EVALUATING EXPERIENTIAL LEARNING ACTIVITIES

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ABSTRACT

While it's thought that experiential learning pedagogies encourage greater student engagement that results in deep meaningful learning, it may be that they sometimes yield short-term surface learning. This notion that experiential learning activities in and of themselves do not always produce. Meaningful learning is explored by examining the learning processes evoked by the activity. Evidence is presented that suggests those students who completed the four stages of the experiential learning cycle utilized a deeper approach to learning and perceived they learned more, in contrast to abbreviated learning cycles that produced a surface approach to learning. Examining the mediating effect of students' approaches to learning may explain the varied nature of experiential learning activities even though the short-term learning outcomes seem to have been achieved. Implications for the classroom as well as the scholarship of teaching and learning are provided.

INTRODUCTION

Engaging students in the learning process and increasing their educational responsibility through the use of experiential learning activities is a growing trend in marketing education and is advocated by the recent AACSB accreditation standards. Experiential learning can be a powerful pedagogy for teaching marketing's broad body of concepts, principles, and analytics by internalizing theory through guided practice. Experiential-based pedagogical articles involving living cases (LeCair and Stottinger 1999), service learning (Schwartz and Fontenot 2007), interactive web-based cases (Owen 1999), integrating practitioners into the course (Linrud and Hall 1999), students as consultants (Kumcu and Kumcu 1998), e-ventures (Dilts et al. 2007), and an entire special issue of the Journal of Marketing Education (April 2000) have been devoted to experiential learning techniques, purporting to motivate learners and improve skills.

However, even the originator of experiential learning theory, John Dewey (1933), acknowledged that experience in and of itself is not always educative. Most recently project-related learning was not found to be related to learning retention implying that projects may represent a hit-or-miss method of learning (Bacon and Stewart 2006). Successful completion of problem-solving tasks was found not to be a valid indicator of students' conceptual understanding of underlying concepts in the sciences (McDermott and Shaffer 1992), and service-learning experiences devoid of explicit reflection may not foster academic learning (Sheckley, Allen, and Keeton 1993). In fact, if students do not think seriously about their experiences, their experiences may reinforce stereotypes and incorrect suppositions (Glenn and Nelson 1988). Eisenstein and Hutchinson (2006) draw the conclusion that "Contrary to popular wisdom, compared with traditional learning, experiential learning is likely to be a risky proposition because it can be either accurate and efficient or errorful and biased." To successfully learn from experiential activities, the learning process must be rigorously planned to incorporate multiple aspects of the learning cycle. Therefore, it is important to understand how experiential learning activities can support and enhance learning environments if we are to deploy them effectively. Scholarly evaluation is the key to developing a better understanding of the many intentional and inadvertent aspects of experiential activities that can positively or negatively affect the learning process. The purpose of this article is to present and test an evaluation model for experiential learning activities based on an integration of two widely used learning theories: Kolb's Experiential Learning Theory (1984) and the Student Approaches to Learning Theory (Briggs 1987).

THEORETICAL CONSIDERATIONS FOR EVALUATION

Faculty's decisions on the type of learning objectives and the classroom pedagogy they incorporate, such as experiential learning activities, reflect an underlying educational philosophy based on corresponding learning theories. These activities, often loosely structured experiential activities (Hamer 2000) are broader in scope, are completed over a longer period of time and give students greater control over what they learn than do more traditionally based pedagogies, e.g., lectures and exams. These types of experiential learning activities fit into the framework of Kolb's (1984) Experiential Learning Theory which states that "learning is the process whereby knowledge is created through the transformation of experience." Kolb's Theory, however, does not answer the question of how well, from the students' perspective, the learning activity provides opportunity for the completion of each of the four essential stages of Kolb's learning cycle.

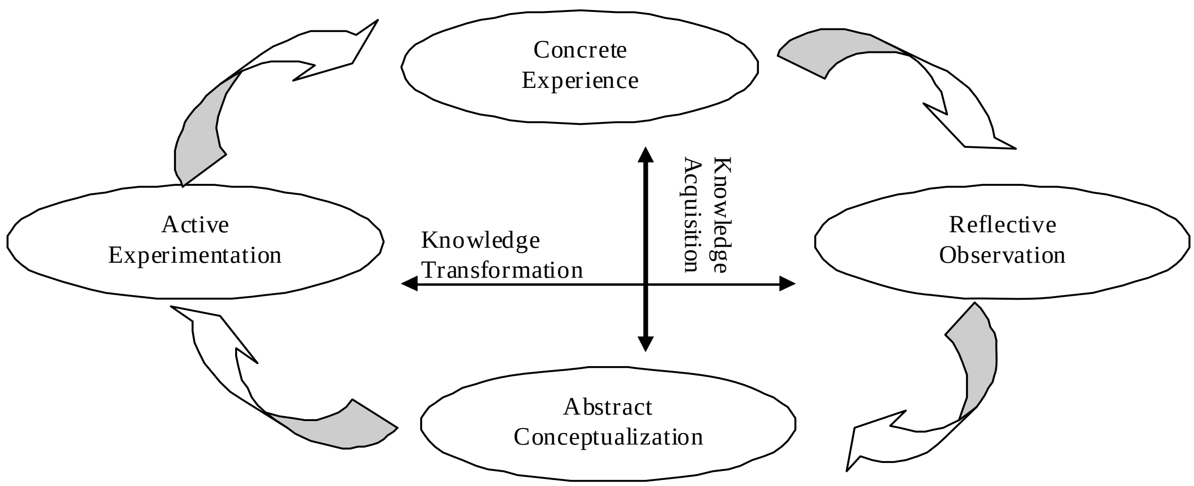
By incorporating the Student Approaches to Learning Theory (Biggs 1987) to this framework, we can better understand how the experiential learning environment affects the learning process by looking at student motivation and types of learning strategies. These two theories also allow us to examine students' perceptions of their learning gained through the experiential activity.

