I not only did

activities, but I did research on the process" (R4).

Other students felt just as strong about the impact of the class, and its relevance

to their career:

> We do activities about character and ethical experiences. We like doing
>
> "I cut you choose," a powerful short activity. We pair people, one person
>
> gets a Snickers bar and the other gets a plastic knife. The knife person
>
> cuts the candy bar however they want, and the other person will get to

choose what piece they want. Neither knows how this will pan out; they just know to do their assigned job. It's a learning environment to teach that character counts. The activity is much more powerful when they can see that it's not fair if it's not cut in half. (R4)

The objective of an experiential learning philosophy is for students to put their hands on something as they're trying to learn it" (R6). This active learning style allows for the students to have an experience to reflect upon when the material is tested on or if it presents itself in another course. The process of connecting new experiences to old experiences, in order to truly learn a concept, starts with an active role for a student. Field trips to Habitat for Humanity, the Challenge Works course, and the Bush Library also enhanced the learning process by allowing students to get out of the classroom and learn in a different way about topics they normally would read about in a book. When specifically speaking about Habitat for Humanity, one student responded:

Even though I have a lot of building background, it was interesting noticing the dynamics of our class. Who worked hard, who wanted to be a leader. Seeing and doing the things that we did in class made it stick more. (R8)

The aspects of the class that made it the most memorable centered around the activities and learning by doing. "Collectively it was all the activity based learning or that required us to physically do something; whether it was building model cars or doing the challenge course" (R8). In some instances, familiar topics were discussed but in a different way: "it can bring a different dimension to a topic you might have discussed

before if they've learned it" (R8). Experiential learning is very versatile, and meets the learners where they are in their learning process. "Part of the FFA model talks about learning to do and doing to learn. I feel our kids would get that stuff and it would stick with them the rest of their life because they did it" (R8).

Student autonomy was also important in giving the students a sense of ownership in the class:

> There were basically no rules. We were free to learn the material in any way that we felt comfortable doing it. Yes we were required to go on the field trips and sit in class for five hours a day, but we had the freedom to learn the information in any of those formats. I feel like there was a higher retention rate. Someone might have learned what Dewey said based on the big post-it notes, but someone else might have learned it when we were putting the cars together and we were discussing. (R1)

Learn by Experiences

Part of an active role for a student is learning by experiences. Every experience can have value to the learner, and this category highlights the importance of prior experiences, service-based learning, and project-based learning. When new material is presented to the students, it is helpful to connect the new data to prior experiences they have had before entering the class.

> When you go in the class you know [experiential learning] means learning from experiences. But going through the course and learning all

about the connections made by John Dewey and other books, learning

about it helped me mold that definition around what I learned in that

class. I'm molding my new experiences by what I had already known.

(R2)

Service-based learning as well as project-based learning provides an opportunity for an

experience to enhance the material. In this class, service-based learning was seen

through the Habitat for Humanity field trip. Students participated in "Blitz building"

where there were multiple houses being worked on at a time. This type of service

allowed for different topics to emerge, that were a collective learning experience but also

personal to the learners. Project-based learning was seen through a short in-class

project, where students built cars and boats with only one instruction set. Again, this

method of learning allowed for different lessons to be learned depending upon the

learner's experience building the car or boat.

Service-based learning has an impact on the students due to its emotional nature.

The students get invested in the project, and are able to help others, which allow them to

feel a part of something bigger than themselves.

I've learned through my service to [my volunteer organization] and

community how to balance a budget for non-profit organizations, and

how to promote public service through non-profits. Also [I've learned]

how to work effectively with different organizations to accomplish

common goals. (R1)

Service-based learning, along with project-learning and other physical activities, allows the learners to incorporate their senses (R3) which increases the probability of retaining the information. Community service also ties in to service-based learning, and provides opportunities for students to give back to others (R5). "Habitat for Humanity was memorable because that is where my passion is. Working with others who are in need of assistance or need a helping hand" (R5). The emotional connection with service-based learning is strong. Students from this course have applied the concept of service-based learning to their careers, recognizing its intrinsic value: "we have a service learning component now where we actually take [the students] to different sites to talk about the concept of service learning and servant leadership. We take them and do a service project" (R7).

A product of service-based learning is servant leadership: "my belief is that to be good leader you need to first realize who your clients are and how others need to be served before you can lead others" (R5).

