

Experiential Learning: Theoretical Underpinnings

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This monograph introduces and discusses principles and concepts that can be applied by Agricultural Health and Safety Specialists when developing and improving booth exhibits, workshops, seminars, and courses.

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Experiential Learning: Theoretical Underpinnings

Agricultural health and safety specialists often design courses, workshops, and booth exhibits to deliver information to farmers, ranchers, or agribusiness personnel. The event is designed to communicate abstract information and ideas that will impact the learning of the recipients. There is concern that true learning does not take place in this type of information giving event (Kolb, 1984; Lewis & Williams, 1994).

Increased learning will occur if the specialist uses a learner-centered approach, where facilitators utilize the learners' experiences and knowledge in the learning process and where they develop methods in which the learners interact with and reflect on the subject matter (Belenky, Clinchy, Goldberger & Tarule, 1986; Enns, 1993; Gelwick, 1985; Kolb, 1984; Lewis & Williams, 1994; Tisdell, 1993). The basis of this learning-by-doing approach to education and training is partially grounded in experiential learning theories, models, and methods.

This monograph is a review of the relevant literature on experiential learning. It will take a broad view of "experience in learning," by examining the literature on adult teaching and Learning, experiential education, and science education for theories and models that use "action and reflection" for developing classroom curriculum, training seminars, or booth exhibits. It will also provide general ideas concerning methods that should be used when developing an experiential learning event. Incorporating the principles of experiential learning and its underpinning will enhance the agricultural health and safety specialist's design of learning events resulting in the participant's learning of abstract concepts and procedures being enhanced.

Learning-By-Doing

At the core of experiential learning is action. Rather than merely thinking about abstract concepts, learning-by-doing involves a direct encounter with the phenomenon being studied. It utilizes actual experience with the phenomenon to validate a theory or concept. Several authors suggest that ideas can not be separate from experience; they must be connected to the learners lives in order for learning to occur (Boud, Cohen & Walker, 1993; Gass, 1992; Keeton & Tate, 1978).

Lewis & Williams (1994) suggest that the twentieth century has seen a move from formal, abstract education to one that is more experienced-based. The most renowned advocate of this concept was John Dewey (1938). He emphasizes that there must be a relationship between experience and education. Dewey stresses that there is to be a *having* which is the contact with the events of life and a *knowing* which is the interpretation of the events. A learning experience does not just happen; it is a planned event with meaning and with experiential learning the meaning is reaffirmed by the learners.

Kurt Lewin, who notably said, "there is nothing so practical as a good theory" (cited in Kolb, 1984, p. 9), believed that theory and practice should be integrated together. He is best known for his action-research methodology and his work with T-Groups and sensitivity training. Because of Lewin's work "the discovery was made that learning is best facilitated in an environment where there is dialectic tension and conflict between immediate, concrete experience and analytic detachment" (Kolb, 1984, p. 9).

Kolb (1984) indicates that there should be a link between the classroom and the future work for which the classroom is supposedly preparing the learner. There is a need to "translate abstract ideas of academia into the concrete practical realities of these peoples' lives" (p. 6).

Students need to test ideas discussed in the classroom on real life situations. Kolb believes that college graduates are unprepared for work. He affirms the need for facilitators to bring practical experiences into the classroom so that there is a link to reality that would better prepare the graduate for life experiences.

Tisdell (1993) and Enns (1993) see this in terms of the Belenky et al. (1986) concept concerning separate and connected knowing—the former, dealing with ideas in the abstract that are separate from life, and the latter, making connections of those abstract ideas with life experiences. Traditionally teachers and trainers have designed learning events for more of a separate knowing, rather than a connected knowing and the learning has not been complete. Learners must "relate theoretical concepts to real-life experience" (Tisdell, 1993, p. 98). Thus, they can think of themselves as creators of knowledge and move to becoming independent thinkers.

In science education this learning through experience is called “hands-on” science. It centers the learning strategies on problem solving and student investigation of the problem (Rossman, 1993). Flick (1993) relates that “hands-on activities usually emphasize students’ logical-mathematical, linguistic, and spatial intelligences” (p. 1). He goes on to state that “it draws its philosophical support from theoreticians such as Piaget, Dewey, and Bruner, who collectively represent a constructivist view of knowledge and learning” (p. 1). Simply put the constructivist notion is that experiences allow the student to construct their own meaning of the world around them. Saunders (1992) explains this as:

meaning is created in the mind of the student as a result of the student’s sensory interaction with her or his world. Because it is created in the mind of the learner, it cannot simply be told to the student by the teacher (p. 136)

Reflection in Learning

In order for learning to occur reflection on an action must take place. Reflection happens in all of human activity. People often say they need to think about an event that has occurred in their lives, to assimilate the meaning of an activity. Others are sought to share the experience with and discuss its ramifications to their lives. This need for reflection is often overlooked in the design of exhibit booths, workshops, and seminars (Anderson, 1992; Boud, Keogh & Walker, 1985).