Experiential Learning Theory

Kolb's experiential learning theory (1984) provides a conceptual model and practical framework for designing, implementing, and evaluating marketing education pedagogy. As previously noted, Kolb defines experiential learning as a "process whereby knowledge is created through the transformation of experience" (p. 38), which suggests that learning occurs through a sequence of four steps that create a learning cycle as depicted in Figure 1. These four steps include concrete experiences, reflective observation, abstract conceptualization, and active experimentation. Concrete experiences are the basis for subsequent reflections which are assimilated and distilled into abstract concepts from which new implications for action can be drawn. These implications can be actively tested and serve as guides in creating new experience (Kolb et al. 2000). While learning can start at any step in the learning cycle with an individual's preference of where to start based on his/her preferred learning style (i.e., diverger, assimulator, converger, accomendator), learning is most effective when all four steps are completed (Kolb 1981).

As indicated in Figure 1, the two stages of concrete experience and abstract conceptualization involve knowledge acquisition while reflective observation and active experimentation involve knowledge transformation. More specifically, concrete experiences correspond to knowledge acquisition through sensory perceptions and direct practical experiences with the world, i.e., experiential activities, and it provides the basis for the learning process. These experiences provide "knowledge by acquaintance" and are designed to engage and motivate as well as evoke some affective (feeling) aspect toward the experience. The more personally relevant the experience, the more likely the students' minds and emotions will be engaged. Activities that provide students with concrete experiences include cases, simulations, in-class demonstrations, lectures with anecdotes, videos, discussion of experiences, and current news articles. Concrete experiences gained through these activities allow students' to bridge a perceived gap between their academic learning

FIGURE 1
EXPERIENTIAL LEARNING CYCLE (KOLB, 1984)



Adopted from Kolb (1984).

and the "real world." Similarly, knowledge can also be acquired through abstract conceptualization ("knowledge about something") in which the learners broaden their learning by integrating theories and concepts into the process. In this stage, learners are asked to transform their experiences from the concrete to a more symbolic system through the use of model-building assignments, critiques of models and theories and concept mapping.

Reflective observation, defined as the intentional consideration of an experience in light of particular learning objectives (Hatcher and Bringle 2000) is a knowledge transformation stage, which creates meaning through observation and inward reflection upon previously acquired knowledge and concentrates on what the experience means to the individual. Careful objective reflection through a variety of perspectives allows the learner to objectively analyze their experiences and how they relate to other experiences as well as how these experiences can be integrated into further learning stages. Activities which encourage reflection include personal journals, directed writings, structured classroom discussion, along with self-assessment techniques. The last stage, active experimentation, which also involves knowledge transformation, focuses on the external interaction with the environment and involves testing or use of concepts/theories in practice. While concrete experiences involved classroom activities, active experimentation allows learners to test concepts through "real world" activities such as fieldwork, projects, "active" case studies, simulations, labs, and consulting projects. The emphasis is on "doing," with learners integrating theories, concepts, or processes with these "real world" activities to create practical outcomes. The purpose of active experimentation is to move inactive learners – possibly both physically and mentally – into more active and involved learners.

Creating an encouraging learning environment that engages and motivates students, while focusing on curriculum concepts, is the essences of the four stages of Kolb's experiential learning cycle. Turning experiences and experimentation into educational activities that teach the curriculum's conceptual knowledge is a task that must be well planned and explicitly incorporated into the teaching pedagogy, however, for deep learning to occur.

Student Approaches to Learning Theory

The second theory discussed in this paper, Student Approaches to Learning theory, emphasized the context or learning environment in which learning takes place and its effect on the level of learning that occurs as a result. Marton and Saljo (1976) identified two discrete approaches that students followed when performing normal learning tasks such as reading academic articles. In their phenomenographic study of learning, one group of students actively sought the meaning of the reading assignment by evaluating the evidence presented and the conclusions drawn and then related the main points of the article to their own previous knowledge and experience. Students who concentrated on the underlying purpose and meaning of the article were classified as using a *deep approach* to learning. It was surmised that deep learning approaches facilitated not only the ability to understand the material but also to apply the information that was learned. In contrast, the other group of students focused on facts and ideas to memorize what they thought was important and what they would be required to reproduce at the end of the activity. This *surface approach* to learning did allow the students to give details from the readings, but they failed to grasp the main principles from the article. While surface learning satisfies course requirements, it is a relatively passive approach and uses low-level cognitive skills which don't require the thoughtful reflection needed to encourage greater learning. While it may result in good memorization of terms and concepts, it is less helpful in providing deeper understanding of the material or how the information is applied. See Biggs (1987) and Kember and Leung (1998) for a complete discussion of the underlying theory of students' approaches to learning a limited overview of the theory is described here.

Since Marton and Saljo's initial work, the two learning approaches, i.e., deep and surface, have been described as differing on the degree of motivation and strategy involved in the learning process. These two elements are interrelated: motivation refers to the reasons why students approach their learning tasks, while strategy refers to how they approach the accomplishment of the learning task. With regarding to motivation, the basic theory suggests that surface and deep learning approaches to reflect learners' extrinsic and intrinsic motivation respectively (Biggs 1999). That is, extrinsic motivation involves performing an activity to attain some separable outcome such as a grade or teacher's approval. Surface learners focus on the demands of assessment and try to provide what the task requires, thus exhibiting extrinsic motivation. Conversely, intrinsic motivation occurs when students complete a task because it's interesting and/or challenging rather than for just the outcome or reward that is gained. Biggs (1987) integrated these two concepts and developed a Study Process Questionnaire to measure students' approaches to learning. Applications of the theory and questionnaire have been undertaken in several different cultural settings including Asian (Kember and Leung 1998), African (Watkins and Mboya 1997), and Western (Andrews et al. 1994).

So why does one learning style occur rather than the other? Surface learning is more likely to occur when learning is isolated from practice or "real-world" (Atherton 2005). Concurrently, surface learners tend to be highly dependent on the lecturer for learning and stick only to the assigned readings. Moreover, surface-level motivation is positively related to their surface-level study strategies, for example, learning strategies such as rote memorization or rehearsal are used for the purpose of performing well on an exam or completing assignments without thinking about the purpose or relating it to broader contexts. Learning tends to be very compartmentalized and consists mainly of isolated facts that aren't linked together by the learner. In contrast, deep learners are eager to go beyond the syllabus and acquire new knowledge on subjects they thought were interesting. The strategies here are focused on understanding and incorporating critical thinking, reflection, elaboration, and organization type activities to comprehend the material or experience. These study strategies provide satisfaction from understanding a subject and are stimulated by intrinsic motivation.