The project-based method allowed students to have a hands-on approach, while also providing an opportunity to observe how students relate to one another with the instructor in a facilitating role. Some students viewed this type of learning as the most beneficial: "Project based learning [was helpful] because as a future Agricultural Science teacher, we try to incorporate a lot of projects so that we're not just doing the mundane lecture. [The class project] taught me how to do the proper steps" (R3). Building the model boats and cars was a project-based activity:

We were learning about utilizing projects as a way to provide a learning experience for students […it was] a short project that we could do in an hour or so, but that could still elicit some of the feelings that [students] might have if they were involved in a longer project. Some had greater skills than others so that came out; some followed directions very closely; some just went on their own way so that came out. (R6)

In the end, whether it was by project-based learning or service-based learning, it "kept coming back to lifelong experiences […] different experiences in life causes [people] to think, react, [and] behave in a specific way" (R8). Experiences are not only learning opportunities, but they also mold students. They are so powerful that they are used to draw upon in future events, because of the impact that was made during the initial experience.

The importance of the experiential learning process, no matter how much you observe or read, you need to go through the motions of it as real life scenario as possible, whether it's the pressure of performing in front of someone else or using the equipment in the classroom…you can not fold under pressure because you were in that situation before. (R8)

The purpose of all courses, whether traditional or experiential based, is to achieve deep learning so that the students can take what they have learned, and apply it to experiences in their coursework, their careers, or their personal lives. The three categories mentioned so far all work together to provide deep learning for an individual.

Deep Learning

When analyzing the data, the researcher has seen patterns emerge from all respondents that denote deep learning has occurred. Further inquires into how that deep learning was achieved were also explored and are presented in this category. Deep learning shows that a connection has been made from theory to practical application. This is seen in the form of skills being transferred from a learning experience into a student's daily life, such as teamwork or communication skills. Also incorporated into this theme is the idea of feedback, or reflection: the debriefing period after an experience where one thinks back on what happened, what was learned, and how to improve if applicable. In addition to reflecting on experiences, in this classroom students also experienced scaffolding, where the professor built the experience for the students before participating in it, so that they could be aware of what to expect and discuss what the main learning concepts. After reflecting and making connections, application is the final step in completing this learning cycle. Some respondents noted it was "harder than the traditional approach" (R2). This type of learning can also be described as "more in depth than just learning from experiences" (R2).

Before field trips, the instructor would "build the floor knowledge for the students" (R2). This would allow the students to preflect on the experience before it began:

> You need to set the background for the students [before field trips]. I would never have thought about that unless we did it. Same with Habitat,

I knew what it meant but it wouldn't have meant the same to me if we wouldn't have talked about it [beforehand]. (R2)

The preflection piece of the experiential learning process in this course was an important foundation that the students had while participating in the experiences set forth by the syllabus. The students had an opportunity to reflect both before and after the experience, to really grasp the concepts that were going to be taught and the concepts that were learned.

You can have an experience, but you won't know what it is or means until you reflect on it. We go through our experiences but we don't think "this is what I learned from this" so the experiences never become important. It is really important to take the time to reflect so the base experiences will have influence on the next experience, and mold those future experiences. (R2)

Seven of the eight respondents discussed at lengths the value of reflection both in the classroom and in their lives today. For many this was the first time reflecting, or processing information, was introduced to them. It was an opportunity to go through the experience and glean the meaning from it, instead of just participating in something and resting it on the shelf.

Many teachers are very good at providing various experiences for their students, but then they just let it go at that point, they don't really drive it home and do the reflections and generalizations to help their students really make sense of what they learned. (R6)

Reflection can be a part of "any aspect of your life" (R2). With each experience there is something to learn from it, and reflection allows you to study what was done and to decide what worked and what could be improved. Reflecting on the experience or the material is also key to "connect past experiences to your present experiences" (R3). The "ropes course was a lesson in giving feedback, because some people give feedback in different ways. It takes getting to know your student or classmate to know what type of feedback they respond to best" (R4). Students were able to draw from the lectures and retain the information better because of "our reflections" (R4). There were "requested reflections after each experience. At that point the reflections allowed me to retain [information] and to realize what I had experienced and what I have learned. That could be applied to my job and my school setting" (R4).

