

An Experiential Learning Framework for Engaging Learners During Study Abroad Experiences

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Abstract

The purpose of this article is to present a model for engaging learners during study abroad activities based on the literature related to experiential learning and cognition. Such a framework will help educators facilitate learning activities before, during and after an international experience that have positive cognitive and affective impacts on students. The framework was developed through content analysis and synthesis of learning theory and cognitive science literature. It was concluded that cognitive science and contemporary learning theory provide a solid framework to help educators facilitate learning before, during and after an international experience. A model was developed to guide educators through this process. Before an experience, it was concluded that educators should focus on reflection. The authors also concluded that during an experience educators should implement activities for learner reflection. Finally, it was concluded that after a study abroad experience educators should also facilitate reflection activities.

Introduction

Modern agriculturalists no longer have the luxury of hiding behind geo-political borders and ignoring what has been happening on the other side of the world. Recognizing this, many colleges of agriculture have embraced international opportunities for undergraduate students (Brooks, et al., 2006). A recent examination of international activities at United States universities (Green, Luu and Burris, 2008) revealed two key findings: (a) *"The majority of students and faculty expressed support for international activities, but failed to participate in these activities"* (p. viii) and (b) *"While*

the number of participants had increased, only a small portion of undergraduates participated in academic programs abroad and many of those that did had short-term experiences" (p. viii).

The Commission on the Abraham Lincoln Study Abroad Fellowship Program (2005) took a critical look at the current status of study abroad programs in the United States. They proclaimed that *"promoting and democratizing undergraduate study abroad is the next step in the evolution of American higher education"* (p. v). The Commission set the lofty goal of one million students studying abroad annually. They went further to say that a bold new emphasis on study abroad could have the same effect on the United States as the land grant university system and the G.I. Bill.

The Commission on the Abraham Lincoln Study Abroad Fellowship Program's (2005) charge is being answered. The Association of Public and Land-Grant Universities (APLU, n.d.) established study abroad as one of its major initiatives. Additionally, citing the importance of preparing American college graduates to be global citizens in a post-9/11 world, the United States Congress is in the process of establishing the Senator Paul Simon Study Abroad Foundation. This landmark legislation has been passed by the House of Representatives (H. R. 1469, 2007) and the Senate (S. 473, 2009). The goals of this legislation are within 10 years of the date of the enactment of this ACT:

1. Not less than 1,000,000 undergraduate United States students will study abroad annually for credit;
2. The demographics of study-abroad participation will reflect the demographics of the United States

undergraduate population, including students enrolled in community colleges, minority-serving institutions and institutions serving large numbers of low-income and first-generation students; and

3. An increasing portion of study abroad will take place in nontraditional study abroad destinations, with a substantial portion of such increases taking place in developing countries. (Senator Paul Simon Study Abroad Act of 2009, S. 473, p. 17)

One million students studying abroad annually is an admirable goal that would be substantially above current levels. It will require all academic disciplines to increase their current efforts in establishing study abroad programs and recruiting students to participate. However, as NAFSA's Task Force on Institutional Management of Study Abroad (2008) noted, increasing the number of students is only one part of the equation. The other part is establishing appropriate guidelines to ensure that students receive a quality learning experience.

Colleges of agriculture have embraced study abroad for numerous years. In 2006, students studying agriculture represented .3% of the total student population (FAEIS, 2007; USDE/IES, 2008), but represented 1.4% of the students studying abroad (Institute of International Education, 2009). As a result, numerous researchers in agriculturally related disciplines have provided pragmatic insight into creating meaningful learning experiences, largely based on personal experiences of the faculty and students (Tritz and Martin, 1997; Brooks et al., 2006; Irani et al., 2006; Wingenbach, Chmielewski, Smith et al., 2006; McGowan, 2007). Although helpful, such inquiries do not provide a theoretical framework for conducting study abroad programs and do not fully integrate emerging knowledge of how people learn.

Knowledge of how people learn, based on advances in an understanding of how the brain works, has grown exponentially over the last few decades (Bransford et al., 2000; Zull, 2002). Learning can now be understood from psychological, biological and physiological perspectives, providing insight in to the development of impactful learning experiences. Applying this knowledge has been called brain-based learning (Caine and Caine, 1994). The extent to which facilitators of study abroad experiences understand and apply brain-based learning principles is unknown.