Facilitators assume that reflection is occurring and that it is occurring effectively with everyone. This assumption may not be valid. Encouraging reflection needs to be a conscious effort on the part of the facilitator to do more than just say "reflect on this;" it needs to be a planned activity. Even with lectures there is the need for students to process the information, they need to relate it to their previous knowledge, and they need to test their understanding of what took place (Boud et al., 1985).

What is Reflection?

"Reflection consists of those processes in which learners engage to recapture, notice and re-evaluate their experience, to work with their experience, to turn it into learning" (Boud et al., 1993, p. 9). Reflection is a process that needs to be actively pursued after every learning experience and in some cases during the learning event.

Boud et al. (1985) consider reflection to be the central part of a person's experiences. Incorporate reflection throughout the activity. At the beginning of the activity the learner needs to consider what will occur. Take time to explain the activity and make sure the learners understand the expectations. During the experience the learner needs to deal with the

information experienced and cope with the feelings that occur as a result of the experience. Do not just assume that the learner is understanding the material; solicit feedback from the learners. Set aside time after the experience to consider and record what has occurred. Solicit the learners' meanings of the activity.

Reflection as an Individual or Group Process

In the classroom, reflection can take the form of an individual activity, within small groups, or with the entire class. Engaging in the reflective process with another individual or with a small group or class can change the meanings that can be drawn from the experiential activity. Individually it might be "thinking quietly, mulling over events in our mind or making sense of experiences we have had" (Boud et al., 1985, p. 8). In a group it might be "comparing notes, [having] roundtable discussions, carrying out a post mortem (metaphorically speaking), [or] having an informal group discussion" (p. 8).

It is important to neutralize the power structure within the group so that everyone will feel free to contribute their ideas. This includes the facilitator's relationship with the learners, as well as the learner-to-learner relationship. "There must be a structure which allows equal power relationships between group members, including the teacher or facilitator, if the freedom to choose is to be a valid one" (Boud et al., 1985, p. 14).

Even though reflection can be a group process Boud et al. (1985) warn that the learners are still individuals and only they can know their feelings and reflect on those feelings. However, reflection is not idle day-dreaming; pursue it with some goal in mind. "The reflective process is a complex one in which both feelings and cognition are closely interrelated and interactive" (p. 11).

Experiential Learning as Action and Reflection

Action and reflection are the core attributes of learning through experience or experiential learning. Experiential learning traditionally applies to three areas of educational endeavor: field-based experiences, prior learning assessment, and experiential classroom-based learning (Lewis & Williams, 1994). See Table 1 for details of these major categories in experiential learning.

The emphasis of this monograph is on the theoretical underpinnings of experiential classroom-based learning and how it applies to a fair booth, workshop, seminar, day camp, or course that an environmental specialist wants to design. Burnard (1989) defines experiential knowledge as that “knowledge gained through direct encounter with a subject, person or thing” (p. 6). So, the design of the workshop must ensure that the learner directly experiences what the specialist wants to convey to the learners.

Table 1

Major Experiential Learning Categories and Their Descriptions

Category	Description
Field-Based Experiences	Working with practitioners of your field of study, actually doing the job that you are being trained to do. Included in this category are learning activities like internships & practicum assignments.
Prior Learning Assessment	Credit or certificates are given for knowledge attained from life experiences. These are generally in the form of standardized tests such as CLEP, or portfolio assessments given by some colleges and universities
Experiential Classroom-Based Learning	In a formal setting this includes teaching methods that involve the students in doing activities and reflecting on what they did. This includes such techniques as case studies, simulations, or any activity that uses real life experiences as its basis of instruction.

Historical Underpinnings

A Pragmatic Philosophy

Experiential learning "offers the foundation for an approach to education and learning as a lifelong process that is soundly based in the intellectual traditions of social psychology, philosophy, and cognitive psychology" (Kolb, 1984, p. 2). A discipline needs a philosophic position that describes the nature of their reality, truth, and value in order to be able to systematically and coherently develop solutions to issues that plague their profession (Miller, 1994). Experiential learning as a discipline and a profession is grounded in pragmatism. It has its roots in the pragmatic methods of William James, John Dewey, and F. C. S. Schiller. It is the "philosophical rationale for the primary role of personal experience in experiential learning" (Kolb, 1984, p. 18).