Reflection is a very powerful concept that was incorporated into every facet of this course. Due to the diverse group of students enrolled in the course with regards to age, gender and ethnicity, there were:

> Multiple ways of collaborating and communicating. I realized how powerful it was to take time for reflection. I find it's time consuming, but at times for me reflection helps me decide which directions to go next [in both] personal and career [paths]. (R4)

In this course activities were not repeated to rectify the areas of improvement. Each activity was discussed in order to find out how to do it better next time, how to apply it to the student's future, or what the components were that provided the meaning for the experience. "Reflection introduced to me through this course transferred to all areas of

my life" (R7). The concepts learned in this experiential course were components of experience and education theory that could be taught in a traditional classroom setting. One student described the difference in that "we're just not reflecting on it in that way. Reflection is key because that's when true learning occurs. You're able to discuss and synthesize" (R7). It also "challenges people" (R8) to reflect on experiences since every experience has an educational value. It forces learners to think of "what they could do differently and the [material]; even if they didn't like a piece" (R8).

One respondent finds reflection to be an important piece to experiences in order to test whether the material is coming across as desired (R8). It also is an opportunity to "have a better understanding of people. In leadership roles it's easy to assume or forget that everyone hasn't had the same experience as you. What's easy for you might not be easy for someone else" (R8). These reflective experiences allow students to connect schema in order to make applications to their lives and careers. The application shows that the learning is deep rooted, not just regurgitated for a test. "The reflection piece is very important. If you reflect on the problems and how it may be used in real life, students may be more apt to remember" (R4). One respondent used the knowledge gained from reflection to incorporate it into their career and pass it along to colleagues:

> Reflection is such a huge part of what I gained from the class, and I try to convey to instructors the importance of a journal or reflection blog so that the students can come back from the experience and focus on it. Reflection helps you learn from what you experienced. (R2)

Other students applied the knowledge gained from this experiential learning course in to different areas of their lives including volunteering and their personal life at home. Through each reflection at the end of an activity in the course, students were able to immediately process what they learned as well as what others learned from the experience. This reflection provided an opportunity for students to find areas of their lives where this new experience was relevant. The application of reflection or hands-on approaches to learning shows a high level of retention.

> Reflecting back over that class, it helped me change; it helped me think about how I need to teach because we learned how to write lesson plans. In the lesson plan you do a summary and an evaluation, and that's sort of a reflection. That's a big component that I don't need to miss when I'm teaching, so that they can connect the schema, and they can connect the old information to the new information so they can learn what I am trying to teach them. (R3)

Application is a sign that deep learning has occurred. The desire of every instructor is that his or her students would be comfortable with the material to use it in another setting. In this course and in the data collected a year and a half after the course's completion, there is evidence to suggest that deep learning occurred through this experience.

Emotional Connection

Due to the emotional connection of the students to the course and their classmates, deeper learning was able to take place. Students felt more motivated, interested, and engaged in the classroom that created positive memories that have lasted more than a year after the class was completed. "I feel like I was really interested in what I was doing. Because it had my interest and because I cared about what I was doing, I really absorbed the information" (R1). The experiential nature of the class allowed for students to develop friendships and provide a more connected environment of learning, compared to a traditional classroom: "it made you want to be there and want to do well" (R2). The environment also played a role in the lessons learned during field trips and outside the classroom activities:

> The ropes course was [the most beneficial field trip] because it was more of a team bonding thing. Before the ropes course you knew everyone's faces, but once we did that you get competitive and interactive with everyone and it becomes more of a comfortable environment. You get to learn about these people. I had never done the whole high ropes thing, but to have enough guts to do the walk because I had people supporting me even though I was afraid of heights, it was a new experience. It brought about teamwork and what that means (R2).

These teamwork experiences and learning from other individuals in the course motivated students to experience deep learning that extended beyond learning for a grade, but learning to develop themselves as a well-rounded individual. "It definitely

motivated me to want to be successful […] I had a lot of intrinsic motivation because I enjoyed the class and I wanted to succeed, so it motivated me to do my best" (R3). This style of learning also affected students' performance in the class (R7). "It was more of me being an adult learner, I wanted to improve. I was looking to gain knowledge to enhance my life" (R7). It made learning more enjoyable and easier (R8) while challenging students to go beyond learning for the sole purpose of a grade (R8). There was camaraderie and a positive environment, that "built the comfort level; [when] everyone knows each other it's fun" (R8).