Purpose and Methods

The purpose of this article is to present a model for engaging learners during study abroad activities based on experiential learning and cognitive science, while considering cultural sensitivity. Existing empirical and theoretical literature was used as the data for this article. Developing such a model will help educators

facilitate learning activities before, during and after a study abroad experience that have positive cognitive and affective impacts on students and promote positive cultural experiences. The framework was developed through content analysis and synthesis of learning theory, cognitive science literature and cultural sensitivity literature.

Results and Discussion

Synthesizing the literature relevant to engaging learners during study abroad activities led to five emerging themes: (a) activities before the experience; (b) activities during the experience; (c) activities after an experience; (d) learner engagement throughout the experience; and (e) cultural sensitivity. A brief discussion of each theme is presented below and a summarizing model was created to show how each theme relates.

Before an Experience

The period of time before an international experience could appropriately be called prelection (Jones and Bjelland, 2004). This time period is best used as a time for preparing students for learning. Jones and Bjelland posited that prelection will allow students to have the cognitive capacity to reflect in greater depth over their concrete experience and for this reason, prelection should be used as the starting point of an experiential learning endeavor. Prelection experiences and activities increase the "*readiness capacity of students to learn from their experiences, thereby increasing their capacity to reflect upon the concrete experience and increasing the overall learning by the student*" (Jones and Bjelland, 2004, p. 963). The importance of preparing learners for learning has been supported by learning theory for a considerable amount of time (Newcomb et al., 2003). Preparation for learning is also important from a brain physiology standpoint (McLaughlin et al., 2005). Learning occurs as the brain process information received through the five senses and integrates the new knowledge in to existing synaptic networks (Bransford et al., 2000; Zull, 2002). By their very nature, study abroad experiences are sensory rich. By preparing learners in advance, they can be better prepared to interpret the plethora of data and focus on aspects most important for their learning. Additionally, preparing learners in advance can begin to build synaptic networks that can provide the framework for learning throughout the experience.

Prelection class sessions should provide students an opportunity to get to know one another prior to leaving the country (Koernig, 2007). This will help the students feel comfortable with each other and help to promote a positive learning community during the study abroad experience (Lutterman-Aguilar and Gingerich, 2002;

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Koernig, 2007). Koernig presented a list of possible activities that could be used to promote student bonding as well as an introduction to culture. The following activities are suggested by Koernig (2007):

- Student interviews of one (or two) other classmates and an oral introduction of that person to the rest of the class,
- Two- or three -person team oral presentations of one aspect of the culture of the country,
- A discussion of previous experiences traveling or living overseas (p. 212).

An important consideration at this time is the emotional or affective state of the learner. Cognitive science has revealed the crucial role that emotions play in learning (Zull, 2002). Accordingly, educators should make sure students have sufficient logistical details about the experience and its' potential application to reduce anxiety and stress while at the same time increasing excitement and focus. Rodriguez and Roberts (2011) found that some students on study-abroad programs are concerned "with personal safety, food availability and water safety" (p. 23). A study abroad experience can elicit positive and negative emotions in learners, particularly if learners perceive potential danger (Wingenbach et al., 2006). Strong emotions, particularly worries about safety, should not be ignored because the worries and emotions will decrease the students' chances of cognitive learning (Rodriguez and Roberts, 2011). Therefore issues regarding emotions and safety should be addressed prior to the study-abroad program during the reflection activities in an attempt to enhance student learning before the study-abroad and during the study-abroad program (Rodriguez and Roberts, 2011). Advances in the understanding of brain processing have revealed that perceptions of threat can inhibit learning, as the brain shifts to a fight or flight focus (Caine and Caine, 1994; Zull, 2002). Concurringly, learning theory, in the form of Maslow's hierarchy of needs (Maslow, 1943) has long supported that people will focus on survival until that need is satisfied.