From the Greek word meaning "practical; dealing with practice; matter-of-fact" (*The Oxford English dictionary*, 1989, p. 278), the concept of pragmatism had its birth when C. S. Peirce published a series of essays on "truth" in *Popular Science Monthly* in 1878. The essay, "How to Make Our Ideas Clear" (Peirce, 1878), is generally considered to be the beginnings of the idea of pragmatism as published material (James, 1907; Dewey, 1925/1984). However, James, and Peirce with others in the Metaphysic Club had discussed the concept throughout 1870's (James, 1907; Peirce 1905). Even though Peirce does not actually use the word pragmatism in the article, the concept is developed and defined; "thus, we come down to what is tangible and practical, as the root of every real distinction of thought, no matter how subtle it may be" (Peirce, 1878, p. 293). As was mentioned he never used the word in writing at the time, he did use it in his discussions at James' house and others in the Metaphysic Club (Peirce, 1905). Peirce considered

"the most striking feature of the new theory was its recognition of an inseparable connection between rational cognition and rational purpose" (p. 163), ideas and action, reflection and experience.

James (1907) and others (Dewey, 1934/1964; Schiller, 1907) carried the concept, or method as they identified it, further than Peirce intended (Peirce, 1905). However, it is James' concept of pragmatism that is the basis of experiential learning today. A pragmatist "turns away from abstraction and insufficiency, from verbal solutions, from bad *a priori* reasons, from fixed principles, closed systems, and pretended absolutes and origins. He turns towards concreteness and adequacy, towards facts, towards action and towards power" (James, 1907, p. 51). What influences our practice or action? In what way would the world be different if one alternative or another were true? If nothing would change, then that point has no sense of purpose. "It is astonishing to see how many philosophical disputes collapse into insignificance the moment you subject them to this simple test of tracing a concrete consequence" (James, 1907, p. 49). Another way to explain the concept would be to think of physics as professor W. S. Franklin put it "the science of the ways of taking hold of bodies and pushing them" rather than "the science of masses, molecules, and the ether" (cited in James, 1907, p. 49). Consider the 'actions' of the science rather than the theories, concreteness rather than abstractness.

Pragmatism, like all new ideas, was not readily accepted. Even Peirce changed the name of his concept to "pragmaticism" to differentiate between his original ideas and that of James (Carus, 1908; Peirce, 1905). Paul Carus, editor of *The Monist* in 1908, wrote a scathing editorial that claimed James to be unscientific and uncritical, and he felt that James even had a dislike for science. "I would deem it a misfortune if his philosophy would ever exercise a determining and

permanent influence upon the national life of our country" (Carus, 1908, p. 362). As noted, it has survived to influence our learning theories.

John Dewey's Influence

From these chaotic beginnings, Dewey applied the pragmatic method to education. He felt that pragmatism places *action* as an intermediary between *thought* and *application*. "In order to be able to attribute a meaning to concepts, one must be able to apply them to existence" (Dewey, 1925/1984, p. 5). James, he felt, "wished to establish a criterion which would enable one to determine whether a given philosophical question has an authentic and vital meaning or whether, on the contrary, it is trivial and purely verbal" (p. 8). Also, he felt that James "claimed the right of a man to choose his beliefs not only in the presence of proofs or conclusive facts, but also in the absence of all proof" (p. 10). The keyword here is "beliefs." James referred to a person's "right to believe." Dewey felt that James considered the personal aspect of beliefs and motives. He claimed that "Peirce wrote as a logician and James as a humanist" (p. 10).

Dewey believed that reason was orderly and effective action, that ideas result from action, and ideas help in obtaining better control of that action. He believed that education "is a process of living and not a preparation for future living" (Dewey, 1897/1972, p. 87). "The educational end and the ultimate test of the value of what is learned is its use and application in carrying on and improving the common life of all" (Dewey, 1934/1964, p. 11). Dewey believed that education transmits culture and provides other views of the world and allows students to explore them through their own experiences (cited in Bruner, 1966).

Thus, James and Dewey understood experience to have a primary role in learning. Dewey believed in the relationship between the process of life experience and the process of education

(Dewey, 1938; Kolb, 1984). As Keeton and Tate (1978) express it, experiential learning "involves direct encounter with the phenomenon being studied rather than merely thinking about the encounter or only considering the possibility of doing something with it" (p. 2).

A Humanist Tradition

James, Dewey, and Schiller established the roots of experiential learning solidly as a humanist concept, not a behaviorist tradition. "The emphasis on the process of learning as opposed to the behavioral outcomes distinguishes experiential learning from the idealist approaches of traditional education and from the behavioral theories of learning created by Watson, Hull, Skinner, and others" (Kolb, 1984, p. 26). Human experiences can not be neatly classified into behaviorist categories. "Ideas are not fixed and immutable elements of thought but are formed and re-formed through experience" (p. 26). In experiential learning there is an integration of the cognitive learning processes and emotional experiences that promote understanding of the material being covered (Kolb & Fry, 1975).

