"WHO'S ON FIRST?"
EXPLORING THE CONCEPTS OF PROBLEM-BASED LEARNING, EXPERIENTIAL LEARNING, AND LIFELONG LEARNING

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ABSTRACT

In the now famous routine first made public in the 1950's, American comedians Bud Abbot and Lou Costello discussed the fielding order for a local baseball team. In this routine, Bud Abbott asks the question "Who will play first base?" to which Lou Costello answers "Who is on first, What is on second and Why is on third." This answer brings forth the immediate question "Yes, but who is on first? To which the response is "That's right, Who is on first!" The routine then continues for several minutes with the emphasis on the different connotations of the word "who" - one is a question word while the other is a player's name.

As with the Abbot and Costello comedy routine, the real definitions of the terms "problem-based learning", "experiential learning" and "lifelong learning" seem to have become confused with the passage of time. Are they completely different concepts? Or do similarities exist between the three? And, how are they related to professional education, if at all? Or, have all these terms merely become "buzzwords", allowing academic practitioners to work them into proposals to generate funding support for pet projects, or gain publication opportunities in specialized journals and at conferences.

After briefly reviewing the historical foundations of the three "approaches" to education - especially in the "professions" of Business and Economics - the article presents a literature review in an attempt to identify the similarities in usage of these terms, highlight the differences between them, and show any existing interrelationships. The article concludes with a literature-based integration of the concepts of problem-based learning, experiential learning, and lifelong learning within the context of professional education - answering the question "Who is on first?"

INTRODUCTION/BACKGROUND

As with the above-mentioned Abbott and Costello comedy routine, the increasing use of the terms "problem-based learning", "experiential learning" and "lifelong learning" has led to a confusion about the definitions of these terms. This issue is particularly salient for members of ABSEL because, while this association has been one of the first to explore alternative learning paradigms, the different learning models have often been lumped under the "experiential learning" rubric and, theoretically, this may not be totally appropriate. This research paper presents the results of a broad-based literature review relating these and several other equally confusing but closely related terms. Based upon this literature review, we propose a working definition and identify an interrelationship between the various concepts and professional development. The paper concludes with some suggestions for further development of this rich body of literature.

"Professional Education" and "Education for the Professions"

To establish boundaries for the relevant literature review, two immediate questions arise: What is a profession? and What is professional education?

Turning to the first question, the term "profession" connotes different meanings. For example, the dictionary defines a **profession** as

> "1. An occupation or vocation requiring training in the liberal arts or the sciences and advanced study in a specialized field. 2. The body of qualified persons of one specific occupation or field." (American Heritage Dictionary, College Ed, 1978, 1044-5), or

> "2. Vocation or calling, esp. one that involves some branch of advanced learning or science; [example] **the learned professions** (divinity, law, medicine)." [emphasis in original] (Oxford English Dictionary, 6th ed., 1976, 885)

prompting one writer to observe:

> "Every occupation has its own knowledge base and code of practice; its own lore, terminology and point of view; its own mysteries and secret places; and a long-standing desire to repel invaders." (Houle, 1980, 14)

Some have tried to define a "profession" by assigning specific characteristics to it (e.g., Flexner, 1915) or by attributes (Rose, 1974). It appears clear that the definition of the term "profession" certainly lies in the

eyes of the beholder. To that can be added the question: How does a profession differ from a "discipline"? Again turning to the dictionary, a **discipline** is specified, among other definitions, as

> "Branch of instruction or learning; mental and moral training, adversity as affecting this; system of rules for conduct; behavior according to established rules." (Oxford English Dictionary, 6th ed. 1976, 293)

Thus, it would appear that academics are practitioners in a "discipline" which pursues/passes on knowledge relevant to a "profession", the goal being the development of professionals to apply their knowledge and to practice their skills.[1] As such, a "professional" has been identified as

> "They learn by study, apprenticeship, and experience, both by expanding their comprehension of formal disciplines and by finding new ways to use them to achieve specific ends, constantly moving forward and backward from theory to practice so that each enriches the other" (Houle, 1981, 1)

A key to the relationship identified above is the development of these professionals through what has been generally termed "professional education".

In approaching this subject, professional education includes two separate, but complementary components. The first is that of formal education in preparation for assuming a professional role as indicated prior to "induction". On the other hand, once one has assumed a professional position, one becomes engaged in a much broader, and implicitly therefore, a much less formal process. "Professional education" after induction into the profession is therefore, by definition, a form of continuing education. But, the nature of both professional education and education for the professions has undergone dramatic change in recent decades.