Other important factors to consider before an experience are the learner's motivation and existing knowledge. Experiential learning theory and cognitive science recognize that all new knowledge builds off of exiting knowledge (Dewey, 1938; Kolb, 1984; Bransford et al., 2000; Zull, 2002; McLaughlin, 2005). A central precept in Dewey's experiential learning theory were the concepts of interaction and continuity. Interaction refers to the interplay between the inner being of the learner and the outer being of the environment. Continuity refers to the interplay between past, present and future experiences. Examining interaction and continuity together emphasize the importance of learners' previous

experience, knowledge and perceptions. No learner is a clean slate. Accordingly, educators should conduct activities to learn about students' previous experiences, knowledge and existing perceptions (Rodriguez and Roberts, 2011). Then, building from learner motivation and knowledge, educators and learners can jointly develop goals for the experience that build from previous knowledge and appropriately stretch the learner (Vygotsky, 1978), thus providing an experience at the appropriate content level (McLaughlin et al., 2005).

Identifying preexisting knowledge should not be isolated to technical content. Educators should focus on the students existing cultural awareness and strive to provide learning activities that enhance the students' cultural awareness and understanding (Rodriguez and Roberts, 2011). In addition, students should reflect over their own communities and analyze how their own communities have shape their lives and contributed to their personal values (Lutterman-Aguilar and Gingerich, 2002). Sparrow (1993) stated, "*self-awareness is crucial to intercultural learning. Our predispositions, expectations and reactions affect our perceptions. Our perceptions affect our judgments, how we solve problems and make decisions and ultimately how we are perceived and trusted by others*" (p.155).

During an Experience

Experiential learning theory contends that learning occurs by transforming experience through reflection (Dewey, 1938; Kolb, 1984; Roberts, 2006). A key feature of these theories is that learning is a cyclical process by where new experiences build from previous experiences. Cognitive science also recognizes that learning is a continuous process of forming new synapses and then building and breaking synaptic connections between existing neurons (Bransford et al., 2000; Zull, 2002).

The importance of reflecting on experiences (Kolb, 1984; Roberts, 2006) is widely accepted. However, with an overabundance of culturally and cognitively complex situations that occur in a study abroad experience, learners (especially novices) may need guided reflection as they process these experiences (McLaughlin et al., 2005). Lutterman-Aguilar and Gingerich (2002) purported that critical analysis of experience is a necessary component of experiential learning and it is a part of the reflection process. Experiential learning is often associated with problem-based education. In problem-based education it is "impossible to solve a problem without first analyzing and understanding the nature of it" (Lutterman-Aguilar and Gingerich, 2002, p. 55). However, Lutterman-Aguilar and Gingerich purported that students cannot be expected to effectively analyze and reflect an experience on their own, they must be taught how to properly

reflect in an in-depth manner. Reflection should include an exploration of the students' feelings and emotions, an analysis of their own behaviors and why they responded that particular manner and an in-depth analysis of the cognitive process/content that has been covered. Goldstone and Wilensky (2008) purported that learners can make sense of complex systems through guided interpretation of elements of the phenomena. However, Meade et al., (2009) discovered that experts found collaborative debriefing beneficial, while novices found it distracting. Accordingly, educators should provide multiple opportunities for individual and group reflection with sufficient guidance to allow learners to reflect on aspects of the experience that are relevant to the goals they established during reflection.

The use of individual assignments should be used to encourage and allow for individual reflection (Lutterman-Aguilar and Gingerich, 2002). An assignment could be in the form of a paper, in which the student selects an experience, describes the experience and analyzes his or her own role in the experience (Lutterman-Aguilar and Gingerich, 2002). Upon completion of the individualized assignment/reflection, the facilitator should use the assignment to guide a reflective group discussion (Lutterman-Aguilar and Gingerich, 2002). According to Freire (2000) critical analysis and reflection should not be left solely to the individual. Instead, critical analysis and reflection should expand and develop based on collective communication (Freire, 2000; Lutterman-Aguilar and Gingerich, 2002).

The time during a study abroad experience is often characterized by a plethora of rich experiences. In such a stimulating learning environment, it is important to recognize that the brain consciously and unconsciously processes copious amounts of information received through the senses (Zull, 2002). Sweller (1988) proposed the Cognitive Load theory as a way of looking at brain processing. Sweller recognized that learning takes place through the creation of schemas that represent long term memory and that learning corresponds with a change in the brain schema. However, Sweller cautioned that too much information could actually overload working memory and thus impede learning in a way that prevents the development of schema. Fortunately, educators can help facilitate learning in these situations. In addition to preparing learners before an experience, educators can help learners focus on key aspects of the experience that are most relevant to achieving learning objectives.

