Experiential Learning: A Course Design Process For Critical Thinking

Janet G. Hamilton, Ph.D., Portland State University, USA
Joanne M. Klebba, Ph.D., Portland State University, USA

ABSTRACT

This article describes a course design process to improve the effectiveness of using experiential learning techniques to foster critical thinking skills. The authors examine prior research to identify essential dimensions of experiential learning in relation to higher order thinking. These dimensions provide key insights for the selection of experiential techniques within a course. Using these dimensions, the authors propose a course design process to systematically develop an experiential course format that aligns with instructor-specified content and critical thinking objectives.
This process is relevant to educators interested in developing critical thinking skills and may serve to promote more effective student learning.

Keywords: Critical Thinking; Experiential Learning; Course Design; Business Education

INTRODUCTION

Educators as well as employers recognize the need for astute decision-making skills for the demanding business environment that students will encounter in the workforce. The challenge for educators is to design a curriculum that fosters decision-making, and more specifically, its foundation of critical thinking skills, within the context of a discipline. Experiential learning is ideally suited to address higher-order thinking skills. It has long been adopted by educators as a means to enable learning by actively engaging students and may well serve to increase its transferability to the more realistic, intricate situations encountered in a business environment.

While widely adopted as a means to deepen learning, an experiential approach does not necessarily produce learning at the higher-order levels associated with critical thinking. In practice, there is a wide range of experiential techniques to choose from, each of which impact course design, instructional process, and therefore student learning. The selection task becomes more intricate when choosing experiential techniques so as to systematically move students from lower to higher levels of cognitive thought. Consequently, the design of experiential courses may benefit from a deliberate approach that selects instructional activities to address targeted critical thinking abilities.

This article describes a course design process to improve the use and effectiveness of experiential learning to build a foundation of critical thinking skills. It extends the common practice of using a learning taxonomy to position course objectives and specifies a process to integrate an experiential course format consistent with those objectives. Further, it identifies specific dimensions of experiential learning that aide in the selection of experiential techniques in accordance with targeted levels of critical thinking skills. As an aide in the course design process, the authors suggest use of a course design matrix to assist instructors in the alignment of critical thinking objectives and experiential components.

EXPERIENTIAL LEARNING AND CRITICAL THINKING SKILLS

An understanding of what is meant by critical thinking is needed in order to assess the role experiential learning may play in its development. While no single definition of critical thinking exists, this discussion adopts the view of Ennis (1987), who defines critical thinking as "reasonable reflective thinking that is focused on deciding

what to believe or do" (p.10). Further, he suggests that the fundamental ingredients of critical thinking abilities are centered on a disposition towards critical thinking and the higher order thinking abilities that guide strategic decision making. Accordingly, he advocates educators enable the development of critical thought by breaking down the thinking process into its basic elements and the use of a deliberate process to encourage a critical thinking culture. Taken together, these components can frame an approach to course design that promotes more effective strategic decision-makers.

A learning taxonomy is often used as a platform to develop critical thinking abilities. Educators have widely accepted the learning taxonomy of Bloom, et al. (1956), which characterizes a hierarchy of knowledge levels and cognitive processes that students can progressively develop and master. The knowledge construct, the learning essential for mastery of a discipline, is further elaborated in a revision to Bloom's original taxonomy with the interdependent concepts of *factual, conceptual, procedural and metacognitive* knowledge (Anderson, et. al, 2001). It is through engaging the cognitive processes that students transform subject-matter content into knowledge. Consequently, learning is viewed as a series of activities that progress from simple to more complex, higher-order cognitive processes. Lower level cognitive processes typically include knowledge acquisition, understanding and application, all of which contribute to an ability to transfer and recognize principles in other situations. Higher-level processes are closely linked to analysis, evaluation, and creative thought (Krathwohl, 2002). Critical thinking emerges as students incrementally progress from lower to higher cognitive processing tasks.

Dimensions of Experiential Learning Level

Experiential learning represents a practical means to develop the cognitive processes that underlie critical thinking. Bloom's learning taxonomy is an important instructional tool, although it is not inherently experiential. Application of an experiential approach can serve to transform the taxonomy and create a synergistic effect, which can result in enhanced knowledge, experience and skills (Frontczak, 1998).