Kolb (1984) stresses that humans are not the 'empty-organism' that behaviorist theories of learning assume. They have past experiences that they bring with them to a learning activity. Rogers' (1961) & Maslow's (1954) humanistic psychology "emphasized the uniqueness of human experience and human interpretation of the world" (Burnard, 1989, p. 11). Experiential learning stresses humanistic values in emphasizing that feelings are part of the learning process as well as cognition. "The humanistic approach to experiential learning pays particular attention to the emotional aspect of the individual's experience" (Burnard, 1989, p. 14). This humanistic scientific process "stimulated the modern participative management philosophies (variously call Theory Y management, 9.9 management, System 4 management, Theory Z, and so on)" (Kolb,

1984, p. 11). Humanist theory suggests that learning can occur only where “personal values and organizational norms support action based on valid information, free and informed choice, and internal commitment” (Kolb, 1984, p. 11).

Experiential Learning Models

The importance of experience and reflection in learning and their connection to experiential learning has been reviewed. The foundations of experiential learning have been explored. This monograph will now consider how to take experiential learning out of the theoretical abstract and into actual practice.

David Kolb’s Approach to Experiential Learning

"David Kolb’s 1984 book on experiential learning is one of the more influential works linking theory to actual practice" (Lewis & Williams, 1994, p. 6). Kolb describes experiential learning as a four part process, where the learner is asked to engage themselves in a new experience, actively reflect on that experience, conceptualize that experience and integrate it with past experiences. Furthermore, they must make decisions based on their created concepts. "In the process of learning, one moves in varying degrees from actor to observer, and from specific involvement to general analytic detachment" (Kolb, 1984, p. 31). There is a dichotomy between concrete involvement and abstract detachment (Bruner, 1966). In one of the original documents on the model, Kolb and Fry (1975) describe the process in this manner:

(1) here-and-now experience followed by (2) collection of data and observations about that experience. The data are then (3) analyzed and the conclusions of this analysis are feedback to the actors in the experience for their use in the (4) modification of their behavior and choice of new experiences. (p. 33-34)

According to Kolb the learner must continue cycling through the four parts, thus creating a “learning spiral of ever-increasing complexity” (cited in Lewis & Williams, 1994, p. 7). A

picture of a conical helix comes to mind in trying to describe the process. A learner might begin anywhere in the cycle at any level of knowledge concerning the subject matter. The facilitator's job is to guide them through each part in an ever increasing level, expanding their learning of a topic. "Kolb considers any one learning style to be an incomplete form of processing information . . . all four stages of the cycle must be negotiated by the learner" (p. 7). For Kolb, then, learning becomes a process where "ideas are not fixed and immutable elements of thought but are formed and re-formed through experience" (Kolb, 1984, p. 26).

Boud and Walker's Stages in Experiential Learning

Boud and Walker (1992) see experiential learning as a series of stages where there is some kind of preparation done before a learning event, the actual experience itself, and then reflection to "debrief" the learner on what took place. This incorporates two important aspects of Kolb's model experience and reflection. It also adds a third: preparation for the event, that they feel is important in having learning take place. "Greater use can be made of learning events if the learners prepare beforehand" (p. 165).

When considering preparation for a learning event, the facilitator needs to focus on what experiences the learners bring and what they want to learn. "Learners bring with them 'intent', which may or may not be able to be articulated, and which influences their approach to the event" (Boud & Walker, 1992, p. 166).

Dean's Process Model of Experiential Learning

Dean (1993) presents a process model of experiential learning in adult education as a series of stages in the process of developing and implementing an experiential learning activity:

1. Planning—Getting Ready to Start

2. Involvement—Getting Started
3. Internalization—Learning by Doing
4. Reflection—Making Meaning
5. Generalization—Making Connections
6. Application—Transfer of Learning
7. Follow-up—Assessment & Planning

As with Boud and Walker, Dean sees experiential learning as a process the facilitator goes through to develop the learning experience. The central concepts of his model relates to the other theories of experiential learning in that there needs to be some kind of *experience* (involvement and internalization) and a *reflection* on that experience.