Depending on the structure of a study abroad experience, learners may be given greater responsibility for their learning, allowing learners to construct their own meaning from the experience. However, as self-regulated learning theory (Schunk and Zimmerman,

1994; 1998) suggests, taking responsibility for one's own learning is a skill that must be developed. Cognitive theory supports that humans are naturally driven to learn, but that novice learners differ from expert learners in the way that they learn (Caine and Caine, 1994; Bransford et al., 2000; Zull, 2002).

An additional strategy to enhance learning during a study abroad experience is to facilitate inductive activities that require learners to use inquiry and problem-solving skills. Such an approach is consistent with the brain's natural search for patterns and schema development (Caine and Caine, 1994; Bransford et al., 2000; Zull, 2002; Gureckis and Goldstone, 2008). As previously mentioned, problem based education fits neatly into the experiential learning framework and will allow the student practice and enhance their critical analysis and reflection skills (Lutterman-Aguilar and Gingerich, 2002). This strategy will also foster learner responsibility for acquisition and application of knowledge, which is consistent with Self-Regulated Learning (Schunk and Zimmerman, 1994). The problem based learning approach allows the student to analyze the problem, formulate a hypothesis and test the hypothesis (Silcox, 1993). Silcox purported that it is the reflection process that takes place in problem based learning that allows the student to comprehend and understand the newly discovered information. During the reflection process, it is imperative that the student constantly builds connections using new knowledge without pre-existing schema (Dewey, 1938; Vygotsky, 1978).

After an Experience

Learning should continue after an international experience by giving learners further opportunities for reflection (Kolb, 1984; Roberts, 2006) that connect back to the goals established during reflection. Cognitive science has discovered that reflecting on an experience is in fact itself a vicarious experience (Zull, 2002). Thus reflecting about a study abroad experience can prolong the learning by focusing the learner's attention on the experience for a greater amount of time.

Anecdotal evidence would suggest that educators have widely embraced the importance of reflection after an experience. However, educators can further enhance learning by guiding learners to generalize (Kolb, 1984; Roberts, 2006) their new knowledge by reflecting on the applications and implications of their newfound knowledge. An intense learning activity, like a study abroad experience, can serve as a motivating factor for further learning (Pintrich and Schunk, 1996).

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Learner Engagement

Learners must be engaged for learning to occur in any learning environment, including study abroad programs. McLaughlin and her colleagues (2005) presented a framework for examining learner engagement. They defined engagement as “the form of cognitive interaction between the student and instructional content” (p. 4). This framework differs from other conjecture of student engagement in that it focuses on the “in-the-moment engagement with instructional content” (p. 5), as opposed to longer-term assessments of student involvement. According to McLaughlin et al., learner engagement is influenced by four factors: (a) learner motivation, (b) occasion for processing, (c) physiological readiness of the learner and (d) subject matter content level. They went further to emphasize that the four factors are not independent and may actually have some interaction with each other.

Motivation

McLaughlin et al. (2005) defined motivation as “that which moves a student to participate in a given learning activity” (p. 22). Many theories have been developed to explain learner motivation. A few relevant to learner engagement during study abroad experiences include expectancy-value theory, hierarchy of needs and attribution theory. From an expectancy-value perspective, learners will devote more effort to activities in which they expect to lead to a particular outcome and activities in which they value the likely outcome (Atkinson, 1957). A key component of expectancy-value theory is the concept of self-efficacy (Bandura, 1997). Self-efficacy refers to a learner’s perceptions about his or her own abilities to achieve a task or goal.

Maslow’s (1943) Hierarchy of Needs theory asserts that learners have differing needs and that certain levels of needs must be satisfied before other levels can be addressed. According to Maslow, the most basic needs focus on physiological functions like food, water, air, etc. Once physiological needs are met, the next level is safety needs, which include environmental conditions that threaten learners. The next two levels, belongingness and esteem, which focus on the emotional well-being of the learner. Finally, the highest level is self-actualization, which focuses on learners’ desires to maximize their achievements.