A Revised Educational Paradigm

The traditional higher education lecture-based delivery mode which takes as its starting premise that learning is

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[1] One could argue here that neither business nor economics - in the academic sense - are professions, but rather are disciplines. On the other hand, a strong argument can be made that accounting is not a discipline, but a profession!

accomplished by accumulating knowledge which can later be recalled for application to a particular situation, is increasingly suspect due to technological changes in the way professionals "practice their profession (Boud & Faletti, 1991, 15). Compounding this problem has been the growing complexity of vocations and the need for continuous improvement of workplace skills. Research into the concept of lifelong learning, bolstered by investigation into differing learning styles, has led to a growing interest in non-lecture based teaching alternatives, many of which emphasize individual learning differences.

One prominent alternative paradigm envisions the learner as a primary stakeholder in the design and delivery of education, thus predicating that delivery on the learner's identified learning style. This paradigm rests on an implicit assumption: that skills - especially "learning to learn" skills - are the critical component of pre-professional and continuing professional education. The basic intent is to develop learning skills, rather than knowledge accumulation. As a result, we see a burgeoning of alternative modes of education delivery, variously called "lifelong learning", "continuing education", "experiential learning", learning by doing", problem-based learning" and "active learning", just to name several. Over time, each of these (and other) professional education delivery modes have been wrapped in a mystique of their own in order to be promoted by their supporters, and in the process, the definitions and practices of these modes have become confused, and perhaps corrupted.

To make the implicit explicit, we now turn to a review of major contributions to the development of the terminology used to identify alternative learning paradigms.

LITERATURE REVIEW

In presenting the following review, we have opted for a top-down hierarchical discussion of the most common alternative learning modes found in the literature.

Lifelong Learning

Lifelong learning did not receive much academic attention until the 1970's, when it became a prominent concern relating to the extension of academic programs to a mature workforce with a growing need for increased formal education. More recently, the collegiate education literature has become infused with discussions of the concept of "lifelong learning" as an

embedded accumulation process. Lifelong education takes as one of its central objectives equipping people with the skills and competencies required to continue their own "self-education" beyond the end of formal schooling (Candy, 1991, 75). In some cases, lifelong learning is a supplement to or a substitute for education received in formal settings (Candy, 1991, 15). Specifically, lifelong learning refers to *"the accumulation of wisdom, knowledge or skills after the completion of a formal education program"* [emphasis added] (Martin, 1993, 194).

A major portion of the literature on this concept has been published under the auspices of the UNESCO Office of Education, work which has been similarly addressed under such terms as "permanent education" and "recurrent education" by other organizations.[2] R. H. Dave, then director of the UNESCO Institute for Education, specifically identifies lifelong learning as:

> "...a very comprehensive idea which includes formal as well as nonformal learning extended throughout the lifespan of an individual to attain the fullest possible development in personal, social and professional life. It includes all desired learning that occurs in a planned or incidental way in the home, educational institutions, community and place of work. Lifelong education encompasses all stages and aspects of education in an integrated and articulated manner." (1973, 30).

Two major differences are identified in the literature which separate "lifelong learning" from the more traditional education processes. The first, *vertical integration*, includes the notion that individuals ought to have organized and systematic opportunities for instruction, study and learning at any time throughout their lives, not just from ages five to sixteen or six to twenty-one. The second, called *horizontal integration*, acknowledges that people learn in a variety of ways, contexts and settings, and that at any given stage in life, people are learning from family and friends, from the workplace, from libraries, from information media, etc. (Candy, 1991, 76-7).

In current use, the term "lifelong learning" has taken on yet another connotation, however: the idea that

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[2] Council of Europe and Organization for Economic Cooperation and Development usage, respectively.

learning takes place continually from birth to death, but that the process of learning varies as we age. In practice, lifelong learning is also frequently referred to as "continuing education", although the academic connotation here is that such learning will take place in a more formal structured environment. This concept of lifelong learning is consistent with professional education, as defined earlier. Thus, in terms of types of learning modes, lifelong learning is the broadest definition of learning, and for purposes of the alternate educational paradigm represents the entire scope of learning processes.

Experiential Learning

Resting on a foundation of strong intellectual rigor, the Experiential Learning Model was extensively detailed by David Kolb (1984). The Experiential Learning Model starts with a concrete exercise which tests existing abstract concepts in an attempt to validate those concepts, adds a feedback process which allows assessment of the concrete experience, and incorporates that feedback into a learning dynamic. Thus, successive experiences build a knowledge base where concepts are both validated and reinforced through real application. In his Experiential Learning: Experience and the Source of Learning and Development, Kolb sets out not only the basics, but the fundamentals of alternative learning styles. In the summary, Kolb argues that learning styles vary with the individual, based on a number of different factors: personality type, educational specialization, professional career, current job role and level of cultural and social development. Further, this variation occurs based on relative changes between these factors over time. A conclusion, therefore, is that while each individual has a single dominant learning style, such styles are adaptive, dependent on both individual (internal) and environmental (external) conditions and continuing experience(s) provide the dynamic which facilitates further learning.