Laura Joplin’s Five Stage Model

The Agricultural Education Magazine recently devoted an entire issue to the concept of experiential learning (Leske, 1994). In it, some authors described using Kolb’s model, however, several used a model proposed by Laura Joplin (1981). Joplin follows the “action-reflection” process, however, she adds three other stages that are similar to Boud and Walker’s and Dean’s. Her first stage is *focus*, which defines the task to be completed and focuses the learners attention on that task. Second is *action*, where that student must become involved with the subject matter in a physical, mental, or emotional manner. Her third and fourth stages are *support* and *feedback*. These are present throughout the learning experience and are provided by the instructor or fellow learners. The fifth and last stage is *debrief*, where the learners and facilitator sort and order the information and reflect on it’s implications. Joplin stresses that “experience alone is insufficient to be called experiential education, and it is the reflection process which turns experience into experiential education” (p. 17).

Science Education and the Learning Cycle

While visiting his child's second grade class in 1957, Professor Robert Karplus, a Berkeley physicist, became interested in the elementary science curriculum. After years of experimentation and thought he, along with Herbert Thier, published a book in 1967 that first articulated the three phases of what is today known as the *learning cycle* and has become widely accepted in science education (Lawson, Abraham & Renner, 1989; Marek, Eubanks & Gallaher, 1990). Over the years the names of the phases have changed, however, the central concept of this experiential learning model has stayed the same. Lawson et al. (1989) use the labels "Exploration-Term Introduction-Concept Application" (p. 4), which we shall use here to describe the learning cycle model.

"During Exploration, the students learn through their own actions and reactions in a new situation" (Lawson et al., 1989, p. 5). The instructor provides the students with the topic and materials, and then allows the students to explore on their own. With "Term Introduction," the teacher introduces a new term or terms that relate to the students "exploration." The terms may be articulated through a lecture, a film, a discussion, or any other method. The students reflect on their own observations in light of what is being taught or discussed. In "Concept Application, students apply the new term and/or thinking pattern to additional examples" (p. 5). This is important because it helps the students generalize the abstract concepts to other problems or situations.

The importance in using the learning cycle is the order in which the phases are performed, not necessarily the method used in each phase. "Exploration" and "Concept Application" could be accomplished through library research, discussion, or lecture, as well as laboratory hands-on methods. As mentioned earlier "Term Introduction" could be accomplished in several different

ways. “The key point to keep in mind is that one can change the learning format of the three phases of the learning cycle but one cannot change the sequence of the phases or delete one of the phases” (Lawson et al., 1989, p. 5).

Several studies in science education (Bredderman, 1983; Cohen, 1992; Hartshorn & Nelson, 1990; Shymansky, Kyle & Alport, 1983) conclude that there is an increase in learning when activity-based, hands-on, experiential learning events are used. This is especially true with high risk (potential dropout) students. When planning booth exhibits at county fairs, conferences, or science fairs, experiential learning provides opportunities to make the booth an active learning event, instead of a passive “information giving” affair. Designers can build an experience into their booths that follows experiential learning theories and provides their visitors with a true learning event.

Praxis as an Experiential Learning Model

Burnard (1989) states that "experiential learning is learning through doing [and] . . . learning through reflecting on the doing. . . . If we are to learn from what we do, we must notice what we do and reflect on it" (p. 2). This concept of action and reflection is central in the early writings of Karl Marx in the 1840's and in the contemporary writings of the Brazilian educator, Paulo Freire. They used the term *praxis* to denote action and reflection.

From a Nineteenth Century philosophy. The term praxis became popular in the 1960's, when Karl Marx's early works were translated into English and widely disseminated (*The Oxford English dictionary*, 1989). It was actually August von Cieszkowski, in 1838, who first used the term to denote “action and reflection.” He felt that the real power of ideas was in acting upon them, not just thinking about them. "A practical philosophy or rather a philosophy of practical

activity, of 'praxis', exercising a direct influence on social life and developing the future in the realm of concrete activity" (McLellan, 1969, p. 10). In his early work, *Theses of Feuerbach*, Marx outlines his philosophy of praxis and how thought must be acted on in the world. In this quotation from *Karl Marx and the Philosophy of Praxis*, Kitching (1988) sums up Marx's ideas on the subject:

It is human activity which, as it were, 'joins' thought to the world. Conversely, it is speculating about 'thinking' and 'thought' in abstraction from practice, from activity, which creates nearly all philosophical puzzles. It is in this context that we must see the most famous of all the *Theses on Feuerbach*, the eleventh and final one:

Philosophers have only *interpreted* the world in various ways, the point however is to *change* it.

