EXAMINING THE COGNITIVE, AFFECTIVE, AND PSYCHOMOTOR DIMENSIONS IN MANAGEMENT SKILL DEVELOPMENT THROUGH EXPERIENTIAL LEARNING: DEVELOPING A FRAMEWORK

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ABSTRACT

Developers of experiential exercises have for some time trying to best define what contributes to "whole-person" learning and ways in which we can operationalize it through the cognitive, affective and psychomotor domains. Of the three domains the affective domain dealing with emotion and feeling is the least studied of the three and yet is theorized to have a greater influence previously realized. Self-regulation theory for cognitive and affective domains is introduced as a means to help justify a learner's evaluations. In this paper a look is taken at the learning domains individually and then an integrated or combined taxonomy model is introduced. A framework and hypothesis are generated for future study on the influence of these dimensions.

INTRODUCTION

One of the main objectives in experiential learning has for the most part, the drive to develop in some way, what one could be determined as the "better mousetrap", in the light of what most current research would dub as "whole-person" learning (Hoover, 1974).
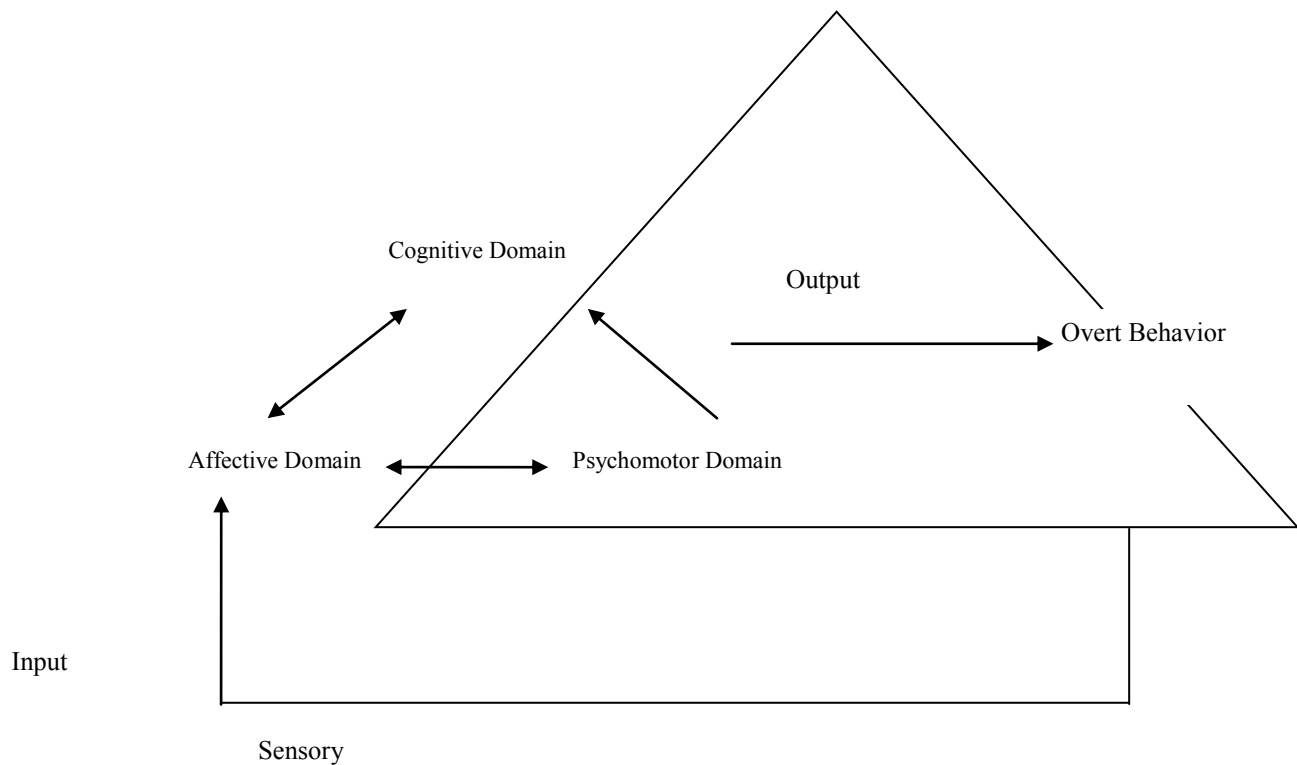
Contained within the ABSEL literature one can find many studies trying to show the validity of using experiential learning as an effective tool for skill development. Experiential exercises, as contributing, are often defined as a type of learning by doing, geared to developing decision-making skills, although intended to produce meaningful outcomes, does not guarantee the integration of experiences across cognitive, affective and behavioral components (Hoover, et.al., 2010); within this there is an agreement by the author. Many of these studies concentrate on one or two of the three dimensions (cognitive, affective, and behavioral) of Bloom's taxonomy, but vary rarely all three in experiential learning. When they do it is in relation to the "whole person learning" (Hoover, et.al., 2010), and then still in many ways only cursory.