Instructors use a broad spectrum of experiential activities that can be selectively chosen to facilitate learning. In business education, a sampling of experiential learning techniques include: the involvement of students in specific service learning activities (Robinson, Sherwood & DePaolo, 2010), student-led case analysis (Adler, Whiting & Wynn-Williams, 2004), team-project learning (Faulk & Smolira, 2007; Gaidis & Andrews, 1990; Hernandez, 2002), structured or complex case analysis (Klebba & Hamilton, 2007; Rippin, Booth, Bowie & Jordon, 2002), highly complex simulations (Li, Greenberg, & Nicholls, 2007; Marriott, 2004, Smith-Daniels & Smith-Daniels, 2008), realism driven negotiations (Page & Mukherjee, 2007), the creation of micro business operations within a course (Peterson & Albertson, 2006), strategy competitions (Clark & White, 2010) and the inclusion of live-case/client projects (Dolan & Stevens, 2006; Elam & Spotts, 2004; McWilliams & Nahavandi, 2006).

An examination of the characteristics of experiential learning techniques is instructive for considering their potential to promote critical thinking skills. A review of the business education literature suggests at least two dimensions contribute to the experiential level of a technique: *Experiential Content* and *Task Structure*.

Experiential Content relates to the level of the cognitive processes addressed by an experiential technique. Three elements commonly shape experiential content: *ambiguity, realism, complexity*. The degree of *realism* indicates how accurately the learning task corresponds to actual business problems and practices (Peterson & Albertson, 2006; Smith & Van Doren, 2004; Gunz, 1995). Realism introduces and familiarizes the student with the process of business activities according to a discipline's context. Lower degrees of realism typically include routine problem solving exercises or other activities based on hypothetical information while reality-based cases, simulations, and client projects incorporate levels of higher realism. *Ambiguity* refers to the degree to which the constraints, influences and outcomes of a situation are clear and known or must be inferred (Banning, 2003; Hamer, 2000; Rippin, Booth, Bowie, & Jordan, 2002; Lewis & Williams, 1994). In a learning situation, a high degree of ambiguity requires students to think beyond stated facts and examine a range of unspecified influences and potential alternatives. For this reason, experiential learning techniques mimic reality and create conditions of uncertain decision-making through the degree of information completeness. In practice, problem exercises are less ambiguous than cases as they typically provide more limited scenarios and more complete information. In business exercises, ambiguity may increase as realism increases since uncertainty typifies decision making in a business environment.

Complexity refers to the range and type of variables that may impact the outcome of a decision (Nicolaides & Yorks, 2008; Lainema & Lainema, 2007; Elam & Spotts, 2004; Gunz, 1995). It is exemplified by various experiential techniques that include comprehensive case analysis and intricate problem scenarios. It appears reasonable to infer that as the number and variety of variables in a learning scenario increase so does the complexity of the learning process.

Task structure is an additional indicator of the level of experiential learning (Hamer, 2000). As Hamer notes "semi-structured experiential activities are relatively short and moderately complex (p. 26)." By comparison, "loosely structured experiential activities … are typically completed over a longer time frame and are more complex (p. 27)". The level of ambiguity increases as an activity becomes more loosely structured. The learning experience is deepened as the experiential technique become less structured and involves progressively more complexity and ambiguity.

Taken together, the content and task structure dimensions of a particular technique combine to create an experiential level that that can foster progressive levels of cognitive development. Figure 1 portrays a generalized experiential learning continuum that depicts the relationship between experiential level and a sampling of instructional activities. Techniques typified by the lower end of Figure 1, such as lecture and problem exercises, focus on the understanding and assimilation of information, i.e., a somewhat structured and passive learning process. Logically, as the experiential level increases, the higher-level cognitive processes are activated. Higher levels of realism, ambiguity and complexity reinforce this process. At the upper end of the continuum, client-based projects and live cases are more loosely structured and require a full range of cognitive activities which include application, evaluation, synthesis and creative solutions to real-world situations. While portrayed in a linear fashion, it is likely that underlying realism, ambiguity and complexity vary according to the nature, context and type of experiential learning experience.

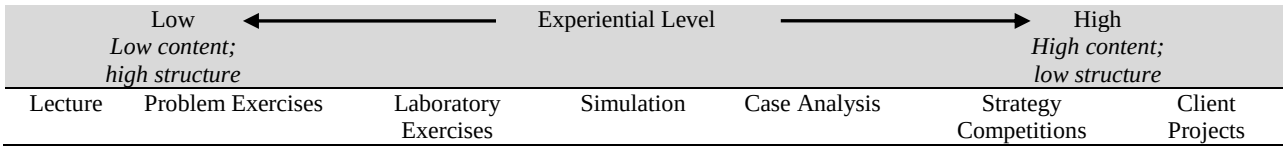

Figure 1 Experiential Techniques in relation to Experiential Level.