A final way to examine motivation is attribution theory (Weiner, 1985). Attribution theory looks at outcomes based on perceived causes. Central to this theory is the concept of locus of control, in which learners attribute outcomes to things within their own control (internal locus of control) or things outside their control (external locus of control). Weiner, Frieze, Kikla, Reed,

Rest and Rosenbaum (1971) postulated that learners attribute success to ability, effort, difficulty and luck. Ability and effort are internal factors. Difficulty and luck are external factors. Student motivation is a definite factor that should be considered when facilitating study abroad experiences.

Occasion for Processing

Occasion for processing refers to the “means by which the brain receives, uses, stores and retrieves information from the environment” (McLaughlin, 2005, p. 9). At the core of this process, learners use their senses to interact with the environment and then process that information in their brains by activating neural networks and developing schema (Bransford et al., 2000; Zull, 2002). Learning is a cognitive process that occurs inside the brain and thus outside the view of an educator. McLaughlin et al. posited that from an educator’s perspective, it is more important to focus on the occasion for processing by creating meaningful learning experiences that maximize the opportunities for learners to process information. Study abroad experiences create a plethora of opportunities for students to process new information.

Physiological Readiness

From a biological perspective, the human body and mind must be physiological ready for learning to occur (McLaughlin et al., 2005). They defined physiological readiness as a student’s “capacity to pay attention and perform the other cognitive processes necessary for learning” (p. 13). McLaughlin et al. presented four factors that impact physiological readiness: (a) attention, (b) stress, (c) disabilities and (d) nutrition and sleep.

As noted previously, learning is a process by where information is received through the senses and processed in the brain. Accordingly, before learning can occur, learners must pay attention to the appropriate information received through the senses (McLaughlin et al., 2005). However, in nearly any environment the amount of information received through the senses is greater than the amount of information the brain can process (Bransford et al., 2000; McLaughlin et al.; Zull, 2002). So, for learning to occur, learners must filter through information and attend to the things relevant to what is to be learned.

When discussing stress, McLaughlin et al. (2005) presented a continuum that went from non-stress, which they equated to being not being awake, to total stress, which they equated to panic. In the middle of this continuum is an optimal stress level, in which learners reach maximum performance. Just below optimal stress, McLaughlin et al. discussed eustress, which is a positive

level of stress that increases performance. In contrast, just above optimal stress, is a level called distress, in which performance is inhibited. Physiological readiness can definitely impact a study abroad experience.

Content Level

Content level refers to level of difficulty of the knowledge and/or skills that students are expected to learn (McLaughlin, 2005). All new learning builds on previous knowledge (Dewey, 1938; Kolb, 1984; McLaughlin et al., 2005). If students do not have sufficient prior knowledge, they will have difficulties learning the concepts presented. Oppositely, if students have already mastered the concepts presented, they may become disengaged with the new learning experience. McLaughlin et al. (2005) suggest that new concepts should be presented at a level just above what the students already know. This certainly has implications for educators facilitating study abroad experiences.

Intercultural Sensitivity

Another theme that emerged from the literature was that of culture. Study abroad experiences often create the opportunity for the learner to experience and interact with cultures that are different from his or her own. Learners often report that interacting with the people while abroad is one of the more impactful parts of a study abroad experience (Wingenbach et al., 2006; Rodriguez and Roberts, 2011). Experiencing another culture can be a life-changing experience that often means learning as much about one’s own culture as it does learning about another culture (Delaney, 2011).