Here Marx is taking 'philosophers' to task, not for interpreting the world, but for only interpreting the world. (p. 29)

To Twentieth Century Education. Paulo Freire, in his sentinel work, *Pedagogy of the Oppressed* (1970a), uses the term *praxis* extensively to describe a process of dialogue and interaction between the teacher and the student. The facilitator must not tell the learner what to learn. He must explore the content with the learner. The learner must then act on that content. The learner and facilitator must reflect on that action. As Freire defines it: "praxis: the action and reflection of men upon their world in order to transform it" (p. 66) or in the original Portuguese, "é práxis, que implica a ação e a reflexão dos homens sobre o mundo para transformá-lo" (Freire, 1970b, p. 67). Both Freire and Marx used praxis, or acting on theory, to arrive at their liberatory philosophies.

Action-Reflection and Experiential Learning

One of the underlying foundations to Kolb's experiential learning model is the concept of praxis. In explaining Freire's concept Kolb says, "the dialectic nature of learning and adaptation is encompassed in his concept of praxis (Kolb, 1984, p. 29).

Enns (1993), in a look at associating Kolb’s experiential learning model with feminist pedagogy and Belenky et al.’s concept of separate and connected knowing, explains that "concrete experience is associated with the activity of experiencing, reflective observation with examining, abstract conceptualization with explaining, and active experimentation with applying" (Enns, 1993, p. 9). Gelwick (1985) indicates that Kolb’s concepts of reflection and abstraction are associated with mental processes, traditionally *masculine*, or using Belenky et al.’s term, a *separate* way of knowing. Concrete experience and active experimentation are movement or bodily processes, traditionally *feminine*, or a *connected* way of knowing. Concerning Kolb’s model, Gelwick goes on to state that the “theory is at least supportive of women's cognitive development in that it explicitly states the equal importance of the concrete with the abstract and of experience with reflection” (p. 36).

Brookfield (1986) sees praxis as a process of exploring a question or problem, taking an action concerning the question, and then reflecting on that action. “Praxis is placed at the heart of effective facilitation. Learners and facilitators are involved in a continual process of activity, reflection upon activity, collaborative analysis of activity, new activity, further reflection and collaborative analysis, and so on” (p. 10). Brookfield goes on to state that "this notion of praxis as alternating and continuous engagements by teachers and learners in exploration, action, and reflection is central to adult learning" (p. 15). It is exploring, acting and reflecting in a continuous expanding process. The learning continues to expand in a continuous spiral, or conical helix, of exploration, activity and reflection.

Boud & Walker (1992) describe experiential learning as having several levels of learning in an action and reflection model or, to borrow from Marx and Freire, *praxis*. During the event reflection and action occur as interaction between the participants and the specific activity at

hand. Learners, even in a lecture, will experience an idea and reflect on the idea. Schön (1983) refers to this as reflection-in-action. Praxis is action and reflection that occurs with the session or activity as a whole. The activity is a series of these personal experiences and reflections.

Experiential Learning Methods

To facilitate action and reflection in the exhibit or workshop, the health and safety specialist needs to use methods that are not traditional. They need to use methods that capitalize on the learners' experiences and connect those experiences to the learning event.

More Than Traditional Methods

Classroom-based experiential learning methods need to be more than the traditional methods of lecture, discussion, or even demonstrations. They need to be active, experienced based, and related to the participants previous and possible future experiences. "It turns us away from credit hours and calendar time toward competence, working knowledge, and information pertinent to jobs, family relationships, community responsibilities, and broad social concerns" (Chickering, 1977, p. 86). There must be a development of competence-based methods that have identifiable outcomes of learning from experience (Kolb, 1984). The facilitator must create a learning environment where students choose to learn, where the "participants become personally involved in the activities" (Remnet, 1989, p. 6). Active rather than passive involvement in the activity makes for more meaningful and permanent learning (Darkenwald & Merriam, 1982).

Traditional methods, or "banking" in Freire's (1970a) terms, is where what the teacher says is the right way and there is no other way of thinking or doing. Students bank the information feed to them for use later and does not reflect on that information for validity. What Freire suggests is for the teacher to create a problem-posing atmosphere, to form a dialogue between the

student and the teacher. Thus, the teacher will reflect with the student and will re-form ideas and thoughts through consideration of the student's reflection. "The students—no longer docile listeners—are now critical co-investigators in dialogue with the teacher" (p. 68).

Not only is there a need for active involvement, there needs to be active reflection.

"Reflective activities such as the keeping of learning portfolios, debriefing sessions, guided reflection and periods of quiet contemplation following experience-based classroom activities" (Boud & Walker, 1992, p. 165) help to develop the learner's active involvement in the reflection process.

