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Experiential Learning

The Experiential Learning Cycle

Applications of Experiential Learning

Experiential Learning in Teacher Preparation

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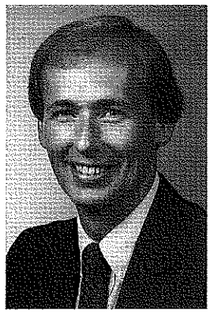
Completing the Cycle



BY ED OSBORNE
Dr. Osborne is associate professor and program chair of agricultural education at the University of Illinois at Urbana-Champaign.

Experiential learning is not commonplace in secondary and postsecondary agricultural education programs. What? But we live by hands-on experience in our programs. We provide students with firsthand and second-hand experiences in many areas that we teach in agriculture and agricultural education. Experienced-based learning is an icon for agricultural education. Yet, I would argue that true experiential learning is seldom practiced in high school and postsecondary agriculture programs and university agricultural education programs. We often provide hands-on experience for students, but we rarely complete the full cycle of experiential learning.

Experiential learning (EL) is a cycle consisting of four to six stages, depending upon which model is followed. In agricultural education we often only complete two stages of experiential learning. Further, agricultural educators strive to intentionally provide hands-on experiences for students, but few agricultural educators place these learning experiences in the context of experiential learning.

One model of experiential learning that has gained widespread acceptance is the Kolb model. This model consists of four stages: direct experience, reflection and observation, abstract conceptualization, and active experimentation (Kolb, 1984). A quick review of these four stages reveals why agricultural educators often fall short in their teaching and how they can complete the cycle of experiential learning on a regular basis.

Stage one, *direct experience*, requires first-hand, personal involvement with the phenomenon under study. In essence, this means that if students are studying grafting, they *begin* to learn grafting by performing a trial graft. They have a direct encounter with the area of study. Experiential learning is a natural fit in agricultural education, because what we teach is teeming with opportunities to provide students with direct encounters, genuine experiences that are personally meaningful and relevant.

Stage two of the experiential learning cycle requires that students undertake guided *reflection* about the just-completed experience. Reflection is the key element in experiential learning; it transforms experience into new knowledge.

The third stage, *abstract conceptualization*, is the inductive stage of the cycle. In this stage, students continue in an inquiry learning mode by developing generalizations about the area of study. In the grafting example mentioned earlier, students would attempt to identify general principles that explain how and why certain grafting techniques result in a successful graft. These principles could relate to instruments, materials, procedures, and maintenance of the new graft.

Finally, in stage four, *active experimentation*, students are provided opportunities to test their generalizations about the topic. Thus, additional grafting experiences are provided, ideally until students' skills and knowledge of grafting reach a mastery level.

According to Kolb's model, agricultural educators fall short of true experiential learning in two fundamental ways. First, the starting point in much of our teaching is in stage three of the cycle, rather than stage one. Many teachers begin by *giving* students the whats and hows of the topic at hand. In other words, many teachers would begin to teach grafting by telling students when grafting is used, why it is used, and how it is done. This mistake places agricultural educators alongside most other educators who have a subject matter orientation to their teaching. These teachers start with the facts and information first, and any experiences provided follow sometime thereafter. So much for problem-based learning.

When teachers follow an experiential learning model, student learning begins with direct experience, which immediately places the learning in a real-world, problem context. Dewey (1960) felt strongly that all learning should be problem based, and that to set up problems that do not grow out of actual situations is busy work. Teaching through the experiential learning cycle is about as close to pure problem solving teaching as we can get.

Agricultural educators also fail to provide true experiential learning because they stop short on the four-stage cycle, usually never getting to stage four, active experimentation. In fact, much of our teaching consists of only two stages of the experiential learning cycle: direct experience and abstract conceptualization. Further, these are usually addressed in the wrong order, by leading off with a discussion of the facts and information, followed by direct experience. But by starting the learning cycle

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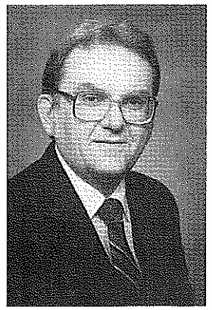
Experiential Education: Theory for Professional Practice



BY GARY LESKE, THEME EDITOR
Dr. Leske is director of graduate studies in the Department of Vocational and Technical Education at the University of Minnesota, St. Paul.

The education component of the knowledge base for the agricultural education profession is not a common topic of discussion at our conferences and conventions. Indeed, we do show and tell about successful practice, and the literature of our profession does an excellent job of recording how we practice. In fact, a great deal of our professional literature is basically a number of sets of approved practices. Those of us who are "older than the rest of you" may remember all those approved practice bulletins and books that often were not appropriate for our community's agriculture. Not surprisingly, approved practice lists have been found to be useful, but lacking when situation-specific decisions must be made. Should we be surprised that many agricultural educators have found that practicing the way others have done is not the most effective process for them? I do not think so. What is normally missing in approved practice lists is the theory or framework that supports the practice.

Why should we be concerned? A profession by definition has a unique body of knowledge, and professionals practice using their unique knowledge to benefit their clients. An expected part of our unique educational knowledge is focused on the processes of facilitating students' learning. We are expected to have theories which explain why we do what we do to members entering the profession and to those who question why we practice as we do. Perhaps more importantly, we need theories to allow us to critique our own practice and make decisions when facing new challenges in our practice. To paraphrase the saying, there is no good practice untested by good theory, and there is no good theory untested by good practice. Theory and practice interact, testing each other, to generate our professional knowledge base.

Another concern that I have when I read our agricultural education literature is that we keep turning on ourselves. I realize that most of what we know is learned by interaction with our immediate environment or culture. This indigenous knowledge is important and useful, but it also limits us to our own experiences. We may become isolated and lose sensitivity to our changing environment, or as some say, become victims of our own experience and trapped in the past. The SAE literature is a good example. What has been written about the theoretical basis for what we do in facilitating students' SAEs? I asked myself this question a few years ago and found that we seldom, if ever, question our practice, particularly with theories and knowledge from outside our own literature. Should we wonder why the quality-enhancing components of our programs, labs, SAEs, and FFA contests are challenged by those who do not practice as we do?

> *"...we seldom, if ever, question our practice, particularly with theories and knowledge from outside our own literature."*

"Hands-on learning" is a norm for good practice in agricultural education. It is common in FFA and discussions. This catch phrase is used to sell our programs. It works. But what does it really mean? For some it means active involvement of the learner or doing projects. For others it means this is the place for individuals who are good with their hands. Too frequently, mental processes are not recognized as important or being used when the "hands-on" terminology is used.