Experiential learning is "whole person" learning. That is, it functions intergratively, combining the affective and behavioral dimensions with the cognitive domain always found in the educational process (Hoover, 1974). This is the desired outcome, to have the greatest degree of whole person learning, and in a sense, to minimize the "credibility gap" in the psychomotor and behavioral domains that may exist (Eiss, et.al., 1969). This learning experience can be seen through Eiss's (1968) Model for Learning (Figure 1) which shows the relationship existing among the domains and their contribution to learning. The "credibility gap" is defined as identifying some overt behavior that will be accepted as evidence that the desired objectives have been observed. This means that the better that the objectives are being met, the smaller the gap. Conversely, the greater the degree of inconsistency between thought, feeling and deed, the greater the degree that the objectives are not being met, the greater the gap. Taking cue from Bloom's educational objectives, from the cognitive standpoint, consider the objectives of analysis and synthesis. We need to in a sense, take apart the learning domain environment into its component parts (analysis) and then be able to make sense (synthesis) as to the relative contribution of each part to the whole. In Russell (2008), it was cited that researchers from environmental psychology and management have used cognitive and behavioral perspectives to advance understanding of the roles of individuals in initiating action to address environmental issues. She further stated that despite these advances, few researchers have explained the affective dimension of behavior and that this has caused environmental management research to not keep pace with developments in the wider environmental literature that clearly demonstrates that emotion is an inescapable part of work-life. The results of the study showed that emotion played a more important role than hypothesized. In short, the more an individual identifies themselves with a particular issue, the greater the degree of emotion that is part of the decision or work-place behavior (Russell, 2008), and a much larger sense, the degree of issue ownership that is exhibited. This issue ownership is related in a goodly way to the degree of "behavioral immersion" which takes place as part of the exercise.

Giambatista and Hoover (2009) stated that one of the keys to increasing the impact of experiential learning is through the process that increases the intensity of the experiential setting through a process they labeled as "behavioral immersion". The degree to which immersion exists is related to the degree to which the learner becomes "involved" or "engaged" in the exercise. The highest intensity learning experiences is one in which the learning individual functions at a high level of arousal and activity

Figure 1
Model for Learning

on all dimensions (Hoover, 1974), in other words, to become an active part of the exercise. This would seem logical because according to the continuum he proposed (Figure 2), the dimensions of cognition, affect, and behavior are combinatorial, co-existent and perhaps even synergistically interactive (Hoover, 1974) and the greatest degree would occur when all three are present. What is believed to be missing is the degree of ownership present, because one can be involved (immersed) without taking ownership (just doing it to do it rather than displaying emotion).