Information retained from the class there was:

Continuity of collaboration that our group had as far as the encouragement. We were a small group that got to know each other in a short period of time. It was powerful activities that had a lot of emotion. [The activities] got me out of my comfort zone. I would never have done that on my own, but the encouragement from others made me want to at least attempt to try it. It was a safe environment where you were successful for trying even if you didn't complete the [activity]. (R5)

Other reasons for enjoying the class and developing an emotional connection with the curriculum were a result of the students' individual passions. Habitat for Humanity was a widely enjoyed activity by both the students and instructor, because it was service oriented and centered around helping others in need. Habitat "allowed people to gain better insight and understanding to broader society and people that are less fortunate than we are" (R6). The empathy felt when working with Habitat also strongly influenced

students understanding of the class concepts because it was a strong emotion (R6). The

Challenge Course was another strong emotion in fear and excitement that allowed

"people to face their fears and work through their fears, understanding how their fears

impact them" (R6).

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter provides a summary of the study and the study's findings. It also provides a conclusion to the research to show where the findings support other research in the experiential learning field, as well as recommendations for future research and curriculum.

Summary of the Study

The purpose of this study is to examine the impact of an experiential learning course on the transfer of knowledge, by specifically looking at one course's effects on students one year later. The sample group was purposive, limited to students and the instructor who took the course in the summer of 2008. The researcher was a student of the course as well, which gave the researcher a solid background in understanding the respondents' answers. This research was a qualitative, phenomenological study (Merriam, 1998). A semi-structured instrument was used for collecting data in the form of an interview guide and the researcher as a human instrument. Each question was formed to observe the impact the course had on each student, whether it was positive or negative. Each question was open-ended so that more information could be shared depending upon the researcher's discretion. Since the researcher was a part of the class, the observations of the natural setting had taken place when the students experienced the phenomenon in the summer of 2008, thus providing credibility to the study. A

supporting document was used with the syllabus of the course, as well as communication throughout the study with the course's instructor and the course materials.

Once the data was collected, the transcripts were sent to the participants for a member check, to ensure accurate information was recorded for each respondent. The transcripts were analyzed through the constant comparative method, followed by peer-debriefing sessions. The constant comparative method was used so that themes could emerge from the data, and be combined where similar data units existed. Peer-debriefing sessions took place to verify that the themes proposed by the researcher were accurate. At the end of the meeting a peer-debriefing memo was written to record the themes and the suggested sub-categories for each theme. There were five emerging themes throughout the data analysis, four of which were discussed by all participants.

Summary of the Findings

Of the twelve students and one instructor who were contacted, eight interviews were conducted including the instructor. Every respondent was enrolled in the ALEC 603 experiential learning course at Texas A&M University in the summer of 2008. At the beginning of each interview the researcher asked each respondent to provide their definition of experiential learning and the source on which that definition was based. This information was collected to verify that the participants understood experiential learning theory and had a solid foundation in which to answer the remaining questions. All of the respondents based their definition upon prior experiences and the definition as provided by the course.

The five consistent themes throughout the data were:

1. The role of instructor as facilitator

2. The student role is active

3. Learn by experiences

4. Deep Learning

5. Emotional connection

The role of instructor as facilitator (R1, R2, R4, R6, R8) was seen as an important step preceding the active role of students. The instructor needed to guide the conversations and activities, versus being a sole provider of knowledge. This allowed for the students to learn from each other, and teach each other from prior experiences and reflections of the activities. As a facilitator of the course, the instructor provided an example for future teachers of how to effectively lead a class with an experiential learning mindset by teaching students how to facilitate group reflection upon an activity's completion. In the example of a field trip to the George Bush Library, the instructor would provide foundation and history about former President George Bush, and then inform the students of the activities that would take place at the library. Upon completion of the tour, the students would reflect on the experience. This reflection would consist of the instructor asking general questions about the students' favorite part of the tour, and would result in group conversations amongst the students about the benefits of a field trip compared to reading a paragraph in a text book.

The instructor provided theories of knowledge as the base of all activities, but the students created the knowledge themselves through the activities, and processed both as a group and individually through group reflections.