Because I believe that we need to talk and write about the educational theories that support our practice and we need to look outside our own field to improve not only our practice, but how others perceive us, I suggest that we move to new terminology and a conceptual framework without the limitations of "hands-on learning." Experiential education is the framework that I recommend.

Experiential education includes "hands-on learning" and emphasizes the mental involvement of the students. There are a number of theories and models of experiential learning and education that have been tested and are continuing to evolve. The work on advancing the experiential education framework did not stop with John Dewey's passing. Metacognition researchers currently are contributing new insight. A body of literature focused on experiential education exists, and the National Society for Experiential Education provides opportunity for educators from a variety of fields to meet and work on improving our understanding of experiential education. →

> *"Too frequently, mental processes are not recognized as important or being used when the "hands-on" terminology is used."*

We can benefit from the work of others who value learning through direct involvement and reflection.

An example of reflection using experiential theory may illustrate my point. Kolb (1984), a frequently cited advocate of experiential education, has developed a model of experiential learning that involves four stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation.

Before we feel too good about our active learning strategies, we need to note Kolb's reflective observation and conceptualization stages. Not surprisingly, the major criticism of most experiential education programs is that the focus is the activity itself, not on the learning which is sought. The agricultural education student has an SAE agribusiness placement—a real world experience, but your friendly school board member asks, "How is this experience different from the experience of all the other students with part-time jobs?" According to experiential education theory, a key part of your response should be that the students are required to reflect on what has happened during their experience by writing or orally presenting what they have learned, what worked and what did not work, what knowledge or skill they applied, what they need to know and do to be a better employee, what they like and do not like about the job, and so on.

> *"We simply must make time for our students to reflect on their experiences if we believe in experiential education."*

A reflection stage is central to experiential learning. It results in learners connecting the elements of the experience to their current knowledge system. Facilitation of this process makes our curriculum effective and valuable. We can argue that we all are reflective, but the public sharing and testing of our own conclusions, which some call our espoused theories, validates our learning. Why has our approved practice list included student reports? There is a sound educational rationale for records and journals that is more important than documenting earnings and activities for awards. There is rationale for class time not focused on the teacher's lesson plan, but the students' questions and conclusions evolving from reflection upon concrete experience. We do help each other gain insight and learn.

Unfortunately, our approved practice lists do not say much about facilitating the reflection (debriefing) activity in experiential education. Some argue that all human beings are reflective and that it is a natural process, so why take the time to structure reflection? Experiential educators make the strong case that it is a matter of learning efficiency. The move toward authentic assessment may help us come to understand the importance of reflection. We simply must make time for our students to reflect on their experiences if we believe in experiential education.

In an effort to illustrate the utility of experiential education theory, a number of your colleagues have written theme articles about aspects of their programs using Joplin's model of experiential education (see back cover) as a model for thinking about their work. Joplin's (1981) model was developed to help teachers reflect on their efforts to provide experiential learning opportunities for students. I have found this model very helpful in thinking about what we are trying to do to help our students. I hope it will be a useful tool for you.

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About the Cover

Sam Condie, a student teacher in the spring semester 1994, taught at Burley High School in Burley, Idaho, under the direction of Mr. Gaylen Smyer. Sam is shown here with two students in his horticulture class. Sam is now employed at Burley High School as a second agriculture instructor with Mr. Smyer. (Courtesy of Lou Riesenberg)

THEME ARTICLE

Experiential Learning and School-to-Work Transition

BY JAMES R. STONE III
Dr. Stone is associate professor of vocational and technical education at the University of Minnesota, St. Paul.

The United States is currently in the throes of yet another educational reform movement. Unlike most of the past movements, the school-to-work transition movement offers real hope for change. And in this change, real hope is offered for three-fourths of students—those who will never earn a four-year college degree.

We find many models of school-to-work transition (STWT) discussed at the policy and implementation levels: youth apprenticeship, internships, mentoring programs, cooperative vocational education, and school-based enterprise, to name a few. One common element for each is the importance of learning through real, lived experience. It seems reasonable then, to consider what we know about experiential learning in the context of school-to-work transition.

Experiential Learning: What is it Really?

Experiential learning has its roots in the earliest thought on what it is "to know" (Leske & Zilbert, 1989). Aristotle first espoused the idea that knowledge comes from experience. This was in contrast to Plato's position that knowledge comes through the reasoning process, not through one's senses. While modern science has largely adopted the empirical view (Aristotle) for the definition of knowledge, the rational view (Plato) is dominant in the transmission of knowledge. Formal schooling is largely a rational process of mastering theories which often are seen as unrelated to the "real" world. Dewey (cited by Kolb, 1983) believed that textbook problems most often were not real problems to students and that school learning should be an experientially active, not passive, affair. He supported learning experiences in which learners are directly in touch with the realities being studied, rather than simply reading about, hearing about, or talking about these realities. When experiential learning techniques are used as contributors to the creation of a learning environment that maximizes learners' skills in learning from their own experience, the full potential for learning can be realized (Kolb & Lewis, 1986). With more possibilities to connect to the continuum, experiential education has distinct advantages.

Is all experience educational? Dewey (1938) stated that the belief that all genuine education comes about through experience does not mean that all experiences are genuinely or equally educative. For some, experiences are mis-educative. A mis-educative experience is any experience which has the effect of arresting or distorting further growth. Only when experience can be expressed as new ideas, when the lessons of experience can be drawn, articulated, and acted upon, will development have taken place (Whitham & Erdynast, 1982).

Creating the educative environment requires an understanding that (a) environmental factors influence learning; (b) not everyone learns in the same way; and (c) learning is ultimately self-directed, an individual matter, and it occurs best when individuals are self-motivated (Association for Experiential Education, 1984). Dewey (1938) saw teachers as having a primary responsibility for shaping experiences which would fit learners and lead toward growth. This suggests two major responsibilities for educators. First, learners should be provided with appropriate experiences, and then, teachers should facilitate learners' reflections on those experiences (Joplin, 1981).

For vocational educators, it is not sufficient to merely place students in work situations and assume that learning will occur. A critical task, then, is the design of learning environments and strategies which (a) allow for differences in learning styles; (b) enhance the intrinsic interests of learners; and (c) provide opportunities for reflection.