Much is encompassed in a concept such as "experiential learning". Indeed, in a major integrative work regarding this topic, Susan Weil and Ian McGill's Making Sense of Experiential Learning attempts to survey the breadth of this subject. It is important to consider that, for all the descriptive material provided in this work, there is not a single attempt to actually define the concept of "experiential learning". In fact, the implicit conclusion of the effort is that such a definition does not exist, and is not

possible given the diversity of opinion regarding the concept of experiential learning.

James Gentry (1991) succinctly summarizes this definitional problem in his article entitled "What is Experiential Learning?" He notes that the terms learning by doing, experience based learning, applied experiential learning and learning from the "real world" situation have been consistently used within the professional literature to attempt to define, by description, "experiential learning". Recognizing that business is an applied discipline (p. 12), he proposes the following definition:

> "Experiential learning is participative, interactive and applied. It allows contact with the environment, and exposure to processes that are highly variable and uncertain. It involves the whole-person; learning takes place on the affective and behavioral dimensions as well as the cognitive dimension." (p. 20).

Based upon the preceding review, identifying a single, all-encompassing definition of the concept of "experiential learning" in all its robustness is a difficult chore.

The related term "active learning" has repeatedly surfaced in this review of the literature. Developed in and borrowed from the education literature, active learning refers to the direct involvement of students in their own learning process. In their descriptive work, Meyers and Jones specifically outline not only the concept of active learning, but also develop strategies for implementation in the college curriculum. As they see it,

> "...our primary assumptions about learning are that 1) learning is by its very nature an active process and 2) different people learn in different ways. We further assume that the process of education is about self-development and that learning is truly meaningful only when learners have taken knowledge and made it their own ... generally speaking, almost any activity that substantially involves students with the course content through talking and listening, writing, reading, and reflecting counts as active learning ... the four elements of active learning - talking and listening, writing, reading and reflecting - provide building blocks for active-learning strategies. They do so because each element, in its own way, involves a different type of thinking and helps students create new mental structures" (pp. 20, 13 & 32 respectively).

Thus, action learning relies heavily on the foundations of both lifelong learning and experiential learning, but goes one step further in seeking to consciously promote the direct involvement of the learner as a designer of the learning process.

Problem-based Learning

A problem-based technique for acquisition of learning skills has developed rapidly over the past two decades. First developed in the 1950's by the medical profession, the problem-based learning approach has more recently spread to a number of other professions,[3] including the professions of business and economics. Harold Burrows & Robyn Tamblyn's Problem-based Learning: An Approach to Medical Education synthesized the relevant literature and proposed the formal concept in 1980. In their work, they provide both a rationale and a suggested structure for the development of student-centered, problem-based clinical teaching methods. This is amply demonstrated in their expanded definition, which states that problem-based learning is

> "... the learning that results from the process of working toward the understanding or resolution of a problem. The problem is encountered first in the learning process and serves as the focus or stimulus for the application of problem solving reasoning skills, as well as for the search for or study of information or knowledge needed to understand the mechanisms responsible for the problem and how it might be resolved. The problem is not offered as an example of the relevance of prior learning or as an exercise for applying information already learned in a subject-based approach. A problem in this context refers to an unsettled, puzzling, unsolved issue that needs to be resolved; it is a situation that is unacceptable and needs to be corrected" (1980, 18).

There are two additional key points raised by Barrows and Tamblyn. The first is that problem-based learning, as they propose it, is a form of student centered learning (in which the students eventually take full responsibility for their own learning) which will develop learning skills that are transferable to other problems once the student completes the formal

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[3] Including architecture, mechanical and electrical engineering and physics and chemistry. See literature review section.

program. Thus, they intend to provide a tool for the student to continue "lifelong learning". Second, they propose that the development of self-directed learning skills is an essential component of medical education, as these skills are essential to pursuit of ongoing "professional development" upon the graduates' entry into the medical profession. This argument could just as easily apply to any professional pursuit.