Additionally, this would also consider the acknowledgement that different learning constructs may require a pre-eminent emphasis on one or two dimensions; in other words, that although the three components were interactive, they may have different weights and importance depending on the material (Giambatista and Hoover, 2009). A question which can be brought forward is the degree of ownership the learner assumes concerning the material. That is to say that some material may be relatively complex in nature (cognitive dimension) and be of little or no interest on the part of the learner, yet may be of great interest were the level of ownership would increase (affective dimension). This in turn would have an effect on the "immersion" which would take place. Furthermore, the experiential learning process is enhanced through the processes of behavioral immersion; that is, learning environments that

produce synergistic learning outcomes through a virtual immersion in the learning process (Giambatista and Hoover, 2009). This is similar to putting oneself "in the shoes" of the decision-maker, and where experiential learning involves immersing learners in an environment in which they actively participate in acquiring knowledge (Cannon and Feinstein, 2005).

In Hoover's (1974) model, this would be movement from a Low Intensity/ Behavioral to High Intensity/ Cognitive-Affective. The acquisition of such knowledge cannot or should not be limited to either a lecture type format or one in which and experiential exercise is a conduit and where discussion is largely facilitated by the instructor rather than by the class in general. Such is an example of passive learning. The opportunity for class discussion, where the learner is acting as facilitator, the affective domain comes into play more because it is through this discussion where emotion and ownership become apparent. Learners who show a greater emphasis on this dimension will tend to become more "vocal" in their arguments or show greater intensity through increased concentration on the issue.

LEARNING DOMAIN/DIMENSIONS

The basis of this research is threefold: to investigate or to consider each of the learning domains/dimensions as

Figure 2
A Conceptual Classification Scheme
Illustrating Combinations of Experiential Learning

	Cognitive	Affective	Behavioral	Cognitive/ Affective	Cognitive/ Behavioral	Cognitive/Affective/ Behavioral
High Intensity Experiential Learning	Null	Null	Null	XX Yes	XX Yes	XXX Definitely
Low Intensity Experiential Learning	X Yes	X ? Maybe	X ? Maybe	Possibly	Possibly	Possibly

individual dimensions and their definitions; propose a framework for a combined taxonomy, and; suggest a methodology for study. We begin as almost all research on experiential learning with Bloom's Taxonomy of domain Learning Objectives (Bloom, et.al., 1956) (Table 1)

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COGNITIVE DOMAIN

Table 2 lists Bloom's Taxonomy of Educational Objectives in the Cognitive Domain along with their definitions. The cognitive domain addresses those objectives which primarily deal with recall or recognition of learned material and the development of intellectual abilities and skills (Smith, 1981). Specifically, the cognitive dimension is used to include activities such as remembering and recalling knowledge, thinking, and problem solving, and creating (Bloom, et.al., 1956).

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While this taxonomy provides the basis for cognitive development it has a tendency to be somewhat static in nature. Cannon and Feinstein (2005) took a more dynamic look at these objectives. In their paper, they described the cognitive domain as a cognitive process where differences were located primarily in the lower-level objectives, which tended to be knowledge-oriented, being related to the process by which they are accomplished. Therefore, rather than speaking of knowledge, we speak of remembering knowledge and instead of speaking of comprehension; we speak of understanding, which is how we comprehend. These are by-products of the immersion process (discussed later) through the psychomotor domain.

AFFECTIVE DOMAIN

Table 3 lists the taxonomy for the affective domain and their definitions (Krathwohl, et.al., 1964). The reasoning behind the development of this taxonomy is that the development of emotions and values has a large, but often understated purpose in determining to a degree the extent of "whole-person" learning.

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The relationship between the affective domain and learning is central to every part of the learning and evolution process. There are two points of consideration here: 1) threshold of consciousness, where the awareness of the stimulus initiates the learning process, and 2) threshold of evaluation, where the willingness to respond is the basis for psychomotor responses without which any evaluation of the learning process can take place. It provides the bridge between the stimulus and the cognitive and psychomotor aspects of an individual's personality (Eiss, et.al., 1969) or the sum total of their values and beliefs and the extent to which they show them (by-products of the "credibility gap".