Since development proceeds from stage to stage in an invariant sequence, according to Whitham and Erdynast (1982), experiential education programs can promote development only by carefully promoting "optimal matches" between their students and situations that challenge them at a level with which they can successfully struggle. Too small a challenge will not provide motivation to change and to learn. Too great a challenge may invoke self-protective responses such as regression, rebellion, or discouragement. If optimal matches are not found and students are not able to actively grapple with experiences to which they are exposed, programs may "*train* students to function in certain roles or to perform certain tasks, expose them to a wealth of new people, situations, and ideas, even *provide* them excitement and enjoyment, but they will *not foster development*" (Whitham & Erdynast, 1982, p. 8). While several models of experiential learning have been developed, Kolb (1984) suggested a widely accepted model or cycle of experiential →

learning (presented here as adapted by Doherty, Mentkowski, and Conrand, 1981).

In this model, concrete experiences in specific situations happen. These experiences are then reflected upon revealing the "theory in use." This leads to generalizations about the relationship between and among the elements of the experience and the results of the activity that lead to the experience. This, in turn, leads to abstractions, "new theories," about the experience which are then tested in the real world of every day life. For most of us, the cycle of learning described here operates at a subconscious level. The educational value of this cycle lies in teachers bringing this to the conscious level for their students. Only then does learning occur.

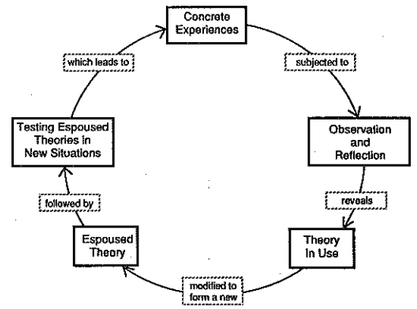

Figure 1. Experiential learning model (adapted from Kolb, 1984).

This model has profound implications for how vocational educators use work-based learning as part of STWT. If this model has value, its value lies in instructing us as to the importance of completing the cycle. It is important that students are guided to complete the cycle regularly rather than just having an experience without some form of disciplined reflection. Equally important is the development of a range of experiences for students that will allow them to move from carrying out assigned responsibilities to autonomous responsibility-taking; from engaging in essentially self-oriented activities to taking on sustained responsibilities for the welfare of others (Whitham & Erdynast, 1982).

Beginning with a real, lived, work-based experience, the learner must be provided the opportunity for structured reflection on this experience. Reflection is the critical examination of an experience so as to understand its implications for a general conceptual model of the phenomena. Joplin (1981) described reflection as the process of examining an experience and transforming it into a learning experience. This concept of critical examination of experience through reflection is a focal point of much of the current work in experiential education. It is often during this process, referred to as an "action-reflection cycle," that individuals make a connection between their experience and their continuum (Dewey, 1938). Dewey referred to the initial, immediate experience as the "primary" experience. He considered the reflective experience to be the "secondary" experience. Dewey stated that reflective experience takes the gross, macroscopic, and crude materials furnished by primary experience and seeks to make it precise, microscopic, and refined. It is during this secondary experience that individuals link experiences to their continuum.

The theories discussed here and others in the literature suggest a framework for constructing STWT experiences. Without this framework as a basis, these activities become nothing more than a job—an experience that is as likely to be mis-educative as it is to be educative. As Willard Wirtz, former United States Secretary of Labor (cited in WTGF, 1988), observed, "There are not two worlds—education and work—one for youth, the other for maturity. There is one world—life." Indeed, experiential learning (i.e., learning by active participation, trying, making errors, and gradually narrowing the margin between failure and success) should be at the heart of our educational perspective. Instead, the invaluable educational laboratories offered by community institutions—youth organizations, civic groups, and the workplace—are often overlooked, underfunded, and under-used.

Learning About Work Through Experience

Typically, work experience programs sponsored by high schools and two-year colleges involve an in-classroom component and a work component, and are jointly and cooperatively supervised by school personnel and worksite personnel (Pataniczek & Johansen, 1983). These programs typically include all experiences whereby students learn as participants in organizations, through actual work, observation, or projects. Students, employers, and school representatives usually enter into formal arrangements that spell out the nature of the relationships and various responsibilities required of each party.

However, one cannot assume that such programs automatically promote significant learning. While the potential for learning is great, it does not occur automatically. To ensure that actual learning occurs, Mulcahy (1984) urged educational planners to incorporate the basic philosophies of experiential education into their programs.

Macala (1986) expanded this argument by suggesting that such programs be designed to broaden intellectual, social, and political awareness through the experiencing of ideas and self in real-world settings. These programs should also provide opportunities for career exploration and the development of useful and marketable skills. →

The key to ensuring that learning actually occurs is providing the structured reflective opportunities that many argue ought to be part of any work experience program (Conrad & Hedin, 1981; Moore, 1983). Reflection during the work experience is also vital to an individual's success in an experiential learning situation. As instructive as it may be to know that experience should be accompanied by reflection, it is not practically useful without precise information regarding how best to structure, guide, and encourage such reflection (Conrad & Hedin, 1981).

One strategy for guiding reflection is a "control" class that is conducted concurrently with the work experience to provide an opportunity for reflection. Students may attend this class weekly, bimonthly, or in another timeframe to discuss their work experience. The motivation generated by work experience programs often transfers back to classrooms as students recognize the need for more extensive theoretical background. If properly guided, students infer and conclude certain truths from their experiences, often creating critical teachable moments.

A great amount of reflecting or "processing" can and should occur while students are at field-placement locations. Processing can be achieved through those activities in which students are monitored and receive feedback on their performances on tasks. This allows for reconstructing the problem and designing a new approach (Moore, 1983). Personal journals have proven an excellent technique for recording reflections.

Conrad and Hedin (1981), in a national study evaluating field-based programs in secondary vocational settings, reviewed various program features and concluded that the presence of a formal (and at least weekly) seminar was the single strongest factor in explaining positive student change. The clearest and most significant conclusion of this study was that experiential programs are powerful educational vehicles for promoting personal and intellectual development and can do so more effectively than classroom instruction.

Although a variety of training strategies are available for work experience learning in the United States, the most popular program for both academic and vocational students is cooperative education (Glover & Shelton, 1987; Hartley, 1983; Worthington, 1984). This is true in spite of all of the press about youth apprenticeship.

However, which of these is the best mode of work experience learning still remains the subject of some debate. Very few researchers have conducted comparison studies among the work experience strategies in terms of their contribution to productivity, job performance, and vocational attitudes of students.