"The student's role is active" (R1, R2, R3, R4, R5, R6, R7, R8) was an emerging theme that was a result of the instructor's role as facilitator. Activities such as Habitat for Humanity, the Challengeworks Course at Texas A&M University, and the George Bush Library were three examples the respondents identified as ways the learning in this course was active. Each student took home a different meaning to each activity, but every student had the opportunity to learn from others during reflection and personalize the lesson to their individual lives. The instructor explained that the purpose of the curriculum and schedule of events was to give the students a more hands on approach and active participation within the course, and the students echoed this in their responses. All respondents agreed that an active student role was a contributing factor to the transfer of knowledge, and the high retention rate that resulted from this course's set-up.

Learning by experiences (R1, R2, R3, R5, R6, R7, R8) was mentioned in seven of the eight respondents, with participants observing the importance of their prior experiences to enriching their experience in this course. From the first day of class, the instructor taught the students the importance of prior knowledge as the base for all experiences (Zull, 2002) and the students learned of its importance upon the course's completion. Students recognized that connecting new information to old information was beneficial in retaining the new material, especially in regards to applying the new

material across disciplines (R3). This course was designed to be more interactive than traditional courses to model experiential learning theory, which gave the students "freedom" to move around, and have a sense of student autonomy (R1). Students were able to learn and process information according to their own learning styles. The use of all five senses provided students with an opportunity to have a hands-on approach to every task, including lectures. The instructor would encourage interactive activity by having students summarize reading assignments in one sentence on an oversized post-it note for all the students to learn from each other, but also to provide their input. That ownership of the material caused students to feel responsible to the class, and to contribute what each individual was learning, making learning a group experience (R5).

Deep learning (R1, R2, R3, R4, R5, R6, R7, R8) is the most significant result of this class that has lead to knowledge transfer. Life skills were taught in activities such as the Challengeworks Ropes course, where the learning objective was not preset to be teamwork and communication, but those themes emerged. Students were able to learn through the Challengeworks course how teamwork and communication are critical to all aspects of life, be it operating a business, conveying learning objectives in a classroom, or coordinating volunteers. Scaffolding was a new concept to many students, but one that proved to be extremely effective. Reflecting about the experience before and after the activity helped students to be prepared for what they were about to learn, as well as helped them to process what they did learn. The reflection piece allowed for students to make connections and construct new meanings from the new material and experiences. One respondent observed that this course was harder than traditional courses (R2)

because of the responsibility placed upon the students to reflect and connect experiences, but that its result was much more rewarding once students could see the fruits of their labor. Reflection is what completes the learning cycle and allows for students to experience deep learning, rather than experiencing and forgetting what happened or missing the learning objective.

The emotional connection between students and their peers, students and instructor, and students and the material was very strong (R1, R2, R3, R4, R5, R6, R7, R8). The ten-day, four-hour sessions, helped intensify the feelings of emotion that respondents had towards this course. The material also played a significant role that impacted the students equally. Positive memories were generated through the course and experiencing new challenges together, as well as through the camaraderie formed. It was a comfortable environment that allowed students to be personally committed to each other and be actively engaged throughout the course. This environment and active engagement increased the interest of students, and gave it added meaning to each individual. Once the students were actively engaged, they were more motivated to do well and to truly learn the material besides just learning for a grade. It was fun for them, and they were learning for enjoyment and personal benefits versus extrinsic motivation.

<div align="center">**Conclusions**</div>

The themes that emerged from the data align perfectly with experiential learning theory. Dewey points out that the instructor should be removed from a position of "dictator" (Roberts, 2003) and should be in more of a facilitator role. As the themes

emerged from the data, the responses aligned with Dewey's theories. Students and instructor alike responded that the instructor's facilitating role helped foster an environment of deep learning. The shift in responsibility was a key point in the instructor's facilitating role, which was supported by both previous research as well as the respondents in this study.

The active role of students is a theme throughout experiential learning, and helps define the theory. Students take a more hands-on approach to learning and this engagement with the material creates deeper learning. The level of retention is higher with active engagement of the material, because the students are incorporating the majority of their senses to experience knowledge versus a passive approach of reading and memorizing. "Knowledge results from the combination of grasping and transforming experience" (Kolb, 1984, p. 41). Transforming an activity brings the material to life, and shows students its applicability to other disciplines. Cake (2006) points out that active learning is more than a collaborative activity, though an activity is important. It also includes an element of questioning as well as a concluding reflective activity to bring the learner full circle.