Interestingly, student approaches to learning are not thought to be stable dispositions. It is possible for the same student to use surface and deep approaches when processing material within a course or across courses. Thus, we find that student motivation and learning strategies are sensitive to contextual variables in the teaching and learning environment (Kember et al. 1997). Biggs (1999) suggests that the generic aim of good teaching is to encourage students to utilize a deep approach to learning and to discourage the use of a surface approach to learning. Student approaches to learning, i.e., deep and surface learning, which describes the learning process, seems appropriate for assessing and tracking the educational pedagogies used in the classroom.

HYPOTHESES DEVELOPMENT

With support from the pedagogical literature, we propose the following definition and hypotheses. First, we use the Educational Resource Information Center's (2006) definition of learning as "the process of acquiring knowledge, attitudes, or skills from study, instruction, or experience" to form the dependent variable students' perception of learning. We broaden this definition of learning to include the deep learning approach, which incorporates higher cognitive strategies and intrinsic motivation which have been empirically linked to higher quality of learning and positive academic outcomes (Ainley 1993; Das, Naglieri, and Murphy 1995; Hwang and Vrongistinos 2002). The above literature provides evidence of a positive relationship between deep approaches to learning and "objective" course outcomes as well. In addition, we supplement this evidence with our discussions with students that suggest that students do recognize when they are or are not actually learning regardless of their course grade/performance. Therefore, we hypothesize:

> Hypothesis 1a: Deep approaches to learning will be positively associated with students' perceived learning.

> Hypothesis 1b: Surface approaches to learning will be negatively associated with students' perceived learning.

Experiences that provide multiple opportunities and ways to acquire knowledge (experience and conceptualization) and transform knowledge (reflection and experimentation) can accommodate different learning styles. Students employing a balanced learning profile in both dimensions tend to be more sophisticated (deep approach) learners (Kolb, Boyatzis, and Mainemelis 2000). Kolb (1981) also states that learning is most effective when all four states of the learning cycle are completed. Therefore, we hypothesize:

> Hypothesis 2a: Experiential learning activities that incorporate all stages of the learning cycle will be positively related to a deep approach to learning.

> Hypothesis 2b: Experiential learning activities that incorporate all stages of the learning cycle will be negatively related to a surface approach to learning.

The learning climate's (instructor, learning, and performance) effect on self-regulated learning strategies was found to be mediated by students' cognitions and motivations (Young 2005). Consistent with Dewey's (1933) statement that experience in and of itself is not always educative, we hypothesize that unless the experience motivates and stimulates deeper level learning strategies, students will not perceive they have learned something from the activity. Only indirectly through the effects on students' approaches to learning will the experiential activity affect students' perception of learning. Therefore, our third hypothesis is:

> Hypothesis 3: Students' approach to learning mediates the effect the experiential learning activity will have on students' perception of learning.

METHOD

Background and Context

Principles of Marketing courses taught by three different professors were used in this research study. Departmental goals for these courses were twofold: (1) develop students' declarative knowledge focusing on the terms/concepts and frameworks central to marketing and (2) enhance students' procedural knowledge skills by incorporating a decision making component, e.g., a marketing plan, into the course which utilized the above concepts and frameworks. Additionally, the three instructors shared the objective of accomplishing these two goals in the context of experiential learning in which the students were actively engaged and co-responsible for their learning.

To accomplish the above goals, each of the instructors deployed semester-long experiential learning activities, along with lectures, mini-assignments, and exams. These experiential leaning activities included a personal marketing plan, a marketing simulation, and a "hands on" project consisting of a bake sale, all of which met the common course goals and the instructors' desire to improve the learning process. One section incorporated the writing of a personal marketing plan following the Brand You manual (Harris-Tuck 2006), two sections completed an on-line computer simulation Market Share (Deighan et al. 2006), and the fourth section wrote and implemented a marketing plan for the bake sale project.

Data Collection

The data used to test the experiential learning evaluation framework (see Figure 1) was collected at the end of the semester long experiential learning activities by means of an on-line survey. Three different classes of Principles of Marketing representing the three different pedagogies described above provided a total sample 167 completed responses, see Table 1. Demographically, the sample consisted of traditional undergraduates; 58 percent male and 42 percent female; 18 percent marketing majors or minors, with the remaining majors in one of the other College of Business areas; 72 percent with grade point averages in the range of 2.5 – 3.5; and the majority (77%) were sophomores and juniors. The researchers/authors were the instructors for the four sections assessed in this study.

Measures

Students responded to a five-section on-line self-report questionnaire with scales for each of the major variables grouped together with individual items randomly ordered within the scale. For consistency, scales were modified so they were presented in the first person and referenced the specific learning activity used in each particular class. All items and sections of the questionnaire are presented in Tables 1–4.

Experiential Learning Stages. The four stages of Kolb's (1984) experiential learning theory formed the foundation of the questionnaire describing the experiential learning activity. While scales were available to assess individual learning styles based on preferences for the different stages in the experiential learning cycle, a scale that evaluated the learning experience on all four stages of the learning cycle was unavailable. Therefore, we developed a scale specifically to capture students' perceptions of how well an experiential learning activity included each of the four stages of the experiential learning cycle.

The development of the experiential learning stages scale began with a clear definition of the scope of the latent variable, i.e., experiential learning (Educational Resource Information Center 2006), which is conceptualized as a continuous process whereby knowledge is created through the transformation of experience through the four stages portrayed in Figure 1. Thus, concrete experience, reflective observation, abstract conceptualization, and active experimentation form the four sub-dimensions of the overall scale. Next, items used as indicators for each of these sub-dimensions were specified to ensure coverage of the entire scope of the experiential learning stages. A pool of items was generated by reviewing the literature on experiential learning (e.g., Kolb's Learning Styles Inventory (1981) and Kember et al. (2000) Level of Reflective Thinking scale). The items were then circulated among the three authors in an iterative process of categorizing and clarifying the wording of each item until we had a consensus of three representative items for each of the four stages. The twelve items were then modified to reflect the specific experiential learning activity to be assessed and measured on a five-point completely agree/disagree scale. The scale was then pre-tested with a class of twenty-one Marketing 101 students. After the students completed the questionnaire, a debriefing session with the respondents revealed that they clearly understood the wording and the meaning of the items.