Regardless of the particular STWT strategy used, all share the common element of real, lived experience as the basis for learning how to make the transition from school to work. Incorporating the theories drawn from previous research, a model of experiential learning is proposed for connecting school-based learning to work-based learning (see figure 2).

In this model, the job experience is carefully designed in response to the students' cognitive, occupational, and relational needs. This is followed by structured reflection using either (or both) a control class or a journal. Each activity can provide support and still challenge the student simultaneously. The feedback from employers and teachers will help the students evolve theories about the workplace that should lead to suggestions for changes in behavior or knowledge. These, in turn, should be incorporated into the working document (often called a training plan) that defines the direction of the work-based learning. It is a simple concept that requires the educator to intervene at the job experience level (to ensure that the placement is appropriate), at the structured reflection level (to ensure that reflection occurs in a positive way and connects to the "continuum"), and at the training plan level. The employer must also intervene and cooperate in the learning process at each level.

Those of us who have worked in the vineyards of STWT in the past know the value of experience. What we may not have known is how to structure that experience to ensure that learning occurs. The model proposed here, built on what we know of experiential education, provides that structure.

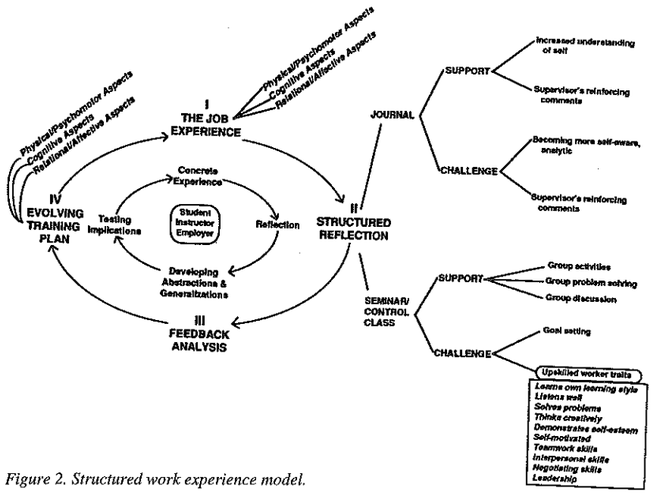

Figure 2. Structured work experience model.

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Science Fair Projects: A Hidden Opportunity for Experiential Educators

BY FRED TROENDLE
Mr. Troendle is an agriculture teacher at St. Charles Public Schools, St. Charles, MN.

Agricultural educators must capitalize on a sometimes hidden opportunity to help students reach their full potential. Student experiences gained through experiential education are often overlooked as a means of helping students reach their goals. Science fair projects are an excellent experiential education vehicle.

An assumption of this article is that all learning is experiential. For true learning to occur the student must "experience" the subject by significantly identifying or seriously interacting with what is to be learned. Much of the teaching that is done under the mask of education does not involve learning because it does not significantly involve the student! This article is designed to explain those stages of experiential education which are deliberately planned and discuss how they can be used by an agriculture instructor in the classroom.

Two concepts guide the design of experiential education programs: providing an experience for the learner and facilitating reflection on that experience. The experience by itself cannot be called experiential education; it is the reflection process which transforms the experience into experiential education.

A five-stage model was developed by Laura Joplin to explain an experiential action strategy for teachers to plan courses (see back cover). The purpose was to empower teachers to more consciously design courses of an experiential nature. The model is organized around a central hurricane-like cycle, which represents direct learner experience in a challenging situation requiring decisions and action. A focusing stage begins the cycle, but it does not provide a complete process outline for the students to simply follow in robotic, habit fashion. A debriefing step follows the action event and uses various reflection techniques. Support and feedback make up the other two stages, which occur during the entire process. The five stages make up one complete learning cycle, which allows a student to move directly into another cycle as soon as the first cycle is complete.

The science fair project is an excellent tool for providing the focus and challenges for experiential education. The core of the science fair project is the scientific method, consisting of:

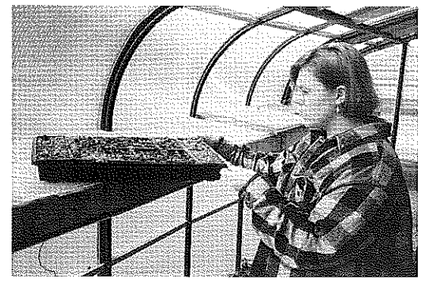
1. Identifying the Problem;
2. Reviewing the Literature;
3. Developing a Hypothesis;
4. Designing an Experimental Procedure;
5. Conducting the Procedure;
6. Drawing Conclusions and Recommendations; and
7. Preparing a Display Board and Written Summary.

Agriculture students at St. Charles have been using the scientific method to solve problems for the past six years. The Joplin experiential education framework helps me focus on creating the right environment to challenge students of all abilities.

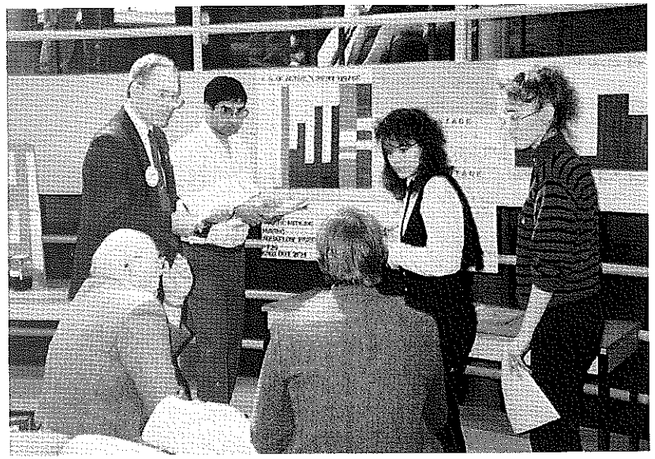
The instructor's role in each step of the scientific method is explained by the Joplin Model, as follows.

Joplin Model	Scientific Research Method
Focus (Support - Feedback)	Identify the problem
Action (Support - Feedback)	Review the literature Develop a hypothesis Design an experimental procedure Conduct an experiment
Debrief (Support - Feedback)	Draw conclusions Prepare a report; Present and respond to peers, instructor, judges

Focus is the first stage of the five-stage Joplin Model. This stage involves presenting the task and isolating the attention of the learner for concentration. The subject of the study is chosen. Students identify problems about which they individually wish to learn more. →



Close observation is an important part of experiential learning through science fair projects.