David Boud & Grahame Faletti's The Challenge of Problem-Based Learning (1991) compiles a series of contributed articles addressing the continuing development of problem based learning as an educational tool. Most significantly, this work expanded the scope of problem-based learning to a wide range of professions, from Art to Architecture, Mechanical Engineering to Social Work and Law to Management and Economics. Reflecting the popular trend of the time, the authors also extend the concept of problem-based learning to encompass the work of small teams of learners, who work co-operatively to solve a problem.

Wim H. Gijselaers and his co-authors note that problem-based learning, as an educational method, is relatively new for the professions of business and economics, and that significant differences exist from those faced in the medical profession and observe that implementation and assessment issues remain to be addressed in this context. In a key chapter entitled "*Perspectives on Problem-Based Learning*", Gijselaers contends that

> "... at its most fundamental level, problem-based learning is regarded as an instructional tool that uses problems as the context for students to acquire knowledge about science. Contrarily, problem-based learning may also be viewed as a way to conceive or design curricula." (1995, 39)

But this description begs the primary question, that is, "What is problem-based learning?" by establishing a descriptive, rather than a definitional framework for discussion. Indeed, while the contributed works of this volume go on to address significant issues of design, implementation and assessment of problem-based learning, there is no single definition of the fundamental term "problem-based learning" on which to build either a theory or a taxonomy.

The concept of action learning has also surfaced during our review. While similar to active learning in approach, action learning seeks to involve the learner in a group feedback process whereby an identified support group is created to serve as critic and sounding board during the pursuit of a project, problem or program (McGill & Beaty, 1995, p. 21-22). In construct and implementation, action learning is a form of a co-operative problem-solving process which relies on group feedback and review of the problem-solving process itself, as a means of extending the learning process.

It is clear from the above that there is a diverse range of understanding regarding teaching modes and alternate learning styles. Given this range, an increasing level of confusion is understandable, and perhaps inevitable. For our next task, we turn to a synthesis of this material.

SYNTHESIS

As can be seen from the foregoing literature review, a broad range of concepts are used across several disciplines as well as numerous professions to propound both objectives for and the structure of an alternate professional education paradigm. By way of compilation, we offer the following generalizations gleaned from this review as a basis for developing a comparison and drawing conclusions.

Lifelong learning specifically refers to **"the accumulation of wisdom, knowledge or skills after the completion of a formal education program"** (Martin, 1993, 194). Lifelong learning should include the following characteristics:

> "last the whole life of each individual; lead to systematic acquisition, renewal, upgrading and completion of knowledge, skills and attitudes made necessary by the constantly changing conditions in which people now live; have, as its ultimate goal, promotion of the self-fulfillment of each individual; be dependent for its successful implementation on people's increasing ability and motivation to engage in self-directed learning activities; acknowledge the contribution of **all** available educational influences, including formal, non-formal, and informal." [emphasis added] (Candy, 1991, 15).

Experiential Learning is specifically defined as **"...the process whereby knowledge is created through the transformation of experience"** (Kolb, 1984), thus excluding learning which is accumulated by non-experiential methods, i.e., memorization, storytelling, etc. Experiential learning is characterized by the following set of unique propositions:

"learning is best conceived as a process, not in terms of outcomes; learning is a continual process grounded in experience; the process of learning requires the resolution of conflicts between dialectically[4] opposed modes of adaptation to the world; learning is an holistic process of adaptation to the world; learning involves transactions between the person and the environment; learning is the process of creating knowledge." (Kolb, 1984)

Problem-based Learning is specifically defined as **"the learning that results from the process of working toward the understanding or resolution of a problem"** (Barrows & Tamblyn, 1980, 18). Learners work intensively with a single problem at any one point in time, rather than a simultaneous series of discrete knowledge accumulation activities. Problem-based learning generally encompasses the following:

"use stimulus material which, as far as possible, is presented in the same context as it would be encountered in "real life"; stimulus material often crosses traditional disciplinary boundaries; information on how to tackle the problem is not provided, although additional resources may be available to students; students work co-operatively in a small group or team, with access to a tutor (who is generally not an expert in the field); needed areas of learning are identified through addressing the problem; students then reapply this learning to the stimulus material; the learning gained is then summarized and integrated into the students knowledge and skill base" (Boud & Feletti, 1991.)

Integration

There are a number of key similarities among the methods described above. Those similarities include: student involvement, which creates a desire for further learning, which leads to development of a set of self-learning skills. Some additional commonalties include: learner as both director and responsible stakeholder; developing skills rather than accumulating knowledge; developing experience in applying these learned skills;

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[4] Specifically defined by the author as "... mutually opposed and conflicting processes the results of each of which cannot be explained by the other, but whose merger through confrontation of the conflict between them results in a higher order process that transcends and encompasses them both. (Kolb, 1984, p29, note).

developing proficiency in adapting those skills to a changing environment and/or changing needs.