The question is posed by the research whether a human being even does thinking without feeling, acting without thinking, etc.. Objectives and corresponding behaviors and evaluation materials differ in complexity but at other levels of complexity this objective becomes part of another objective such as the ability to apply the principles" (psychomotor connotations). It seems very clear, therefore, that each person responds as a "total organism" or "whole being" whenever they do respond (Krathwohl, et.al., 1964). In general, educators seem to desire to achieve the higher levels of affective goals in learners, in-

cluding satisfaction in response and developing a system of values (Eiss, et.al., 1969).

For Krathwohl the taxonomy is ordered according to the principle of internalization. Internalization refers to the process whereby a person's affect toward an object passes from a general awareness level to a point where the affect is "internalized", and consistently guides or controls the person's behavior. (Seels & Glasgow, 1990). This is related to the immersion process where the learner in one sense takes a degree of ownership in the sense that their emotions and feelings take over enabling them to get involved. One question that arises is that in the absence or low level of affect, can the learner, through psychomotor immersion, raise that level of affect as they become more aware of the issues behind the situation. Another way of looking at this would be the possible creation of an "artificial affect", one that did not previously exist or existed to a relatively low degree and yet not part of the person's personality since the affective domain includes objectives that emphasize interests, attributes, and values (Smith, 1981) and more concisely can be one of attitudinal change (Blanchett, 1993).

PSYCHOMOTOR DOMAIN

Table 4 lists the taxonomy for the psychomotor domain and their definitions (Harrow, 1972). This is the least studied of Bloom's taxonomies. Nonetheless, the psychomotor domain has drawn some interest since it is the one dimension that can simultaneously activate high-intensity learning environments in such a way to result in improved behavioral skill acquisition of executive skills (Giambatista & Hoover, 2009) this could be obtained either through immersion by active participation or vicariously. The original model was proposed for classifying movement behaviors unique to the psychomotor domain and has been designed specifically to aid educators and curriculum developers to clarify and categorize relevant movement experiences for children (Harrow, 1972).

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Since appropriate skill and use thereof can be shown through action and in some cases in a do or die situation in business the importance of knowing that movement is the key to life and exists in all areas of life. When one performs purposeful movement (there is known value and with emotion), they are coordinating the cognitive, affective, and psychomotor domains (Harrow, 1972). She also writes that since movement is incorporated in all life, and is prerequisite, it becomes a difficult task to isolate behaviors unique to the psychomotor domain because observable behavior is modifies by the affective self. Therefore, we act as we feel or believe. Again, we need to consider the issue of vicarious (learning by observing) vs. non-vicarious (learning by doing) and its effects on the psychomotor domain.

Given that we start with some reflex movement to some stimulus and gradually build on that movement until at some point the reaction we have is classified as Non-Discourse communication (psychomotor's highest level). At this level each learner develops a style of "moving" which communicates their feelings about their objective self to a perceptive observer. These can be classified as either being innate or vicarious (observed by the learner and created by combining reflexes) or learned by immersion (performed to convey a message to the receiver) (Harrow, 1972),

For example, the psychomotor component of rifle marksmanship encompasses the physical aspects of shooting such as; assuming the different shooting positions, establishing proper sight alignment and sight picture, and; maintaining rifle steadiness. In general, being able to establish and maintain a steady position has consistently been found to be related to shooting performance, and expert shooters have found to be much steadier. Consistency in hitting the target is determined by the extent to which these factors can be maintained before, during, and immediately firing a round (Chung, et.al., 2009). The relationship is that a person can become more proficient at a (management) skill the more they practice and know about the skill. The same could be said if one improved one's focus (affective).

Psychomotor skills are important in implementation, and hence the importance of "behavioral immersion" in increasing the impact of experiential learning in "whole-person" learning in executive skill acquisition. This then lends to asking the question of how to accomplish the learning person involvement, through the whole person, required to complete the learning cycle from cognition awareness to successful skill demonstration (Giambatista, et.al., 2009). Figure 3 shows a model of the combined taxonomies and the interrelationships which are believed to exist.