The public presentation of science fair project results and conclusions can be challenging. There is real satisfaction in being able to answer the professor's questions.

A key to this critical first step is to focus on the students' interests as they recognize problems to be solved related to current lives and future goals.

The hurricane stage of the model is the action stage. Here the student completes steps two through five of the scientific research method. Learners are placed in a stressful situation where they are unable to avoid the problem presented. Action involves the students with the subject. The students must develop a hypothesis and design and conduct an experiment. This stage occupies much of the student's attention and energy in sorting, analyzing, applying, and distinguishing. The action stage gives the learner great responsibility. The student must be allowed to struggle with this stage. This struggling results in the learner's brain being "turned on."

Recent brain research provides the most accurate description of action as it relates to the brain's operations. The brain is really functioning or "on" when it is choosing, analyzing, and making decisions. The brain is not "on" when a teacher is pouring information into it. In our agriculture classrooms students must be give the opportunity to turn on their brains.

The decision by the teacher to allow students to be responsible to turn on their brains also provides students the freedom to fail. Without that freedom true learning is stifled. A teacher who leads students through a highly structured process has not given students responsibility for the action stage. The problem selected by the student in the focus stage should challenge, but not be beyond the student's capacity or background preparation. The teacher is responsible for helping students to be thoughtful about the problem so it is appropriate for them, yet students are responsible for carrying out the steps in the action stage.

Using this type of approach to student responsibility requires belief in the student's ability to complete the work. Most educational situations in schools are not designed to rely on student responsibility to this extent. Typical situations do not go beyond Bloom's knowledge and comprehension levels. This level of responsibility forces the student to interact seriously with what is to be learned, taking the learner to Bloom's higher level thinking skills.

Support and feedback exist during all the stages of the Joplin model. The student will continue to try as long as adequate support is provided, while feedback ensures that the student has the needed information to move ahead. Students' willingness to take risks and to challenge themselves comes from teacher support, which can be verbal, physical, or written, as long as it demonstrates interest in the learner's situation. Having class members share individual frustrations helps members see that their feelings are not unique. Providing information to students about what they have been doing is essential. This feedback should be specific, using examples to help clarify the meaning.

The fifth stage of the Joplin model involves the debrief stage. In this stage, the learner draws conclusions, makes recommendations, and presents work publicly. In this last stage, the learning that has taken place is recognized, articulated, and evaluated. Debriefing is the sorting and ordering of the information by the student. I find requiring a research paper and a display board really helps students.

A student's work may be made public through group discussion, writing of themes or summary papers, or making a class presentation. At St. Charles, these projects are presented to classes, science fairs, and awards programs. In addition, students compete for prize money at local fairs where their displays are evaluated. The process of reflecting on the work completed includes decisions on what should be done next or how it could have been done differently initially.

This model allows a student to continue from debrief into focus to solve another problem. The next problem a learner takes on will likely be a direct result of learning that occurred during the first cycle.

This article explains the stages of experiential learning as they provide a framework for students completing agriscience research projects. Experiential education has been and will continue to be very useful in challenging students to become "true learners" by conducting agriscience experiments.

Experiential education has worked extremely well at St. Charles in allowing me to challenge students of various ability levels. Twenty-seven St. Charles agriculture students with various ability levels defended their research project →

findings orally and in writing to professors at the University of Minnesota College of Agriculture Science Fair in St. Paul this past March. Science fairs are excellent opportunities for students to test their own understandings and further develop their communication skills.

Student incentives for conducting an experiential education project using the scientific research method are significant. For some, the learning itself is a great reward; for others, the Agriscience Student Recognition Program sponsored by the National FFA Foundation has been a tremendous motivation. What else would you expect? The Agriscience Student Recognition Program has allowed students from St. Charles to earn over $6,000 in the past seven years.

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Completing the Cycle

(continued from page 3)

with direct experience, teachers provide exposure to the topic, clarification of the performance, increased student motivation (a felt need to learn more), and a strong context for reflection and application.

Agricultural educators have traditionally done an excellent job of providing hands-on experiences for their students. However, the extent to which we have used an experiential learning strategy in our teaching is much less. Providing experiential learning requires that teachers consciously move students through the four stages of the experiential learning cycle. After beginning with direct experience, students should ask themselves, "What happened?" (reflective observation). This is followed by, "So what do I conclude?" (abstract conceptualization). Lastly, students should ask themselves, "Now what do I do?" (active experimentation).

When agricultural educators use true experiential learning in their teaching, students will (1) be better able to transfer their knowledge and skills to similar situations in the future; (2) better understand the "problems" in agriculture/agricultural education; (3) develop greater self-confidence and less performance anxiety; (4) be able to connect practice with underlying principles; (5) improve their psychomotor skills; (6) develop better problem solving, interpersonal, ad communication skills; (7) more fully retain the knowledge and skills they learn; and (8) develop a greater interest in learning. With these potential benefits in sight but just out of reach, agricultural educators must take the next step—not merely providing hands-on experience, but true experiential learning.

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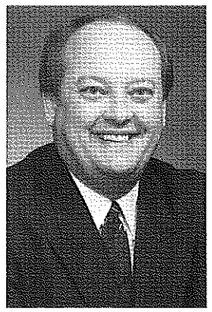
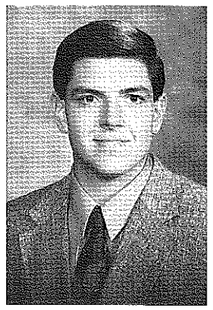
FFA Leadership Training Delivers Experiential Learning





BY RICHARD KATT, DONELLE JOHNSON & SETH DERNER

Mr. Katt (top) is Nebraska FFA executive director and director of agricultural education, Nebraska Department of Education, Lincoln. Ms. Johnson is an agriculture teacher at Blair High School, Blair, NE. Mr. Derner is an undergraduate student in agricultural education at the University of Nebraska, Lincoln.

The Romans taught their children that nothing was to be learned sitting.