A factor analysis of the pre-test data produced one factor and a coefficient alpha of .93 for the total scale and

TABLE 1
STUDENT DEMOGRAPHICS OF PRINCIPLES OF MARKETING SECTIONS

Section	n	% Male	% Marketing Major/Minor	% GPA 2.5 – 3.5	% Sophomore/ Junior
Personal Marketing Plan	39	56%	10%	72%	74%
Bake Sale	40	63%	25%	60%	83%
imulation	88	56%	17%	77%	76%
Overall	167	58%	18%	72%	77%

alphas ranging from .72 to .86 for the four sub-dimensions. The items for the experiential learning stages scales are presented in Table 2 along with their coefficient scores. This principle component factor analysis produced one primary factor using the eigenvalue greater than one criteria and the single factor accounted for 66 percent of the variance. The overall scale's coefficient alpha was .95 with each of the subscales alphas in the eighty percent plus range (see Table 2). Although the experiential learning scale appears unidimensional in that it is measuring learning, the separation out of the subscales allow for conceptual clarity and also provide faculty a tool for diagnosing the meaning of the overall evaluation. The correlations and descriptive statistics for this study's Principles of Marketing experiential learning activities are reported in Table 5.

Student's Approaches to Learning Scale. Biggs, Kember, and Leung's (2001) revised two-factor Study Process Questionnaire was used to measure student's approaches to learning. Biggs initially developed the questionnaire in 1987 and through extensive application and revision now provides a 20-item scale. The 2001 analysis of the scale reported that the two factor model (deep approaches and surface approaches) provided a good fit to the data. Their data for the Deep Approach dimension, which consisted of a composite of two sub-dimensions motivation (5-items, $\alpha = .62$) and strategy (5-items, $\alpha = .63$) produced a coefficient alpha of .73. Their Surface Approach dimension, with the same two sub-dimensions motivation (5-items, $\alpha = .72$) and strategy (5-items, $\alpha = .57$) had an alpha of .64. Per the scale developers' recommendation, we modified the items to focus on the experiential learning activity for the current research. This modified Student Approaches to Learning scale's items appear in Table 3.

As indicated in Table 3, the scale proved to be reliable, with a coefficient alpha of .88 for the items measuring Deep learning and a .85 for the items measuring Surface learning. In addition, a two-factor confirmatory factor model was fitted to the data and yielded an adequate fit for the model with a comparative fit index of .99, a chi-square minimum ratio of .002, and a standardized root mean squared residual approximation of .000. Furthermore, the Biggs et al. (2001) results showed a correlation between Deep and Surface Approaches to be a -.23, which was consistent with the -.15 correlation from this data set. These results indicate that the scale and its sub-dimensions adequately capture the two approaches to learning constructs.

Student's Perceived Learning. Student's perception of their learning was measured using two scales utilized by Young et al. (2003) in work on enhancing

TABLE 2
MEASURES OF EXPERIENTIAL LEARNING STAGES

Experiential Learning Stages (Four Sub Dimensions Combined α = .95)
Sub Dimension: Concrete Experience (α = .87)
This activity provided me with a direct practical experience to help understand the course concepts.
This activity gave me a concrete experience that helped me learn the class material.
This activity presented me with a "real world" experience related to this course.
Sub Dimension: Reflective Observation (α = .85)
This activity assisted me in thinking about what the course material really means to me.
This activity helped me relate my personal experiences to the content of this course.
This activity aided me in connecting the course content with things I learned in the past.
Sub Dimension: Abstract Conceptualization (α = .83)
This activity required me to think how to correctly use the terms and concepts from this class.
This activity caused me to think how the class concepts were inter-related.
This activity made me organize the class concepts into a meaningful format.
Sub Dimension: Active Experimentation (α = .84)
This activity made it possible for me to try things out for my self.
This activity permitted me to actively test my ideas of how the course material can be applied.
This activity allowed me to experiment with the course concepts in order to understand them.

NOTE: Scale used a 5-point completely agree/disagree scale. "This activity" was replaced with the specific activity being evaluated, e.g., "Brand You Personal Marketing Plan." N = 167.

TABLE 3
MEASURES OF STUDENTS' APPROACHES TO LEARNING

Deep Approach to Learning (Motivation and Strategy) (α = .88)

Sub Dimension: Deep Motivation (α = .87)
- This course activity gave me a feeling of deep personal satisfaction.
- This course activity helped me create questions that I wanted answered.
- This course activity made me work hard because I found the material interesting.
- This course activity was at times as exciting as a good novel or movie.
- This course activity was interesting once I got into it.

Sub Dimension: Deep Strategies (α = .75)
- This course activity provided me with enough work on the topic so I could form my own conclusions.
- This course activity caused me to look at most of the suggested readings that pertained to the activity.
- This course activity caused me to spend time relating its topics to other topics which have been discussed in different classes.
- This course activity allowed me to test myself on important topics until I understood them completely.
- This course activity's topics were interesting and I often spent extra time trying to obtain more information about them.

Surface Approach to Learning (Motivation and Strategy) (α = .85)

Sub Dimension: Surface Motivation (α = .83)
- For this course activity it was not helpful to study topics in depth because all you needed was a passing acquaintance with topics.
- I was able to get by in this course activity by memorizing key sections rather than trying to understand them.
- For this course activity there was no point in learning material which was not likely to be on the exam.
- I did not find this course activity very interesting so I kept my work to a minimum.
- My aim for this course activity was to complete it while doing as little work as possible.

Sub Dimension: Surface Strategies (α = .69)
- This course activity suggests the best way to pass exams is to try to remember answers to likely test questions.
- I believe that the instructor shouldn't expect me to spend significant amounts of time on this course activity if it's not on an exam.
- For this class activity I restricted my study to what was specifically required as it was unnecessary to do anything extra.
- For this course activity I learned things by going over and over them until I knew them by heart even if I did not understand them.
- For this course activity I only applied what was given in class or on the course outline.