On the basis of the literature review presented above, a formal relationship between the various perspectives on the alternative learning paradigm has emerged. Because learning occurs continuously throughout life, in terms of modes of learning, lifelong learning is the broadest definition of learning. As such, lifelong learning establishes the boundaries, in which all learning takes place. Some of that learning is reflective or passive in nature. However, since "experiential learning", by definition, requires the active participation of the learner, this learning mode is a specific subset of "lifelong learning.

A close relationship also exists between problem-based learning and experiential learning. There are many similarities between that approach which is referred to as "experiential learning" and the "problem-based learning" approach. These similarities can be identified as follows. Both approaches:

- attempt to develop learning skills, rather than transmit facts;
- rely on realistic environmental stimuli as the framework for skills development;
- attempt to involve students as an active participant in the learning process, rather than a passive recipient;
- encompass a dynamic feedback mechanism leading to a continuous learning experience.

There are, likewise, significant differences between these two approaches. These differences can be contrasted as follows. The experiential learning approach takes a much more inclusive view of the learning environment than does the problem-based learning approach. Experiential learning is a dynamic, on-going, lifelong process, while problem-based learning is driven by a single event or problem which has a finite beginning and a finite end. By the same token, the problem-based learning approach tends to place more emphasis on the small group or team effort than does the experiential learning approach. Given this analysis, it is clear that problem-based learning is some subset of experiential learning because not all experiences need necessarily be problem-based; they can conceivably "just happen".

Likewise, there exists a close relationship between problem-based learning and the concept of "lifelong learning". Citing problem-based learning as an

approach to learning rather than a teaching technique, Boud & Feletti see problem-based learning as

> "...consistent with adult learning principles and takes account of the need for courses not only to 'teach' well, but also to lay the foundations for a lifetime of continuing education" (1991, 21).

Finally, "professional development", as defined earlier, is a complex combination of several of these methods. Thus, the alternative learning paradigm is a crucial amalgam of a number of complementary, and at times, overlapping influences, driven in part by the growing need to shift from knowledge accumulation to learning skills development. These delivery modes have become a growing component of "education for the professions" in an effort to ostensibly prepare learners for later, self-directed professional development. However, there is major cause for concern as this alternate paradigm continues to gain recognition.

A Cautionary Note!

Transition from learning knowledge to learning "learning skills" is a commendable objective. Each of these different learning/delivery modes makes the implicit assumption that experiences obtained under such delivery modes will be transferred to the professional repertoire of the learner. However, little relevant literature exists to support this explicit assumption. The key success indicator relative to these delivery modes - that skills learned are explicitly transferable to professional activities - has only spotty support in the literature, even that of the medical profession, which has the longest "history" of using these modes of delivery.

A key drawback seems to be in identifying the real transferability of seemingly professional skills. This is in part due to the broad nature of the skills that are thought to be "professional" in business and economics. A further difficulty is in actually measuring such transferability, and in after-the-fact determination of how such skills were acquire. Therefore, effectiveness of these alternate paradigm's programs, in use in both "professional education" and

"education for the professions", seems to be accepted essentially by faith, as it were.

SUMMARY

As paradigms go, the alternate "skills learning" paradigm described above has emerged from a rather short incubation period, with little external response or pressure due, in part, to unfamiliarity with and the newness of the approach, and, in part, because of the disciplinary focus or biases under which it has been developed. As such, it has become a place to hide pet projects and experiments without severe scrutiny. A protected environment has also contributed to a rubric of obfuscation, in which individual disciplines adopt a concept from another discipline, but apply a more definitive alternative label from within their own discipline. Thus we get active learning (education) and problem-based learning (medical) competing with experiential learning (psychology) and "real world" exercises (business and economics). Adding to the confusion is the fact that these terms are often used interchangeably, without knowledge of the distinct uniqueness of each learning mode.

At present, as with Abbot and Costello in the introduction, we educators really seem to be talking about the same thing, but we rarely seem to be communicating with each other. Forums such as the Association for Business Simulation and Experiential Learning provide us with an opportunity to study the different components of the skills-based learning paradigm. While this review has attempted to clarify the properties of these overlapping learning programs, it is up to the educators to validate the efficacy and effectiveness of these different programs. For this reason, we strongly urge the supporters of these different modes to design validation studies around the implementation of each unique program. Prior to doing this, supporters must specifically identify those learning skills that each method is purported to enhance. It is only after such an intensive research effort is undertaken that educators will be able to identify the most effective types of traditional and skills-based learning combinations for any given learning situation.