The content and task structure dimensions of experiential learning constitute concrete design elements that uniquely define an experiential technique and its potential to develop higher order thinking skills. Accordingly, recognition of these experiential dimensions can direct the design, selection and classroom use of experiential techniques.

EXPERIENTIAL COURSE DESIGN

Several considerations emerge when integrating a critical thinking orientation with experiential course design. First, a strong critical thinking foundation may be most effective with a deliberate, focused approach, one that is embedded in the design of course activities and content (e.g. Braun, 2004; Frontczak, 1998). This suggests explicit critical thinking objectives be specified along with content objectives. Second, so as to better match course objectives, the selection of experiential activities requires an instructor to evaluate the task structure and content dimensions of an experiential activity. This alignment ensures that instructional activities support targeted learning and cognitive processes at the intended level. Finally, to attain higher-order levels of thinking skills, reflection is a necessary element of instructional activities.

A three step course design process is proposed. First, identify course objectives for desired levels of subject-matter knowledge and cognitive process skills. Second, specify the experiential format of the course. In this step, an instructor identifies and selects experiential techniques that are consistent with course objectives. This selection process considers both the experiential level and instructions of a technique. The final step of the course design process articulates the instructional process, which includes instructor role, metacognitive direction, and

assessment activities. We briefly outline the components of each of these steps in the following discussion and make use of a course design matrix that illustrates the range and correspondence of the components.

Course Objectives

Setting course objectives is a routine matter for instructors. In the proposed course design process, the clear delineation of objectives, while not unique to current practice, is an essential foundation for the design and subsequent alignment of the experiential format. This experiential course design process makes use of the revised taxonomy table of Bloom (Anderson, et al, 2000; Krathwohl, 2002) to shape course objectives. In the language of the taxonomy, setting subject-matter (knowledge-level) objectives is analogous to specifying the degree of factual, conceptual, procedural and metacognitive content of the course. These objectives are typically discipline specific and target content mastery at a variety of levels, depending upon course intent and level. Introductory courses may concentrate on the factual level, the lowest level, which routinely involves the recall and assimilation of knowledge. Intermediate courses may continue the elaboration of conceptual material while fostering development of procedural knowledge. Capstone and strategy courses often target the highest knowledge levels, where students are engaged in deeper aspects of procedural, conceptual and metacognitive learning.

Once the type and progression of subject matter is determined the instructor can address the desired critical thinking focus. The objectives are shaped by the cognitive process level that itemizes the type of thinking tasks to develop in relation to knowledge level. Cognitive processes range from knowledge acquisition to creative thought and increase in correspondence to the subject-matter/knowledge level. Critical thinking abilities can be construed as specific tasks that a student should be able to perform as a result of successfully meeting the associated objective(s). These tasks, drawn from examples in the literature and sample verbs in the revised taxonomy, are a judgment call to some extent since the nomenclature of the taxonomies is only suggestive in the application to cognitive skill development. However, they are useful in providing an example of the type of tasks that an instructor can employ to draw out the desired thinking skill. Figure 2 provides a brief summary and approximation of the interrelationship of the cognitive and knowledge dimensions in relation to each other and higher order thinking, as adapted from the revised taxonomy of Anderson and Krathwohl (2001). In the Figure, selected verbs from the taxonomy illustrate the type of cognitive processes that students use to convert content to learning.