NOTE: Scale used a 5-point completely agree/disagree scale. N = 167.

learning outcomes. Table 4 displays the items in the two scales with the first 5-item scale measuring students' perception of their knowledge and skills gained from the experiential learning activity and the second scale measuring the pedagogical affect or attitude toward the learning activity. The attitude scale uses a 7-point semantic differential scale anchored with four adjectives originally developed by Mitchell and Olsen (1981). Young reported coefficient alphas of .89 for perceived knowledge/skills and .80 for attitudes along with a two-factor principles components analysis solution. The current study produced alphas of .89 and .98 respectively, but only one factor was extracted with principle components analysis. These results indicate that the overall coefficient alpha for the combined scale was .95. Therefore, the overall scale and its two sub-dimensions provide good internal reliability. As a final check of the measurement model, we performed a confirmatory factor analysis utilizing the two sub-scales of perceived learning and the four sub-scales of experiential learning stages. The data

TABLE 4
MEASURES OF STUDENTS' PERCEIVED LEARNING

Perceived Learning Scale (Both sub dimensions combined α = .95)

Sub Dimension: Perceived Knowledge and Skills (α = .89)
Evaluate the activity on . . .
. . . the knowledge you gained.
. . . the skills you developed.
. . . the effort you expended.
. . . your ability to apply the material.
. . . your desire to learn more about this subject.

Sub Dimension: Attitude Toward Activity (α = .98)
Overall, I thought the activity was:
Useful/Useless
Effective/Ineffective
Satisfactory/Unsatisfactory
Good/Bad

NOTE: Scale used for Perceived Knowledge/Skills was a 6-point extremely high/low scale and the Attitude scale used a 7-point semantic differential scale. N = 167.

TABLE 5
CORRELATIONS AND DESCRIPTIVE STATISTICS OF SUBSCALES

	CE	RO	AC	AE	DM	DS	SM	SS	K/S	AT
Concrete Experience										
Reflective Observation	.85*									
Abstract Conceptualization	.78*	.78*								
Active Experimentation	.81*	.80*	.81*							
Deep Motivation	.77*	.74*	.66*	.70*						
Deep Strategy	.62*	.64*	.66*	.63*	.70*					
Surface Motivation	-.21*	-.23*	-.25*	-.29*	-.15*	-.19*				
Surface Strategy	-.14	-.16*	-.19*	-.25*	-.05	-.06	.63*			
Knowledge/Skills	.59*	.60*	.60*	.60*	.63*	.67*	-.30*	-.14		
Attitude	.69*	.67*	.69*	.67*	.70*	.68*	-.29*	-.10	.80*	
M	7.2	7.6	7.4	7.1	14.4	13.9	18.1	17.1	18.1	13.3
SD	2.7	2.5	2.5	2.6	4.0	3.1	3.6	2.9	5.5	6.7
# items	3	3	3	3	5	5	5	5	5	4
α	.87	.85	.83	.84	.87	.75	.83	.69	.89	.98

NOTE: *Statistically significant at .05, N = 167.

fit the model well as indicated by the fit statistics: comparative fit index of .996, a chi-square minimum ratio of 1.41 and a standardized root mean squared residual approximation of .05. Thus, the evidence suggests the scales are appropriate for operationalizing and testing the proposed assessment model.

RESULTS

The proposed model and the hypothesized relationships were examined with structural equation modeling. AMOS (Small Waters Corporation 1999) software was used to estimate the model's parameters and to assess the adequacy of the model fit. The extent to which the model is a good fit to the data was measured by three fit statistics. Carmines and McIver (1981, p. 80) recommend a relative chi-square to degrees of freedom ratio (CMIN) and suggest that a value of less than 3 is indicative of an acceptable fit. In addition, Hu and Bentler (1999) suggest a two-index fit strategy relying on the comparative fit index (CFI) and the standardized root mean squared residuals (SRMSR). The rule of thumb for acceptable fits based on these two indices is that values of CFI above .95 and SRMSR of less than .08 would indicate a reasonable fit of the data to the hypothesized model.

The standardized solution for the model tested is shown in Figure 2. The fit indices were CMIN = .1.65, CFI = .985, and SRMSR = .063 indicating the hypothesized model is an acceptable fit to the data. All of the parameter estimates displayed are significant at the .05 level. It should be noted the negative correlation between Deep and Surface Approaches was not statistically significant and, therefore, is not displayed in the model. In addition gender, grade point average, major, and credit hours were controlled for in a separate analysis of the data utilizing Path Analysis. Consistent with the results reported by Sachs, Law, and Chan (2003) none of these control variables' effects were statistically significant; therefore, they are also excluded from the structural equation modeling.

The squared multiple correlation coefficient for Perceived Learning with Deep and Surface Approaches to Learning and Experiential Learning Stages is .79 indicating a significant percent of the variance is being accounted for or explained by the independent variables. The path coefficient between a Deep Approach to Learning and Perceived Learning is .86 suggesting that students who find the experiential activity intrinsically motivating and utilize more cognitive learning skills perceive they learn more and they have a positive attitude toward the learning experience, supporting Hypothesis 1a. In addition, the -.12 coefficient for the Surface Approach to Learning effect on Perceived Learning is also consistent with Hypothesis 1b in that students who complete the activity for extrinsic reasons and utilize memorization or low level cognitive skills don't think they learned much and don't value the learning experience. These findings are consistent with Dewey's (1933) statement that experience in and of itself is not always educative and Bacon and Stewart's (2006) conclusion that projects can be a hit-or-miss method of learning. Thus, Hypotheses 1a and 1b are supported.