Characteristics of Experiential Learning

When developing a learning activity it is good to understand what characteristics make the activity an experiential learning event. Burnard (1989) describes several underlining attributes that define an experiential learning activity:

1. *action*—the learner is not a passive receptacle but an active participant; and there is physical movement, not just sitting.
2. *reflection*—learning only occurs after the action is reflected upon.
3. *phenomenological*—objects or situations are described without assigning values, meanings or interpretations; the learner must ascribe meaning to what is going on; and the facilitator's meaning must not be automatically forced upon the student.
4. *subjective human experience*—a view of the world that is the learner's not the facilitator's.
5. *human experience as a source of learning*—"experiential learning then is an attempt to make use of human experience as part of the learning process" (p. 14).

Joplin (1981) feels that experiential programs consist of several overarching characteristics:

1. *student-based rather than teacher-based*—the learning encounter starts with the students ideas and concepts rather than the teacher's or the book's.
2. *personal not impersonal nature*—personal experiences and personal growth are valued in the classroom.

3. *process and product orientation*—emphasis is placed as much on learning as it is on the “right” answer.
4. *evaluation for internal and external reasons*—assessment is considered to be a learning experience that the students can learn to do on their own.
5. *holistic understanding and component analysis*—students are urged to fully understand the content through the analysis of primary sources of the material and/or experiences with the material.
6. *organized around experience*—the students previous experiences are taken into account when creating the curriculum, as well as the new experiences that will be provided in the classroom, lab, or field trip.
7. *perception-based rather than theory-based*—“experiential learning emphasizes a student’s ability to justify or explain a subject rather than recite an expert’s testimony (p. 20).
8. *individual based rather than group based*—group identity and socialization skills are stressed, however, emphasis is placed on the individual learning within the group rather than on the group as a whole; criterion-referenced rather than norm-referenced.

These characteristics can serve as a stimulus for the facilitator in constructing an experiential learning encounter, that will maximize the participant’s learning.

The Pivotal Role of the Learner’s Experiences

Malcolm Knowles (1980) states that a learner’s experience is important whether it be accumulated experiences in school, work, or private life. Learners “derive their self-identity from their experience. They define who they are in terms of the accumulation of their unique sets of experience” (p. 50). If the facilitator does not recognize the learners’ experiences, “it is not just their experience that is being rejected—they feel rejected as persons” (p. 50).

Kolb (1984) shares Knowles’ view and goes on to state that science and technology, rationalism and behaviorism have distorted the learning process away from this emphasis on experience and feelings. “This learning process must be reimbued with the texture and feeling of

human experiences shared and interpreted through dialogue with one another. . . .We lost touch with our own experience as the source of personal learning and development" (p. 2).

Piaget found that older children were not *smarter* than younger children; they merely think about things in different ways, because of their greater experiences. He went on to find that experience shaped intelligence and that learners must interact with their environment (Kolb 1984).

Belenky et al. (1986), in examining Perry's (1970) model of intellectual development during the college years and conducting their own studies, found that college men preferred the abstract theories learned in college and that female college students preferred experiencing the effects of these theories. They defined this as separate knowing (masculine) and connected knowing (feminine). Enns (1993) summarizes this very succinctly:

Young men learned to value the mastery of ideas and abstract principles, to distance themselves from the content they studied, and to establish themselves as experts. In contrast, many women learned most effectively by empathizing with or understanding another person's viewpoint and by relating ideas and theories to personal events and meanings. These connected knowers were often uncomfortable with competitive learning environments that require individuals to set themselves apart from others, defend ideas, and debate opinions. (p. 7)

Malcolm Knowles (1980) found that, since experience is so important to the adult learner, then there are three main assumptions to consider when planning a learning event:

- 1) adults are a rich resource of experiences that can contribute to the learning of others.
- 2) adults have a rich foundation of experience that can be used to relate new experiences.
- 3) with experience comes "fixed habits and patterns of thought, and therefore tend to be less open-minded" (p. 50).

Adult learners "demand that the relevance and application of ideas be demonstrated and tested against their own accumulated experience and wisdom" (Kolb, 1984, p. 6).

Boud et al. (1993) consider it vital that a person's past experiences be used in planning a learning event. Learners bring many diverse ideas and experiences with them to a workshop or learning activity. "The linking of new experiences with those of the past can provide new meanings and stimulate us to explore again those parts of our world which we have avoided" (p. 9). When incorporating these experiences into new learning events, care should be taken, for earlier negative experiences could suppress new learning.

Enns (1993) sees that facilitators must create learning experiences, to relate the content to the learner's past experience because many learners learn better when the learning is tied to life experiences. "Relatedness and connectedness are often expressed and valued by powerless people, regardless of gender or race, because they have limited or no access to traditional methods of influence" (p. 8-9).

In describing the liberatory model of feminist pedagogy, Tisdell (1993) states that women, and possibly most non-white males, tend to resist traditional learning because they can not relate to the teacher's experiences and examples used during classes and workshops.