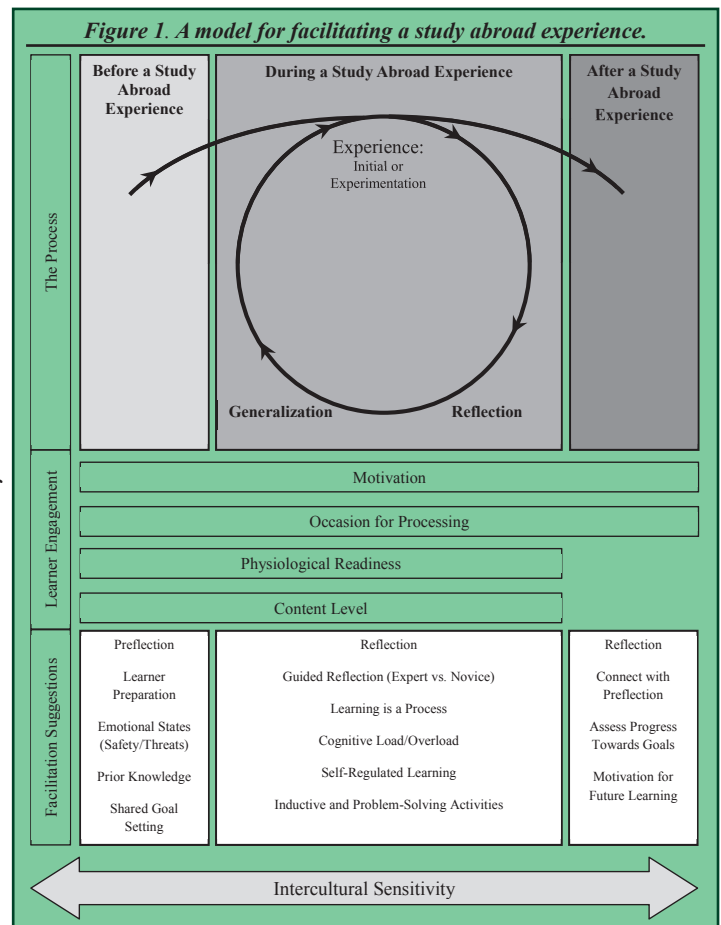
Developing intercultural sensitivity is often explained through some kind of stage theory, whereby learners develop greater cultural awareness as they progress through a series of stages. Some of the often-referenced theories come from the tourism literature (Oberg, 1960; Hottola, 2004). These theories generally propose that travelers will often experience shock or confusion at the beginning of an experience. This is often followed by a period of great excitement. Then if the learners continue to progress, they either begin to adapt to the local culture or they oppose the local culture (Hottola, 2004). As the experience draws to a close, learners often experience mixed emotions, excitement about returning home, but sadness about leaving behind this new world they have learned about. Hottola (2004) and Oberg (1960) both suggest individual travelers move through the stages independently and may not reach each stage. Additionally, they also propose that the stages are not discrete and that travelers may move backwards and forward depending on the activities of a given day.

Summary

As a result of reviewing the literature it was confirmed that cognitive science and contemporary learning theory provide a solid framework to help educators facilitate learning before, during and after a study abroad experience. An overarching understanding of learner engagement and intercultural sensitivity can also help educators facilitate meaningful experiences. A model was developed to guide educators through his process (Figure 1).

Before an experience, it was concluded that educators should focus on prefection (Jones and Bjelland, 2004). Educators should facilitate activities that focus on preparing learners for the experience. These activities should take into account the emotional state of the learner and focus on establishing a safe and non-threatening expectation. Educators should also take time to assess the learners’ preexisting knowledge and plan to connect the new experiences with that prior knowledge. Additionally, learners should begin to explore the cultures that will be experienced during the study abroad experience. Finally, educators and learners should work together to establish goals for the experience.

The authors also concluded that during an experience educators should implement activities for learner reflection. Further, with novice and inexperienced learn-



ers this reflection will need to be more guided, whereas experienced learners with some expertise may not require guidance. However, even for experienced learners, an international experience is sensory-rich, which may lead to cognitive overload. Educators should remember that learning is a process and will be on-going throughout the experience. Additionally, inductive and problem-solving activities may be used to enhance learning. Where possible, educators should seek to foster self-regulated learners. Finally, educators should be prepared to help students explore and understand the cultures experienced.

Finally, it was concluded that after an international experience educators should also facilitate reflection activities. These post-experience activities should be tied back to the pre-reflective activities, including an assessment of progress to the shared goals. After the experience, learners may also be better prepared to discuss what they learned about the cultures experienced during the study abroad experience. Finally, an international experience can serve as a motivation for continued learning, so educators should help learners identify strategies for advancing their knowledge.

It is recommended that educators utilize this framework while facilitating study abroad experiences, paying close attention to the facilitation suggestions for before, during and after an experience. Implementing this framework should enhance learning and thus make graduates better prepared for a global society (National Research Council, 2009). This model should also be revisited occasionally to update it as our understanding of this type of educational experience further develops.

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