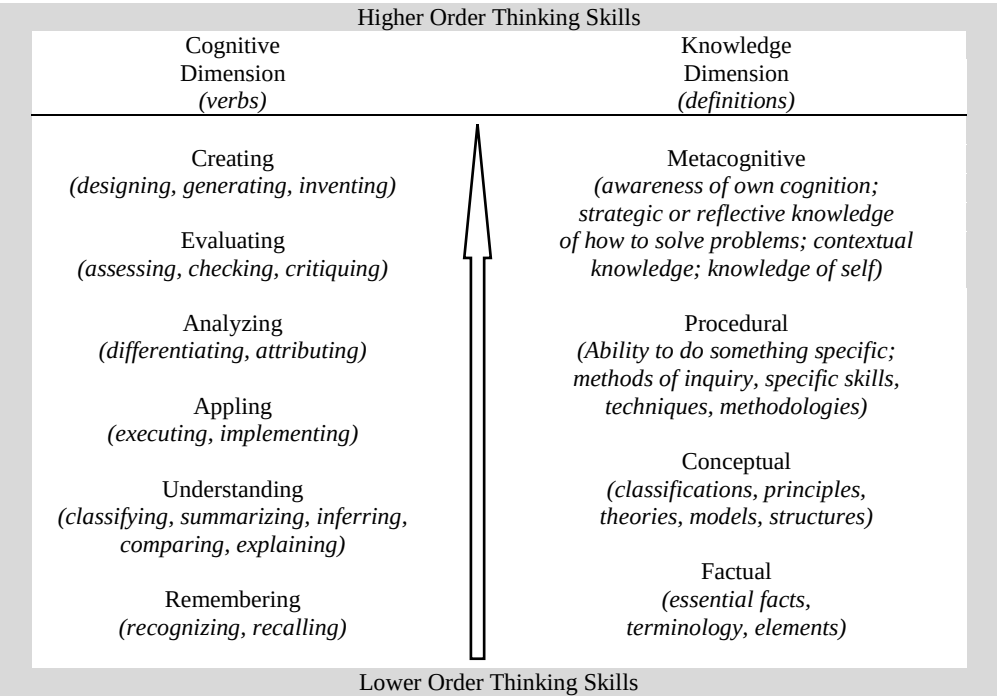

Figure 2: The Cognitive and Knowledge Dimensions of the Revised Taxonomy.
Adapted from Anderson & Krathwohl, 2001

Consideration of student level is an important element in an instructor's selection of cognitive skill objectives. Students with less developed thinking skills, whether due to their stage in the educational process, stage within a class, or life-work experience, will be less able to function at the higher levels of cognition. For example, an introductory financial accounting course may focus on knowledge acquisition and a goal that students should be able to read and internalize accounting concepts and theories (*Remembering, Understanding*). As students progress through a curriculum to more challenging courses and subject matter, the critical thinking tasks may require application and implementation of procedures and generalization of concepts. At this level students may be required to apply theories and analyze their corresponding strengths and weaknesses, as well as observe procedural requirements (*Applying, Analyzing*). Strategy courses represent the most challenging subject matter and require the highest level of critical thought. In these courses, students should be able to independently synthesize information and creatively solve problems. Examples of this type of thinking include evaluation of an acquisition candidate or development of a financing strategy for a rapidly growing firm (*Evaluating, Creating*).

Taken together, these objectives function as the guiding force for the experiential format of the course design. Fully understanding the targeted cognitive dimensions permits more effective matching with appropriate experiential techniques and the instructions necessary for implementation and assessment.

Experiential Format

The Experiential Format of a course encompasses four experiential components: *Content, Task Structure, Techniques, and Instructions*. The benefit of considering experiential content and structure is that it enables the instructor to design or select experiential activities in relation to their potential to accomplish cognitive skill development. For example, low ambiguity and moderate realism will be appropriate for an introductory level course that focuses on understanding and applying concepts. A more advanced course may target an experiential level with higher degrees of ambiguity and complexity in order to develop the higher order cognitive skills associated with developing creative solutions to a current, real-world situation.

Accordingly, experiential techniques can be evaluated first in terms of the degree of experiential content (*ambiguity, realism, complexity*) and structure (*low, high*) and then compared to the requirements of the corresponding course objectives. Such assessment allows the instructor to more closely link the specific learning activity to the course objectives and to monitor the characteristics of selected learning vehicles. In any course, one or several techniques can be selected to progressively develop higher order thinking. The use of multiple experiential techniques can be advantageous and it has been shown to enhance student learning (Hamer, 2000) and can accommodate diverse learning styles (Karns, 2006).

The instructions that frame an experiential activity serve to connect the experiential activity with the desired course objectives. By utilizing the verbs of the revised taxonomy as a starting point, these instructions can elicit desired student responses within the intended cognitive process category. There is a wide range of instructions that might be developed for any given activity or learning objective. A sampling of these category verbs is provided in Figure 2. In practice, the instructions will vary according to the subject matter and the critical thinking objectives.