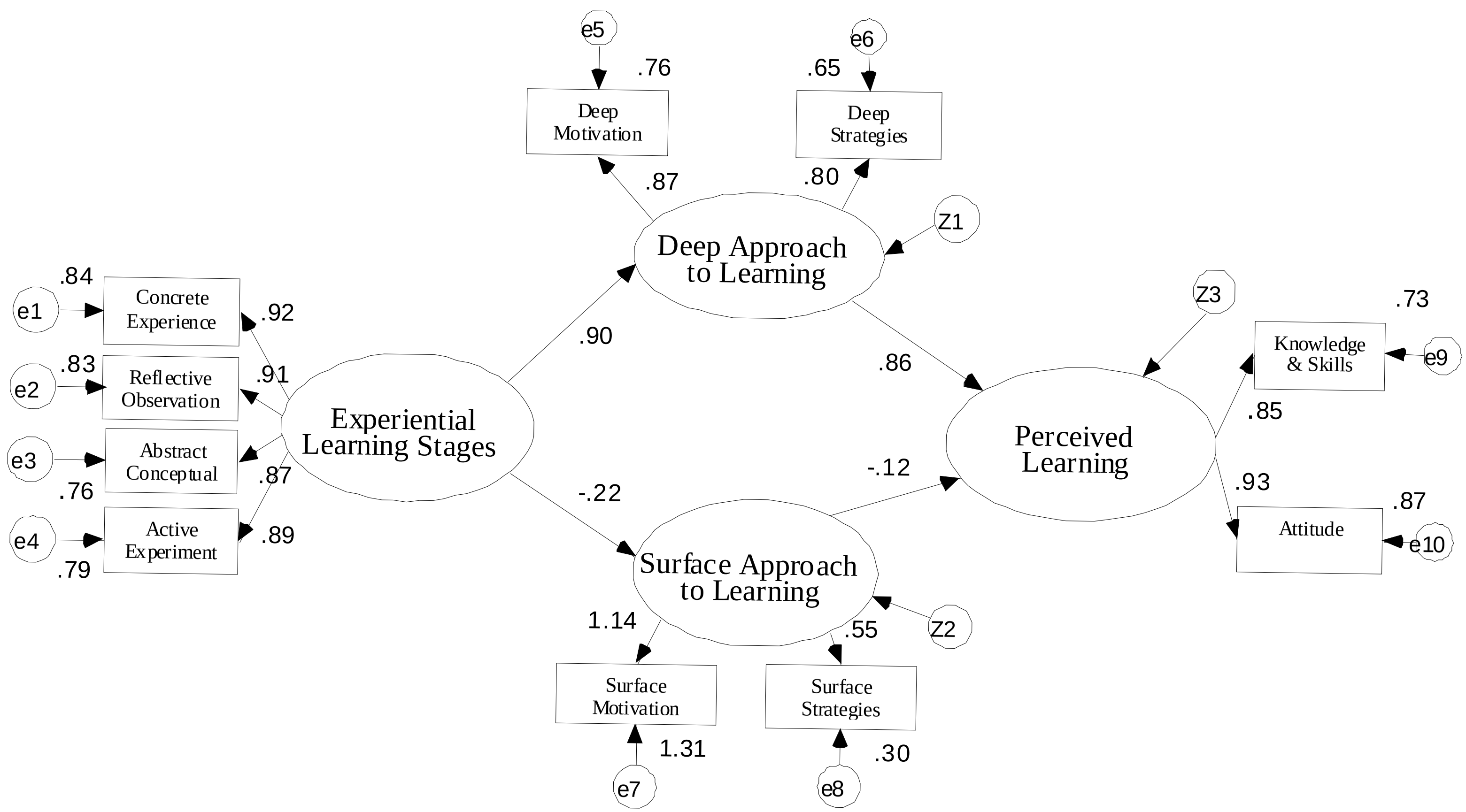
Higher scores on the Experiential Learning Stages scale indicate greater completion of all four learning stages which theoretically should result in greater learning. The .90 coefficient from Experiential Learning Stages to Deep Approaches to Learning suggests that experiences that incorporate the full aspect of the learning cycle may create greater intrinsic motivation and stimulate the use of deeper cognitive learning strategies which in turn results in higher perceived learning and more favorable attitudes, supporting Hypothesis 2a. Conversely when the experience motivates the students to simply complete the task as a requirement/grade, which suggests they do just what it takes to complete the task, they recognize the lack of learning and form less favorable attitudes toward the activity. The -.22 coefficient between Experiential Learning Stages and Surface Approaches to Learning further supports Hypothesis 2b and indicates the importance of well-designed experiences to produce the intended learning outcomes.

Hypothesis 3 states that the effect of the experiential learning activity on Perceived Learning will be mediated by Students' Approaches to Learning. The significant coefficients displayed in Figure 2 and discussed previously establish two of the three conditions (Baron and Kenny 1986) for a mediated effect of the activity. The third condition necessary for establishing a mediated effect is that there is no significant direct path between Experiential Learning Stages and Perceived Learning. To test this condition, we fitted the model in Figure 2 with a direct path between Experiential Learning Stages and Perceived Learning, which resulted in an insignificant ($p = .67$) direct path coefficient (-.10). These results support Hypothesis 3 and the conclusion that the experiential activity only indirectly affects Perceived Learning.

DISCUSSION

These findings suggest that experiential learning activities should be systematically assessed to insure that the desired learning processes and outcomes are being achieved. Designing experiential activities that explicitly incorporate all four stages of the learning cycle, as well as creating experiences that are intrinsically motivating to students, seem to be the foundation for stimulating the use of deeper cognitive learning processes and meaningful learning. Particularly interesting to this discussion is that neither students' perception of learning nor their approaches to learning were significantly correlated with their standardized multiple-choice exam scores. Peng and Bettens (2002) report similar findings which may suggest that short-term objective learning outcomes may be the result of either deep cognitive learning or surface level learning. Thus, understanding the learning process may be the key to understanding why students who perform well on class outcome measures rapidly forget over time as reported by Bacon and Stewart (2006). Where as we do not have direct longitudinal data to support the above contention, we can report a one percent improvement on the Educational Testing Service's marketing exam taken by our College of Business students following the implementation of our experiential learn-

FIGURE 2
STRUCTURAL EQUATION MODEL: EXPERIENTIAL LEARNING EVALUATION



NOTE: N = 167. Standardized solution. All coeffiecients significant at p = .05.

ing activities. These results support Bacon and Stewart's (2006) recommendation to "develop a pedagogy that requires deep learning early and often."