—Seneca

The concept of experiential learning is not new—in fact, its roots can be traced back to ancient Greece and the debate between philosophers Plato and Aristotle over rationalism and empiricism. Rousseau, in the 1700s, stated that the source of knowledge is experience. John Locke, the English philosopher, penned that experience is the basis of all knowledge and can teach what reason alone cannot. American educator John Dewey wrote in Experience and Education that, "Education, in order to accomplish its ends for both the individual and society, must be based upon experience—which is always the actual life experience of some individual." According to James Coleman, an educational sociologist, effective education must include: "...actions sufficiently repeated and in enough circumstances to allow the development of a generalization from experience." In an experiential setting, the learner actually takes responsibility for learning in each activity.

In recent years, experience-based learning has become an essential human potential component of corporate training. It is estimated that corporations, government agencies, and other organizations spend over $100 million annually in this field. According to recent studies, between 6.5% and 14% of all American organizations use some form of experience-based training activities.

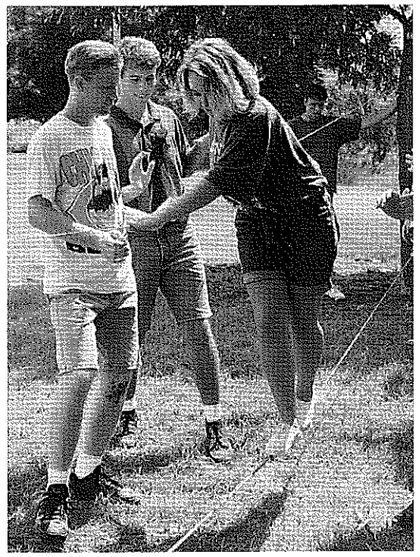
Agricultural education and the FFA have always recognized the importance of experience-based learning. From laboratory settings to SAE to FFA leadership training, the emphasis has been on the experience of doing—actually living the situation and applying skills to real world settings. The FFA has a long history of experiential leadership training through the camp/conference setting.

FFA leadership camps provide an extraordinary setting for experiential learning. While the greatest challenge in a traditional lecture on leadership or teamwork might be staying awake, in an experiential setting the challenge comes from personal involvement, the application of previous experiences, and the development of new skills. Experiential learning goes beyond the typical limitations of language and words to a deeper level of meaning and application. It forces students to apply their learning and theory with personal experiences.

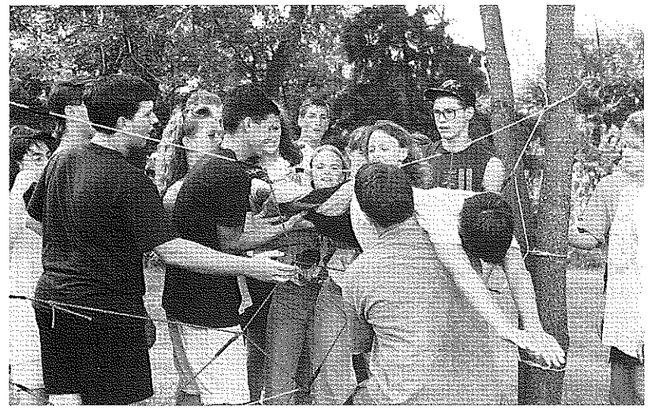
Words like respect, understanding, and cooperation may be used to describe how an effective team functions. It is more difficult to tell a group or an individual how to put those words into action to cause teamwork to occur. The "how to" is best learned through the experience of team situations.

A leadership camp naturally provides a setting for experiential learning. Basic components include the time period, the camp environment, and the interaction of participants with leaders.

First, experiential learning takes time—time for the student to process an activity and gain knowledge from it. Unlike a classroom setting where instructors have only limited time each day, most camps range from a few days to a week in length. When used appropriately, this resource of time can facilitate real learning by the student. Three days of focused experiential learning in a camp setting can provide an equivalent of one semester of periodic classroom experiences. →



As they cross the "Burma Bridge," participants experience difficulty as they move further away from their value and belief structure represented by the trees suspending the cable.



The "Spider Web" causes the group to experience planning and decision making while demonstrating teamwork to transport the participants from one side of the web to the other.

The environment, which takes students out of their normal comfort zone, is another basic component of most leadership camps. Beyond the classroom, students at a leadership camp have more opportunities to learn because of the relaxed atmosphere, the interaction with nature, and the reflective surroundings.

Interaction between students and teachers/leaders provides the basis for teachable moments. This relationship is the third basic component of camp settings. Classroom settings command traditional interaction between student and teacher, such as teacher-led discussion, lecture or recitation. The camp setting, however, uses the opportunity for personal one-on-one encounters which build respect and mutual trust between student and teacher. Through their commitment of time and their expression of concern for student success, leaders demonstrate their personal investment in students.

Using the time, the environment and the interaction of participants, FFA leadership camp settings have the resources necessary for sound experiential learning. In its broadest sense, experiential learning can take on many forms: role playing, games, simulations, and projects, just to name a few. Laura Joplin, director of learning designs for the Association for Experiential Education, has identified a five-stage model to define experiential education. FFA leadership camps can use this model to effectively implement experiential components in the training program.

FFA leadership camps must begin with focus—a setting of the stage to encourage the participants, create a safe learning environment, and concentrate on the participants' role and responsibility needed for the challenging action step. Ice breakers, eye openers, and acquainting and disclosure activities initially break down barriers and grant "permission" for the participants to get involved. An atmosphere of trust and mutual respect must exist among all participants, including leaders. Camp leaders must personalize their attention to demonstrate their sincere interest in all participants.

The sequencing of activities is very important. Begin with low risk, low touch activities and progress to high risk, high touch and interaction activities as the group builds trust and comfort. Participants do not learn well when they are anxious, tense, or uncomfortable with their surroundings or their group. This safe environment allows participants to lower their guard and share openly in self-disclosure activities.

The challenging action step consists of an activity with a specific purpose that accomplishes the mission. The activity must be energetic and enthusiastic in order to encourage participation. Conducting the activity in an outdoor setting provides the environment most conducive to group interaction.

Once participants are comfortable within the group, the leader identifies the situation of the activity. Background information must be given to create a scenario in which each participant can understand and take ownership. The leader works in conjunction with the participants to define individual roles and group responsibilities. The leader must challenge the group to accept the goals and objectives of the activity. The leader sets forth the specific situation facing the group. Clear and concise directions must be given to eliminate confusion and loss of focus on the activity's objectives and goals. Before proceeding, the leader must evaluate the group's readiness to become involved and their desire to succeed. As the leader conducts the activity, participants are empowered to select actions, react to situations, and make decisions that affect individual and group success.

Leaders cannot force the group towards success or failure; they can only know that through this freedom, the participants are allowed to learn through experience.