Instructional Process

The experiential format has implications for the *Instructor role*, *Metacognitive Direction*, and *Assessment* that is required for a fully engaged learning experience. *Instructor role* relates to the nature of student oversight and flexibility of approach required of the instructor. At low knowledge levels, which correspond to a low experiential level, the instructor is the primary source of information and clarification. Large amounts of information can be covered and the instructor has a primary role in the control of the timing and amount of information flow. Moderate experiential levels, and the accompanying activities, often require more external guidance from the instructor. As the student learning experience evolves to more realistic, complex and ambiguous settings, the instructor's role is more flexible and changes to that of facilitator or resource. Accordingly, the instructor's role may become more nuanced and focus on guidance and direction. In this situation, instructors are free to encourage new perspectives, creative thought and insights at higher experiential levels. Elaboration of instructor role encourages consideration of time commitment and teaching style preferences that may result from adoption of a particular experiential technique.

Metacognitive direction places specific demands on the instructor. Reflection is a key ingredient in the development of metacognitive knowledge, the highest level of the knowledge dimension. The reflective element is also recognized as an essential component of the experiential learning process and is included in most definitions of experiential learning (Frontczak, 1998). Reflection, therefore, represents an essential link between the two processes and can be used to develop the student's awareness of their own learning and thinking processes. The explicit inclusion of metacognitive direction, through student reflection, facilitates an engaged learning experience and serves to develop metacognition. For example, at the lower experiential learning levels, instructors can encourage reflection on content and incorporate pauses into lectures for this purpose. As the level of experiential activity increases, introspection about learning content may be facilitated though team activities and written exercises. In a case course, reflection activities might include self-assessment as to what was learned as a consequence of case discussion. This might include student assessment of what they did not include in their original case assessment and the rationale behind any change in their viewpoint resulting from class discussion. At higher cognitive skill levels students can draw upon past theories and experience to extend their insights and be required to develop alternatives and recommendations beyond the learning venue.

To be most effective, *Assessment* activities must correspond with the intended level of objectives. This suggests instructors create assessment with similar instructions and components of activities as those associated with course experiential activities. In many cases, this concern is not germane as the experiential activity will incorporate both the activity and the assessment. However, explicit consideration of assessment in the course design process mitigates the potential for unintentional assessment at an incorrect level. For example, a course that focuses on higher order thinking would not effectively assess student learning by using multiple choice exams that require recall and classifying of information. Instead, relevant assessment might include use of a written memo to a fictional client that proposes a solution to a given problem. This requires a student to draw upon the higher order thinking skills of analyzing, assessing, and proposing in a situational context.

Intentional consideration of these instructional processes can serve to focus attention on instructor actions that will reinforce learning at the desired level. This can avoid situations that appropriately match learning activities and objectives, but fail to take advantage of the potential for a higher level of learning. For instance, an instructor may use a comprehensive case as a basis of class discussion but lecture on 'the' solution, rather than guiding and facilitating a discussion to encourage alternative viewpoints and approaches. This misses an opportunity to encourage strategic reflection and foster metacognition.

Experiential Course Design Matrix – A Planning Tool for Course Design

The Experiential Course Design Matrix, shown in Table 1, summarizes the steps of the course design process and relates it to a broad range of course objectives, experiential formats and instructor considerations. To transform the Matrix to a course planning template an instructor may replace the broad categories noted in Table 1 with class-specific objectives and content that corresponds to each of the planning steps.

In the Matrix, each course element is shown in relation to the course objectives associated with the first step of the planning process. The top of the horizontal axis outlines the two corresponding components of course objectives: knowledge level and cognitive process. The four knowledge levels of the revised taxonomy are shown as a progression and may naturally overlap according to the requirements of the instructional objective. Arrows are used to show progression, rather than precision of alignment with the other elements in the matrix. As such, cognitive process level is approximately aligned with the subject matter/knowledge level scale. The relative nature of the placement allows for the combination, repetitive emphasis and progressive development of these objectives. Instructors can use this section of the matrix to align subject matter/ knowledge and cognitive process objectives to ensure they are targeting appropriate and consistent levels across objectives. This ensures, for example, that an introductory level course with a focus on building broad factual and conceptual knowledge will target corresponding levels of cognitive skills (knowledge, understanding) rather than an incompatible level (i.e. creating) of cognition.