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It would appear that the psychomotor is the culmination of the cognitive and affective domains, where they become visible. Effectiveness of measuring these domains from a behavioral perspective comes not from a single experiential exercise but from a series, over time, where cognitive and affective domains can come to full bear on their contribution to skill development. So, in order to determine if cognition is correct, how do you judge through the psychomotor; are the right answers always a result of the correct movements?

Each of these domains function both independently and interdependently to certain degree. Hoover (1974) stated that in order to develop a conceptualization of experiential learning that is useful experimentally, experiential learning practitioners need effective delineation and definition of the cognitive, affective and behavioral (psychomotor) domains of learning as separate components. At the same time he also stated that, "the learning dimensions of cognition, affect, and behavior are combina-

torial, co-existent and perhaps even synergistically interactive.

PROPOSED METHODOLOGY

Experiential exercises usually have as their primary focus elements from the cognitive domain because they are the easiest to measure. If we are to subscribe to a whole-person perspective and to maximize the learning experience, we should in some way be able to measure the relative contribution of each domain and determine what the effect is, if any, of one domain's attributes, on another. For example, it is one thing to talk about the facets of SWOT analysis and the resultant suggested strategies of matching strengths to opportunities in organizational strategy; yet another to become emotionally involved as to the relative importance of one or another factors uncovered and be able to defend then in a class discussion.

For the framework for this type of analysis we need to borrow from self-regulation theory (Yeo, 2010). In this work she writes that self-regulation theories have been used to explain performance in a variety of domains including organizational, educational, and sports settings. Self-regulation refers to a set of proximal motivational processes that control the allocation of resources across on-task and off-task activities during task engagement (Karoly, 1993). It consists of three activities (Kanfer & Ackerman, 1989); self-monitoring involving the allocation toward task-relevant behavior; self-evaluation involving a comparison of current performance or behavior with a desired state, and; self-reaction which involves self-satisfaction with performance and self-efficacy with goal attainment.

These three were then operationalized to the higher-order cognitive and affective components of self-regulation. Cognitive regulation is the set of proximal or short-term motivational processes aimed at sustaining goal-directed action by minimizing on-task resources and/or minimizing off-task demands (Yeo, 2010). Affective regulation is the set of proximal motivational processes aimed at maintaining or modifying the experience and/or expression of affect so as to maintain goal-directed behavior/action (Yeo, 2010). This framework is an attempt to use self-regulation as a means to ascertain the motivation required to both maintain balance for the activity and to determine if the learner was able to derive a benefit through evaluation of the activity.

When considering the ABSEL literature, a majority, if not all, of the studies evaluating the effectiveness of goal/objective attainment has been with business majors in a capstone course or in one of the various functional areas of business such as accounting, finance, etc., many involving simulation and gaming. It has not been seen where an introductory course in management with a variety of majors has been conducted considering all three of the domains. Given that the affective domain is one in which contributes in determining the overall effect of immersion, this study proposes to look at two groups.

The first group is an organization and management course comprised of various majors across the campus. Some of the students are required to take the course as part of their required major (as in the case of business students), some are required to take it as part of a curriculum, but not a business major (as in sports management or information technology) and for some it is an elective to their curriculum. These students are formed into groups for the experiential exercise sessions by self-selection. The second group is those in the capstone course, organizational strategy, with the composition of the students being business majors. Again, groups are formed by self-selection for the experiential sessions.

The students in both groups were asked at the beginning of the course of their expectations from the course and the exercises. These groups are given the same survey instrument asking questions based in the three dimensions and their effort. To help fill the credibility gap cited by Russell in the current research, in this study the following is initially hypothesized:

Hypothesis 1: Overall students that see more meaning from the various exercises as they pertain to their major will derive the greatest benefit.

Hypothesis 2: Business students in the organization and management course should have higher correlations than non-business students in that course.

Hypothesis 3: Students in the capstone course should have the highest degree of correlation since they are business majors and should by virtue of immersion derive the maximum benefit.

The results will be shared at the upcoming conference.

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