As seen throughout experiential learning theory, experiences are important in the learning cycle. Experiences are not only in the classroom or academic setting, but in all aspects of life. All experiences lend themselves to learning in some form (R8). The respondents in this study agreed with research in voicing the importance of prior experiences and knowledge. When instructors use prior knowledge as a base for new

experiences, there is added value to learning. The active role learners have in creating knowledge through experiences is not something to overlook (Doolittle & Camp, 1999).

Deep learning is the product of an instructor's facilitation, active engagement from the students, and experiences being viewed as educational. Deep learning is also made possible through reflection. Armstrong and Mahmud (2008) explain that reflecting adds value to both current and previous experiences, which provides a deeper level of understanding and meaning. Students interviewed in this study saw the importance of reflecting not only in this course but also in their day-to-day lives. Some respondents had never been introduced to the concept of reflection, but now see it as crucial to truly process an experience and learn from it. Respondents specifically listed reflection as one of the most important lessons learned from the course (R2, R3, R4, R5, R6, R7, R8) and it is evident that this component of this course is responsible for a high retention rate. Feedback is seen throughout the business world as important to evaluate job performances, but the value of constructive feedback in academia beyond a grade on a paper is something that cannot be missed.

Along with feedback and reflection, is the idea of motivation and emotional connection to the course. Cake (2006) points out that positive relationships between the course and students, as well as students and instructor are "crucial to facilitating student confidence and independence include acceptance of divergent student views, provision of effective feedback, and the ability to stimulate and convey a sense of their own interest in the subject." In this course many responded with emotional answers, often citing positive memories and personal commitment to the course (R1, R2, R3, R4, R5,

R6, R7, R8). Education that makes you feel is a powerful learning tool. This course made the students feel passionately about learning, whether it was the content or learning more about the specific individual. The emotional connectedness felt among the respondents was partially due to the activities and the reflection of those activities. The structure of this course greatly impacted students, as the knowledge gained from the course is still relevant and active in their lives over a year later.

Recommendations

The findings in this study are applicable to other disciplines, but are not able to be generalized. This study specifically looks into one course with a particular group of students and is context-dependent. It is not possible for this exact scenario to be replicated, because of the background of each specific individual in this course. However, instructors should be encouraged to teach in an experiential learning setting, and researchers can learn from this phenomenological study of what motivated the students most.

This study focused on the effects of experiential learning for Agricultural Leadership, Education, and Communications students; in the future it is recommended that a study be conducted to observe the impact of this type of course and its knowledge transfer for students who have different learning preferences and backgrounds.. Also for future study it is recommended that researchers observe the effects of reflection and motivation. Research has already shown that intrinsically motivated individuals are experiencing deeper levels of learning (Cake, 2006; Calder, 1975; McCombs, 1991;

Mills, 2004). Intrinsic motivation played a significant role in the transfer of knowledge as observed by the data collected in this study, and the experience itself as seen by the researcher. Students were more apt to learn because of the level of vulnerability seen throughout the classroom. Respondents were also able to identify with learning from classmates, and the value gained from hearing other people's experiences and how they were applicable to the material presented each day.

Reflection was an overwhelming response as to the part of the course that stuck with individuals the most. Students were encouraging professors they work with to incorporate more journals, blogs, and other reflecting activities within their curriculum (R2). The corporate reflection allowed for students to identify how the experience impacted them, as well as learning from others and seeing things from a different point of view.

Any experience or activity where the learners are engaged, and intrinsically motivated, should not miss out on the reflection piece. When one reflects on the material, it is the best opportunity for constructive feedback as well as correctly processing the experience. Reflecting shows instructors what the students are gaining from the experience, and shows students that there is educational value to all learning experiences.

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APPENDIX A

INSTITUTIONAL REVIEW BOARD

TEXAS A&M UNIVERSITY
DIVISION OF RESEARCH AND GRADUATE STUDIES - OFFICE OF RESEARCH COMPLIANCE

1186 TAMU, General Services Complex
College Station, TX 77843-1186
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979.458.1467
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http://researchcompliance.tamu.edu

Human Subjects Protection Program

Institutional Review Board

DATE: 10-Nov-2009

MEMORANDUM

TO: BOURNE, DANIELLE D
          77843-3578

FROM: Office of Research Compliance
           Institutional Review Board

SUBJECT: Initial Review

Protocol Number:	2009-0801
Title:	The Impact of an Experiential Learning Course on the Transfer of Knowledge
Review Category:	Exempt from IRB Review

It has been determined that the referenced protocol application meets the criteria for exemption and no further review is required. However, any amendment or modification to the protocol must be reported to the IRB and reviewed before being implemented to ensure the protocol still meets the criteria for exemption.