The Experiential Format section of the Matrix relates the experiential level elements of *Content* and *Task Structure* elements to some common experiential *Techniques*. The techniques shown progressively increase from somewhat experiential (speakers, discussion) to controlled laboratory exercises and simulations to reality-based

cases and client projects at the highest experiential level. Accordingly, highly structured activities with low levels of ambiguity, realism and complexity correspond to lower level knowledge and cognitive processes objectives. Generally, moderate experiential element levels include more procedural content, and graduated degrees of realism, complexity and ambiguity. At high experiential levels, more realistic, complex and ambiguous content can be utilized which develops greater analytical, evaluative and creative thinking skills. Therefore, an exercise with low ambiguity and moderate realism will be appropriate for an introductory level course that focuses on understanding and applying concepts. Similarly, a more structured activity, such as question and answer discussions, allows students to recognize and explain theories. Comprehensive cases that describe a real and complex problem scenario are more suitable for advanced courses. These complex cases address higher order cognitive skills since they require application, evaluation and creative solutions to a current, real-world situation. The specification of techniques in the matrix is provided only for illustration purposes as each technique will have to be evaluated according to its unique experiential level. Likewise, the enumeration of techniques is not meant to be exhaustive as there are numerous ones from which to choose.

Table 1
Experiential Course Design Matrix

Course Design							
	Course Objectives						
	Course Specific	Objective 1……..Objective n					
	Knowledge Level*	Factual → Conceptual → Procedural → Metacognitive					
	Cognitive Process Level*	Remembering	Understanding	Appling	Analyzing	Evaluating	Creating
	Experiential Format						
	Content	Low ambiguity, realism, complexity →		Moderate ambiguity, realism, complexity →			High degree of Realism, complexity, Ambiguity
	Task structure	Highly structured →		Moderately structured →			Loosely structured
	Sample Experiential Techniques	Lecture, Discussion, Journaling, Speakers	In-class exercises; Structured Exercises, Problem Sets	Simulation; Structured Cases; Reality-Based cases	Comprehensive, Reality-Based cases; Simulation; live projects	Service-learning; Live projects; Live cases.	Client-Based Projects; Micro-business development
	Sample Instructions components	Read and remember; List and Define	Organize and classify events, issues; summarize & compare; Interpret	Demonstrate; implement relevant techniques	Assess strengths & weaknesses; Compare & contrast; Hypothesize relationships; Differentiate	Review strategic options; assess financial viability; Evaluate & recommend alternatives	Anticipate & synthesize; Design a solution; Develop a plan
	Instructional Process						
	Instructor Role	Highly involved, directed learning →		Moderate Guidance, Direction, Resources →			Facilitate, Guide, Direct, Question
	Metacognitive Direction*	Encourage Reflection; cognitive knowledge →		Encourage knowledge re cognitive tasks; strategic knowledge →			Encourage strategic & self knowledge
	Assessment	In accordance with objectives and experiential format.					

*Based upon Blooms' revised taxonomy (Anderson, Krathwohl, et al 2001).

The *Sample Instructions* section of the Matrix is provided to illustrate the concrete nature of the experiential components. These instructions demonstrate the type of questions, action verbs and key words that can be used to elicit desired student responses. They represent only a small sample of possible instructions. There is a wide range of instructions that might be developed for any given activity or learning objective. In practice, the instructions will vary according to the subject matter and the desired progression of learning objectives.

The Instructional Process section of the Matrix outlines the Instructor Role and the Metacognitive Direction that may be required within a course. In addition, the Assessment category highlights the need to align not only objectives and experiential activities, but also assessment activities.

As a planning tool, an instructor can use the Matrix as a template to organize and coordinate the elements of an experiential format with course objectives. In practice, instructors create a subset of discipline-specific course objectives that correspond to targeted levels of knowledge and critical thinking tasks. Once specified, the design of experiential format and instructor process is applied to each objective. The result allows an instructor to evaluate each course element individually and relative to the progression of course activities and learning. This review serves to highlight unintentional overlap, misalignment, or other course design issues that can be addressed in the planning process. Ultimately, careful alignment of course objectives, experiential format and instructional processes should lead to a more targeted range of course activities, thus promoting a more effective learning environment.

Three Experiential Courses – An Illustration

To conceptually illustrate the integration of critical thinking skills, the characteristics of three experiential courses are briefly summarized. Each demonstrates a specific level of experiential format that corresponds to a targeted level of critical thinking skills. A lecture course, a structured case analysis, and a client project characterize the instructional activity shaping one of the three examples. The lecture course represents the lowest level of experiential learning and focuses on remembering and understanding factual information. In this context, knowledge and comprehension are addressed and instructional materials are primarily text, readings, and speakers. The primary benefit of lectures is the breadth and volume of information that can be covered. The lecture format requires little student initiative and focuses on factual and conceptual knowledge. The instructor's primary role is the presentation and facilitation of comprehension. Instructors might encourage metacognition by advocating reflection and self-assessment of the material presented. For example, at the end of each class students may be asked to record what they learned and to identify questions they have on the material covered. Multiple choice tests centered on definitions and classifications, along with short answer problems and essays, form the basis of assessment.