The results of this study provide empirical support for the theoretical relationships between experiential learning theory and students' approaches to learning theory. It suggests two things. First, students who perceived greater learning incorporated Kolb's learning stages in the learning process, i.e., linking an experiential activity with past experiences as well as academic content along with reflective exercises. Second, they were more intrinsically motivated and utilized deeper learning strategies, which can result not only in the perception that they learned more but they also seemed to enjoy the learning more. This conclusion is consistent with Young's (2005) findings that motivation plays a key role in stimulating deep cognitive learning strategies and self-regulated learning. These findings also provide support for the appropriateness of incorporating the experiential learning evaluation framework, in Figure 2, into classroom assessment to insure the student perspective of the learning process is represented along with faculty assessment and traditional outcome assessment.

IMPLICATIONS AND RECOMMENDATIONS

This research evaluated experiential learning activities for the purpose of improving the learning process in the classroom. Findings from this study support Dewey's (1953) conclusion that experiential learning activities in and of themselves do not always produce meaningful learning. From the findings of our research, we recommend the following.

First, evaluate the learning process along with the learning outcomes. Relying on traditional learning outcomes such as exams, end of semester projects, etc. limits the instructor's ability to adequately assess outcomes in order to provide direction for improvement. What is unknown from this process is the meaning of the outcome: was low performance due to lack of motivation and effort or insufficient knowledge and skills, was high performance based on the use of surface learning strategies that may result in satisfactory short-term performance but actually lacks long-term meaningful learning and so on? An assessment of the learning process allows the instructor to see beyond the surface of the learning outcome and can assist in improving the learning process to produce the desire level of performance. Finally, while the evaluation framework presented in this study seems appropriate for experiential based learning activities, it can be modified for differing learning situations, such as those based on an alternative learning theory such as humanistic, cognitive, behavioral, etc.

Secondly, provide opportunities for students to engage in all four stages of the experiential learning cycle. The results from this study suggest that experiential learning activities that incorporated all four stages of the learning cycle led to a deeper approach to learning and a reporting of a higher level of perceived learning and more favorable attitudes by students. Recall that Bacon and Stewart (2006) demonstrated that students' consumer behavior knowledge was retained longer when learned at a deeper level. To encourage deeper meaningful learning, faculty should design comprehensive learning activities that allow for concrete experiences, reflective observation, abstract conceptualization, and active experimentation. The different activities required in these stages should motivate students and allow for a variety of cognitive skills, thus encouraging them to acquire and transform the more concrete experiences, as well as abstract concepts and models, into meaningful information. Thus, it facilitates multiple learning styles but also requires that the hands-on experience is interpreted in a minds-on manner; see Young (2002) for references to examples of experiential learning pedagogies.

Third, in accordance with the above recommendations, actively seek to incorporate activities that will stimulate deeper level learning in the classroom. Open-ended assignments can be effective, particularly when using "real life" topics that require mental organization, manipulation, and integration of information. Thomas (2003) provides an example of using student postings to on-line discussion board forums as a method of creating a social context which allows students to view models of thinking and writing as well as to reflect on their own ideas and writing. She also indicates the public postings may stimulate greater student effort because the assignment is viewed by their peers. Requiring students to organize the material in this activity is facilitated by using a cycle of writing, editing and re-writing the assignments. Requiring students to reflect on lessons learned from the experience helps to relate the experience to course material and theory, and thus validates that correct knowledge is being generated. As previously stated, if learning is left to experience alone, the knowledge generated maybe inaccurate as Eisenstein and Huthchson (2006) have documented with marketing managers use of "action-based" learning.

RESEARCH LIMITATIONS AND FUTURE RESEARCH OPPORTUNITIES

The framework for evaluating experiential learning activities and the use of positivistic methods to examine it suggest limitations in the more traditional sense of sampling issues, measurement validation, and the ability to generalize the findings. Therefore, we explicitly recognized the need for replication at other institutions as well as the additional need to validate and further develop the measurement scales. Second, extending the evaluation framework to incorporate other learning theories and examine their effect on the learning process will allow for further advancement of this area of research. Finally, exploring the effect of the learning process in a longitudinal format will enhance knowledge of creating learning activities to produce long-term meaningful learning. As we found, the evaluation framework tested in this study suggests the necessity and importance of well-designed learning experiences to stimulate desired learning processes that produce meaningful outcomes.

REFERENCES

Ainley, M.D. (1993), "Styles of Engagement with Learning: Multidimensional Assessment of their Relationship with Strategy Use and School Achievement," *Journal of Educational Psychology*, 85, 395–405.

Andrews, J., C. Violato, K. Rabb, and M. Hollingsworth (1994), "A Validity Study of Biggs' Three-Factor Model of Learning Approaches: A Confirmatory Factor Analysis Employing a Canadian Sample," *British Journal of Educational Psychology*, 64, 179–85.

Amos 4.0. (1999), *Small Waters Corporation.* Chicago, Illinois.

Atherton, J.S. (2005), "Learning and Teaching: Deep and Surface Learning," Retrieved November 3, 2006, from [http://www.learningandteaching.info/learning/deepsurf.htm].

Bacon, D.R. and K.A. Stewart (2006), "How Fast Do Students Forget What they Learn in Consumer Behavior? A Longitudinal Study," *Journal of Marketing Education*, 28 (3), 181–92.

Baron, R.M. and D.A. Kenny (1986), "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations," *Journal of Personality and Social Psychology*, 51 (6), 1173–82.

Biggs, J.B. (1987), *Student Approaches to Learning and Studying.* Camberwell, Vic., Australian Council for Educational Research.

____________ (1999), *Teaching for Quality Learning at University*. Buckingham: Open University Press.

____________, D. Kember, and D.Y.P. Leung (2001), "The Revised Two-factor Study Process Questionnaire: R-SPQ-SF," *British Journal of Educational Psychology*, 71, 133–49.

Carmines, E.G. and J.P. McIver (1981), "Analyzing Models with Unobserved Variables," in *Social Measurement: Current Issues*, G.W. Bohrnstedt and E.F. Borgatta, eds. Beverly Hills: Sage.

Das, J.P., J.A. Naglieri, and D.B. Murphy (1995), "Individual Differences in Cognitive Processes of Planning: A Personality Variable?" *Psychology Record*, 45 (3), 355–71.

Deighan, M., S. James, and H. Spotts (2006), *MarketShare.* Charlottesville, VA: Interpretive Simulations.

Dewey, J. (1933), *How We Think*. Boston: Heath.