This determination was based on the following Code of Federal Regulations:
(http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm)

45 CFR 46.101(b)(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior, unless: (a) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (b) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Provisions:

This electronic document provides notification of the review results by the Institutional Review Board.

APPENDIX B

INSTRUMENT – INTERVIEW GUIDE

Interview Protocol   Version: 2/19/10

The impact of an experiential learning course on the transfer of knowledge

1. How would you define experiential learning?
2. What do you base that definition on? Why?
3. Give an example of how you use experiential learning in your career.
4. Is there an example of how you have used experiential learning *beyond* your career?
5. Why do you think you retained information from the class?
6. How does this compare to the level of learning you experienced in a classroom with a more traditional teaching style?
7. How did this style of learning affect your performance in this class?
8. What experiences were the most memorable?
9. What skills do you think were enhanced by learning through an experiential learning philosophy?
10. Do you feel experiential learning courses would be helpful in other/all subjects - math, science, etc. Why or Why not?
11. What else about the course impacted you that I have not asked you about?

APPENDIX C

LETTER THANKING THE INTERVIEWEE FOR THEIR PARTICIPATION

DATE

Dear Participant:

I spoke with you a few days ago about the impact of ALEC 603 on your transfer of knowledge. I wanted to thank you for taking the time to let me interview you, as it was tremendously helpful for my study. I wanted to send you an information sheet regarding the study, to give you a little more information about my research. If you have any further questions, please feel free to contact me. Thanks again.

Danielle Bourne
Dbourne07@gmail.com

APPENDIX D

INFORMATION SHEET

The Impact of an Experiential Learning Course on the Transfer of Knowledge

The purpose of this form is to provide you (as a prospective research study participant) information that may affect your decision as to whether or not to participate in this research.

You have been asked to participate in a research study about the effectiveness of teaching methods during your coursework. The purpose of this study is to describe students' transfer of knowledge from a course to career work, by examining the effects of multiple teaching strategies aiming to increase retention of material. You were selected to be a possible participant because you were enrolled in this course.

If you agree to participate in this study, you will be asked to one interview related to the objective of the study. The interview will take approximately 30 minutes to complete.

The risks associated with this study are minimal, and are not greater than risks ordinarily encountered in daily life.

You will receive no direct benefit from participating in this study; however, information from this study may help teachers better design and deliver course materials.

Your participation is voluntary. You may decide not to participate or to withdraw at any time without your current or future relations with Texas A&M being affected.

This study is confidential; the interview responses will be coded to allow researchers to follow up with nonresponders and to insure qualitative data from multiple is recorded appropriately. The records of this study will be kept private. No identifiers linking you to this study will be included in any sort of report that might be published. Research records will be stored securely and only Drs. Lindner and Dooley and graduate student Danielle Bourne will have access to the records.

If you have questions regarding this study, you may contact Danielle Bourne, 979-574-9055, dbourne07@gmail.com.

This research study has been reviewed by the Human Subjects' Protection Program and/or the Institutional Review Board at Texas A&M University. For research-related problems or questions regarding your rights as a research participant, you can contact these offices at (979)458-4067 or irb@tamu.edu.

Please be sure you have read the above information, asked questions and received answers to your satisfaction.

APPENDIX E

PEER DEBRIEFING MEMO

DATE: February 18, 2010

TO: Dr. Kim E. Dooley

FROM: Danielle Bourne

SUBJECT: Peer debriefing memo

Categories

1. Student role is active
    Examples: Habitat, Ropes, Bush Library
    hands on approach/active participation/interactive
    "freedom" to move around/no rules/student autonomy
    use all senses/multiple intelligence/learning styles

2. Deep learning
    life skills transfer: teamwork, communication
    feedback
    preflection (scaffolding), reflection
    making connections/constructivism
    "harder" than traditional approach

3. Role of instructor as facilitator (guide) – *focus on instructor's interview*
    formal instruction – traditional based learning style; describe
    techniques

5. Learn by experiences
        prior experience
        Service based learning
        Project-based learning

8. Emotional connection
    positive memories
    comfortable
    personal commitment/engagement
        interest/care/meaning/motivation/fun

VITA

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