The second course is based on a structured case analysis. Structured case analysis focuses on a guided, incremental learning process, leading to independent analysis of comprehensive cases. Using this experiential technique, comprehensive cases are broken into exercises that require varying degrees of analysis, evaluation, and/or recommendation skills. Instructors can focus the learning experience on specific skill levels through exercises or discussion that require students to develop analytical, evaluative and synthesis skills in a specified case context. This experiential technique can facilitate broader conceptual knowledge in a variety of learning contexts as well as address multiple cognitive skills. It is most appropriate for introductory and intermediate courses. At introductory course levels, instructors can guide, direct, and encourage students to apply conceptual knowledge and analytical skills. At intermediate levels, the focus can shift to appropriate analysis, evaluation and decision-making. Metacognition can be encouraged by asking students to consider the appropriateness and effectiveness of their methods. In addition, students can be encouraged to identify alternative approaches or applications of the subject matter. Partial or independent case analysis at the end of the term can provide an assessment format consistent with course objectives.

Client Projects, both as a capstone class or a project within a class, require the highest level of cognitive development and correspond to the highest level of experiential learning. Students apply their own initiative and decision making skills in dealing with an unstructured, real business problem. A dynamic decision-making context frames the client problem in which students serve as consultants. Instructional materials are based upon client provided information and independent data collection, analysis and synthesis conducted by the students. The

instructor's role is to be a resource, and provide guidance and direction as needed. Metacognitive activities can require students to evaluate the likelihood and causes of success/failure of their recommendations and design guidance to mitigate the potential cause(s) of failure. Assessment may include a student presentation to a client and a review of recommendations by a panel of business experts.

CONCLUSION

Experiential learning represents a viable and practical approach to enhance critical thinking skills in business education. Analysis of the structure and content dimensions of experiential learning offers insights into the specific attributes of a given experiential technique that can directly influence student learning. Deliberate and selective incorporation of these elements into experiential activities provide a means to foster a specified range of cognitive processes and knowledge level, a foundation of critical thinking skills.

It is challenging, too, for educators to design experiential courses that correspond to instructional objectives and systematically move students from lower to higher level learning experiences. Experiential learning activities are complex and multi-faceted. The cognitive processes that underlie critical thinking are inextricably linked to subject matter, course content, and reflection. To address these multiple influences, a deliberate approach is proposed to facilitate experiential course design. The Experiential Course Design Matrix offers a systematic method to examine the complementary nature of course learning components and to guide the selection of experiential components that align with course subject matter and critical thinking objectives. In this context, various cognitive processes and critical thinking tasks can be methodically targeted. Moreover, the Course Design Matrix is versatile enough to be used to align a course or an entire curriculum.

The incorporation of critical thinking based activities into course design is not universal. The deliberate development of a critical thinking mindset takes time and effort as does the design of effective activities to promote specific types of critical thinking skills. Educator time is increasingly limited and these factors may be impediments to adopting a more involved approach.

In practice, while there is no single "right way" to teach or design a course, an organized and systematic course design process can facilitate a more synergistic and effective learning experience. Ultimately business students should encounter a high-quality and purposeful learning experience that better prepares them for the work place.

AUTHOR INFORMATION

Janet G. Hamilton is an associate professor of business administration-finance at Portland State University. Her research interests include high involvement learning pedagogy and the determinants of financial performance. She teaches courses in corporate finance, financial strategy and advises on student capstone consulting projects. Mailing address: Portland State University, School of Business Administration, P.O. Box 751, Portland, OR 97207-0751 USA. E-mail: hamiltonj@pdx.edu

Joanne M. Klebba is professor emeriti of business administration-marketing at Portland State University. Her research interests involve pedagogical and conceptual issues that surround critical thinking and marketing strategy as well as advertising creativity and psycho-physiological research. Mailing address: Portland State University, School of Business Administration, P.O. Box 751, Portland, OR 97207-0751 USA. E-mail: klebbaj@pdx.edu

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