Dilts, J.C., W.J. Hauser, D. Lewison, and M. LeHere (2007), "E-Venture: Setting Up Shop Online: Creating a Student E-Business Pre-Incubator Experience," *Journal for Advancement of Marketing Education*, 11 (Winter), 1–10.

Educational Resource Center (2006), *ERIC Thesaurus*. Retrieved November 3, 2006, from [http://www.eric.ed.gov/], EBSCO, ERIC database.

Eisenstein, E.M. and J.W. Hutchinson (2006), "Action-Based Learning: Goals and Attention in the Acquisition of Marketing Knowledge," *Journal of Marketing Research*, 42 (May), 244–58.

Glen, S. and J. Nelson (1988), *Raising Self-Reliant Children in a Self-Indulgent World: Seven Building Blocks for Developing Capable Young People*. Rocklin, CA: Prima Publishing and Communications.

Hamer, L.O. (2000), "The Additive Effects of Semistructured Classroom Activities on Student Learning: An Application of Classroom-Based Experiential Learning Techniques," *Journal of Marketing Education*, 22 (1), 25–34.

Harris-Tuck, L. (2006), *Brand You*, 4th ed. Upper Saddle River, NJ: Pearson/Prentice Hall.

Hatcher, J.A. and R.G. Bringle (2000), "Reflection: Bridging the Gap Between Service and Learning," *College Teaching*, 45 (4), 153–58.

Hu, L. and P.M. Bentler (1999), "Cutoff Criteria for Fit Indexes in Covariance Structural Analysis: Conventional Criteria versus New Alternations," *Structural Equation Modeling*, 6, 1–55.

Hwang, Y.S. and V. Konstantinos (2002), "Elementary In-Service Teachers' Self-Regulated Learning Strategies Related to their Academic Achievements," *Journal of Instructional Psychology*, 29 (3), 147–54.

Kember, D., M. Charlesworth, H. Davies, J. Mckay, and V. Stott (1997), "Evaluating the Effectiveness of Educational Innovations: Using the Study Process Questionnaire to Show that Meaningful Learning Occurs," *Studies in Educational Evaluation*, 23 (2), 141–57.

____________ and D. Leung (1998), "The Dimensionality of Approaches to Learning: An Investigation with Confirmatory Factor Analysis on the Structure of SPQ and LPQ," *British Journal of Educational Psychology*, 68, 395–407.

____________, ____________, A. Jones, and A.Y. Loke (2000), "Development of a Questionnaire to measure the Level of Reflective Thinking," *Assessment and Evaluation in Higher Education*, 25, 380–95.

Kolb, D.A. (1981), "Learning Styles and Disciplinary

Differences," in *The Modern American College,* A.W. Chickering and Associates, eds. San Francisco: Jossey-Bass, 232–55.

____________ (1984), *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs, NJ: Prentice-Hall.

____________, R.E. Boyatzis, and C. Mainemelis (2000), "Experiential Learning Theory: Previous Research and New Directions, in *Perspectives on Cognitive Learning, and Thinking Styles,* R.J. Sternberg and L.F. Zhang, eds. New Jersey: Lawrence Erlbaum.

Kumcu, E. and A. Kumcu (1998), "Undergraduate Student Consulting in Export Marketing: An Experiential Course in Electronic Resource Use," *Marketing Education Review,* 8 (1), 59–72.

LeCair, D.T. and B. Stottinger (1999), "Using an Intensive Living Case in Graduate Marketing Courses: Experiences from an International Project," *Marketing Education Review,* 9 (3), 31–40.

Linrud, J.K. and M.C. Hall (1999), "Integrating the Business Practitioner into Marketing Coursework," *Marketing Education Review,* 9 (2), 15–22.

Marton, F. and R. Saljo (1976), "On Qualitative Differences in Learning, Outcome and Process," *British Journal of Educational Psychology,* 46, 4–11.

McDermott, L.C. and P.S. Shaffer (1992), "Research as a Guide for Curriculum Development: An Example from Introductory Electricity, Part 1: Investigation of Student Understanding," *American Journal of Physics,* 60 (11), 994–1003.

Mitchell, A.A. and J.C. Olsen (1981), "Are Product Attribute Beliefs the Only Mediators of Advertising Affects on Brand Attitude?" *Journal of Marketing Research,* 18, 318–32.

Owen, R.S. (1999), "Using Programmed Branching to Automate Interactive Cases on the Web," *Marketing Education Review,* 9 (3), 41–60.

Peng, L.L. and R.P.A. Bettens (2002), "NUS Students and Biggs' Learning Process Questionnaire," *The Center for Development of Teaching and Learning Brief,* (October), 3–6.

Sachs, J., Y.K. Law, and C.K.K. Chan (2003), "A Non-Parametric Item Analysis of a Selected Item Subset of the Learning Process Questionnaire," *British Journal of Educational Psychology,* 73, 395–423.

Schwartz, J. and R. Fontenot (2007), "Recreating the Principles of Marketing Group Project: A Case Study in Service Learning," *Journal for Advancement of Marketing Education,* 11 (Winter), 11–18.

Sheckley, B.G., G.J. Allen, and M.T. Keeton (1993), "Adult Learning as Recursive Process," *Journal of Cooperative Education,* 28, 56–67.

Thomas, J. (2003), "Facilitation of Critical Thinking and Deep Cognitive Processing by Structured Discussion Board Activities," Retrieved December 3, 2006 from [http://www.celt.lsu.edu/cfd/e%2Dproceedings/], *THE Forum E-Proceedings*.

Watkins, D.A. and M.Mboya (1997), "Assessing the Learning Process in Black South African Students," *Journal of Psychology,* 131, 632–40.

Young, M.R. (2002), "Experiential Learning = Hands-On + Minds-On," *Marketing Education Review,* 12 (1), 43–51.

____________, B.R. Klemz, and J.W. Murphy (2003), "Enhancing Learning Outcomes: The Effects of Instructional Technology, Learning Styles, Instructional Methods, and Student Behavior," *Journal of Marketing Education,* 25 (2), 91–103.

____________ (2005), "The Motivational Effects of Classroom Environment in Facilitating Self-Regulated Learning," *Journal of Marketing Education,* 27 (1), 25–40.