Support and feedback must be available through two perspectives—from the leader and from within the group. Leader-given support and feedback is the ignition for group-given support and feedback. Support from the leader will reinforce positive individual and group efforts which, in turn, motivate each to strive beyond the current level of involvement.

Leader feedback provides self-evaluation for the participants and the group. Feedback differs from support in that support is meant to further generate positive efforts, while feedback is meant to stimulate the reasoning of the decision-making process. The success of experiential learning depends not on the results of the activity, but rather on the intensity and quantity

(continued on page 16)

Performance-Based Assessment in Agricultural Education

BY ERIC ZILBERT AND PHILL BROWN

Mr. Zilbert is a lecturer in the agricultural education program at the University of California, Davis. Mr. Brown is an agriculture teacher at Porterville High School, Porterville, CA.

As agriculture teachers, we have long held that experiential learning through projects and student leadership activities are as important as classroom instruction in the education of our students. To varying degrees this has been reflected in the student assessment process, both in how we evaluate student performance and in the way we assign grades. Student evaluation often consists of performance-based tests of hands-on skills, or the demonstration of competency in a whole range of skills through projects and competitive events. FFA activities, SAE, and related instruction contribute 10% to 35% of a student's grade in most programs. It is now being recognized that performance-based assessments that are clearly related to real world activities are better measures of student learning than paper and pencil tests. "Authentic assessment" may be a new buzzword for many, but it has long been a byword in agricultural education.

Of course, the degree to which performance-based assessment has been incorporated in agriculture programs has varied. The portion of the grade for FFA and SAE may often be subjective or poorly documented, with classroom instruction assessed mostly by testing. In California, a new assessment model is being developed which makes all assessment more performance-based. Separate programs have been developed for the academic and career-vocational programs in our state. While agriculture teachers are likely to adapt to the new methods more easily than their academic counterparts, teachers participating in the testing of the Career Technical Assessment Program (CTAP) have found that they and their students have a lot to learn.

Components of CTAP

The goal of the new assessment program is to provide an individual record of accomplishment for every student. Career vocational education students will be certified as having completed a program based upon three elements of the assessment: (1) a portfolio of their work; (2) their response to a written scenario (essay question) administered by an independent, statewide testing agency; and (3) completion and presentation of an assessment project.

Certification provides an opportunity to measure student mastery of the standards in the area of agriculture (e.g., animal science) they are studying. Certification will also provide a measure of accountability for teacher and programs, with programs being evaluated in part on the basis of their ability to facilitate student certification. It is further anticipated that students who receive certification will be more attractive to employers than those who do not.

All of the career vocational education programs in California have redesigned their curricula to support the new assessment process.

> *"Authentic assessment may be a new buzzword for many, but it has long been a byword in agricultural education."*

Instruction and assessment are guided by a set of performance standards and integrated performance activities. Standards are learning objectives written in terms of higher-order thinking and performance-oriented outcomes. Integrated performance activities are authentic activities developed for classroom use that reflect one or more performance standards. These activities are intended to provide instructors with examples of experiential learning activities to promote the attainment of a given standard or standards. Activities typically integrate multiple area-specific performance standards, as well as general career standards and core academic performance standards, hence the name integrated performance activities.

The agriculture model standards and activities were first written in 1991 and were revised by teacher/industry teams in 1993. We have standards for a one- or two-year core in agricultural science/agricultural mechanics and for career clusters in agricultural business management, agricultural mechanics, animal science, forestry and natural resources, ornamental horticulture, and plant and soil science.

The assessments involved in career-technical certification are very different from the tests and quizzes commonly used to evaluate student performance. They are authentic in the sense that they pertain to real world experiences and problems. The assessments are engaging and relevant to the student. Students are allowed access to information, calculators, and human resources in completing the assessment tasks. There are no secrets about expectations, and the assessment criteria are clearly defined. Most importantly, the assessment tasks include self-assessment and reflection. They allow students to find their strengths and demonstrate their skills and abilities. →

Testing the Assessment Process

Each component of the new assessment model has presented challenges for the teachers, students, and parents who have been involved in testing it. Experience at Porterville High School in the southern San Joaquin Valley has shown that some aspects of the process are more easily adopted than others. For example, the required elements of the portfolio include a letter of introduction, a job application, letter of recommendation, a resume, four work samples, a research paper, and a report on the student's SAE program. Because employability skills have long been a part of the Porterville Agriculture Program, many of these documents are already completed by students as part of leadership-related instruction. Project reports and record books were also easily integrated into the new framework. The work samples and research papers, however, have led to changes not only in the subject matter taught, but also in the way in which instruction takes place.

Effects on Instruction

In order to provide four solid samples of student work, the teachers at Porterville have organized the advanced animal science class around four, nine-week sessions of instruction, each of which culminates in a work sample. These samples develop through exploration of different subjects through each session and through the development of student projects. Projects have been found to mesh well with the new system. Research papers and work samples are usually developed based on the SAE program. The assessment process has also generated more interest in the FFA and SAE components of the program, because they are seen as avenues to meeting important course requirements.

Another change in instruction has been greater cooperation between the agriculture program and the English department. Students must submit an outline and first draft of their research project to their English teachers before a final report may be produced and included in the portfolio. Participation in the program by the English department is seen as essential to developing students' written communication skills and ensuring that reports and work samples are of high quality. During the current school year, all sophomore agriculture students will be scheduled into the same English class in order to better coordinate development of the assessment products.

Effects on Parents and Teachers

Increasingly, teachers see themselves as facilitators with a major portion of their activities focused on guiding student inquiry and directing students to resources in the classroom, school, and community. Classroom files are available to all students for reference purposes, rather than as a source of information for teachers' exclusive use in preparing lessons. Students go beyond the classroom gathering information from every possible source, including a phone, fax, and e-mail. Parents also become a critical part of the process, and the entire staff of teachers is seen as a valuable resource for students.

Some students and parents have been confused by the assessment process and the changes it has brought to instruction. It is not easy for traditional high school students to take on part of the responsibility for directing their own studies. Students who come from 4-H programs fit well into the program, as do students who come from families which strongly support participation in SAE and FFA. Many students, especially those accustomed to success in the traditional curriculum, find that they have been trained to follow directions, not to write them. The skills required by the new assessments involve being able to identify a meaningful problem and determining what questions need to be answered in order to solve the problem. Creativity and questioning skills become more important than the ability to recite facts.