Because the curriculum, the knowledge base, and the examples used in books and materials are created by and are primarily about the white middle-class male experience, white middle-class males are more likely to be successful both in the education system and in society that accords greater value to that experience. (p. 95)

She emphasizes connectiveness and personal relationship with the content and experiences of the learner, rather than separateness from it.

Cranton (1989) suggests that facilitators base experiential activities on the learner's experience. Set aside some time at the beginning of the session to find out what the learner wants to learn and why. Find out who the audience is and why they have come to the learning event. Facilitators should carefully appreciate the experience and "the intentions of the learner

before any particular strategy is even contemplated" (Boud et al., 1993, p. 7). Remember, it is the experience that prompts learning not the acts of the facilitator. "The teacher creates an event which the learner experiences and may learn from" (p. 9).

The Affective Side of Experience in Learning

The affective is an often overlooked aspect of learning. Boud et al. (1993) believe that today's learning encounters lean more "towards the intellect and to the analytical . . . leading to a lack of emphasis on people as whole persons" (p. 13). How learners feel about what they are learning is just as important as their cognitive engagement. Boud et al. believe that if a learner denies their feelings, then they are not getting the most out of the learning event. They must accept their feelings and believe that those emotions will frame their actions. "It is impossible to have cognitive experience without an accompanying affective component and vice versa" (Remnet, 1989, p. 6).

The facilitator of learning must consider all the domains of learning—cognitive, affective, and psychomotor. "No one aspect is discrete and independent of the rest and no one aspect should generally be privileged over the rest" (Boud et al., 1993, p. 12). This means having a holistic view of learning and understanding that there is more to learning than cognition. As Enns (1993) proposes:

Instead of rejecting traditional concepts of critical thinking, we should expand our notions of critical thinking to include affective components, such as empathizing with others and valuing diversity; cognitive aspects, such as defining issues clearly, engaging in logical analysis, and synthesizing ideas; and behavioral elements, such as gathering data, listening actively, and applying knowledge to new situations. (p. 9)

Separate Versus Connected Methods

In reflecting on Belenky et al.'s (1986) concept of separate and connected knowing, Enns (1993) suggests that methods where abstract analysis and the comprehension of great ideas are "a form of learning that is dominant in most educational institutions and most consistent with men's experiences in western culture" (p. 7). She suggests using methods that express a connected knowing, such as the "expression of feelings, personal reflection, subjective reactions, active exploration, and consciousness-raising" (p. 7).

Tisdell (1993) considers the facilitator a midwife. The teacher should draw out the students. Tisdell's methods and strategies for the facilitator of experiential learning follow the connected form of knowing in that the facilitator needs to use a variety of examples—female and minority as well as white male. Tie theory with practice (praxis) using the student's own experiences. She goes on to say that facilitators need to reflect on their unconscious, *separate* behavior, recognize when it occurs, and try to make more of a connected effort around action and reflection. "Discussion of highly theoretical concepts must be integrated with a consideration of how they relate to the lives of real people, including the students in the class" (p. 100).

Special Attention to Reflection

There are three aspects of reflective activity: "returning to the experience . . . attending to feelings . . . [and] re-evaluating the experience" (Boud & Walker, 1992, p. 164). This can be translated for the facilitator into three questions that he or she might ask: What happened? What did I feel? What does it mean? Allow the learners time to express themselves internally. With the class as a whole discuss what took place, what were their feelings toward the activity, and what it meant to them.

Anderson (1992) discusses several things that should occur during the reflective process. Allow the learners to reflect on the results: "values measured, conclusions reached, system designed, diagrams drawn, reports made" (p. 242). Also reflect on the process: "steps taken, methods used, difficulties encountered, errors made" (p. 242). Facilitators can use "questions, checklists, standard results, and other learners' work" (p. 242). There should be something concrete that they can produce from the reflective process, such as: "a piece for further reflection, a lab report, a short write-up, an oral report, or an interview" (p. 242).

The learning activity whether it be a fair or conference exhibit, a workshop at a day camp, or a formal classroom session, needs to incorporate an experience that ties the material being learned to the lives of the participants. It must also allow time for reflection on how the information can be used in everyday life.

Conclusion

This monograph has reviewed the literature relevant to the broad spectrum of the theoretical underpinnings of experiential learning in adult education, science education, and experiential education. It has also given the reader a general understanding of what agricultural health and safety specialists can do to make their booth exhibits, workshops, or courses more experiential in nature and, thus, will increase the learning that occurs. Later monographs in this series will give more specific methods to be used when developing experiential learning events.

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