Parents who have not been used to participating directly in their children's education have generally responded positively to their new roles as teachers and mentors. They do, however, require some education about the new process. Parents need a copy of the course outline, the model curriculum standards, and knowledge about the assessment tasks and what they demand of students. In a few cases, parents have complained about the cost of transporting children to resource sites, such as the library, cooperative extension office, and other businesses in the community. Many others have found the assessment tasks to be fun for the whole family, often involving younger brothers and sisters, who are, in turn, exposed to the projects and the new assessment methods.

A Change of Image

One result of the changes at Porterville has been a new image for the agriculture program. Both counselors and students now know that students in agriculture will be accountable for learning and that this requires significant effort on the part of the student. Agriculture students must produce! Counselors do not place students in agriculture classes just to fill out their schedules. Likewise, students unmotivated to work steer clear of agriculture at scheduling time. →

"Many students, especially those accustomed to success in the traditional curriculum, find that they have been trained to follow directions, not to write them."

There have even been cases of students bringing in their parents to object to the scheduling of agriculture in their program because it would require too much work. It is too early to say for certain, but the agriculture classes at Porterville seem to be filling up with students who want to work and produce in the classroom.

Broader Application of the Assessment Process

The new curricula and assessment procedures have significant implications for teaching and learning. The curriculum has been organized and sequenced around career paths with clear performance standards leading students to entry level employment, job advancement, entrepreneurship, advanced education and training, and personal use. Instruction is performance-based and integrates academic and technical knowledge and skills that reflect current and emerging technologies and practices in business, industry, and the home environment. The idea of teaching students through active engagement in projects is not new to agriculture teachers; what is new is state support for teaching academic subject matter through such activities.

Teacher concern over depth of instruction is particularly acute with respect to the written scenario component of the assessment process. In this component, students will be presented with a written scenario representing a complex and realistic problem from their vocational area. They will have 45 minutes to respond in writing to the written scenario prompt and will be judged on their ability to apply content knowledge to address the problem presented in the scenario. The scenarios are based on the example performance activities contained in the curriculum documents. However, to address teacher concerns, an implementation guide is being developed to clarify learner expectations for each standard.

"Counselors do not place students in agriculture classes just to fill out their schedules. Likewise, students unmotivated to work steer clear of agriculture at scheduling time."

To quote Albert Einstein, "Imagination is more potent than knowledge." This has become a maxim of the teachers involved in incorporating the authentic assessment tasks into instruction in agriculture. Flexibility is their byword as they adjust almost daily to the needs of students for information. Students must also learn to be flexible and use their imaginations to come up with creative ideas for work samples, projects, and research papers.

The testing of the authentic assessment methods began in the fall of 1992 in the animal science career path cluster. During the 1993-94 school year, the process was tested in the agriculture basic core. Development and testing of assessment procedures in the other areas of agriculture ares expected to continue over the next several years. As with any innovation, it will take time for teachers to adapt to the new curriculum and teaching methods. However, greater accountability for student learning is a major step toward enhancing the educational process. ■

FFA Leadership Training . . .

(continued from page 13)

of thoughts and feelings disclosed by participants. This is due primarily to the process of the activity itself.

After each activity, the debriefing process is vital. What worked? Why? What didn't work? Why? What specific behaviors did you see? What behaviors were not exhibited? What did we learn? What do you want to take with you? At the conclusion of the activities, the group will be celebrating success or be frustrated by failure. No matter what the result, the learning opportunity is enhanced by an effective discussion session which examines the roles that participants played and the understanding achieved and shared. The underlying concept of experiential learning in a leadership camp setting is communicating the need for the application of theoretical knowledge to real world, practical situations.

A well-run experiential activity as part of an FFA leadership camp will cause participants to question self-imposed limitations and challenge themselves towards future growth. Experiential learning provides the framework for the lifelong process of self-development. For more information on specific experiential learning activities to implement at FFA leadership camps, contact:

Project Adventure
Box 100
Hamilton, MA 01936

Association for Experiential Education
Box 249-CU
Boulder, CO 80309

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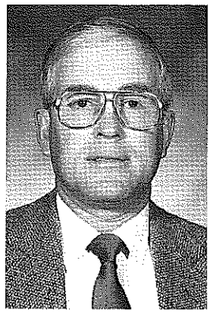
FFA Dairy and Livestock Judging as Experiential Education Laboratories



BY DWAYNE WEBB AND GEORGE WARDLOW

Mr. Webb is an agriculture teacher at Lincoln High School, Lincoln, AR. Dr. Wardlow is an associate professor of agricultural education at the University of Arkansas, Fayetteville.

Experiential education is receiving a lot of attention today. Much of the educational reform movement is built on this "new" concept. However, agricultural education has been based on experiential education since its early beginnings. The FFA judging contests are good examples of experiential learning.

Judging contests can be invaluable educational laboratories offered by the youth organization to help members transition into life roles. Contests can provide good work experiences that can increase self-esteem and enhance personal growth. These experiences provide opportunities for interpersonal skill development, intellectual challenges, life skills development, and career exploration. Additionally, the value of the enjoyment that students get from participating in these activities should never be overlooked.

To achieve quality in judging contests as an experiential laboratory, it becomes a critical task to design a framework for structured experience. In training judging teams, application is critical.

The first step is to set goals for the team and for each individual. It is critical to help students in this step to insure that these goals are relative to the activity and to their interests. Students will be motivated by the pursuit of their goals, if the goals are challenging, yet not too great as to lead to discouragement.

In working with judging teams as laboratories, we should consider using the word "teach" instead of the commonly used word "training." If we consider judging team work as teaching, rather than training, each practice session needs an educational or learner objective. What do we want our students to know or be able to do as a result of the day's work? Examples may be, "to improve our skills in sire selection," or "to improve our abilities to explain why we placed animals as we did" (oral reasons). This step is vital to insure that students understand the purpose of each practice and the learning expectations placed on them.

During practice, the instructor has the opportunity to do several things. First is the explanation of the lesson and objective for the day. This may be done with definitions, examples, or with explanations relating to the subject. Second is eliciting responses from the students.

The next stage is the experiences, which will be the teaching tools. For example, we may devote a practice to pedigree placing improvement. Here we use activities such as sample problems, definitions, or placing classes of pedigrees. After each of these activities, the students are evaluated on their work. This may be comparing their placing to an official, or reviewing the placings on their card.

After the activity phase, we summarize our activities. This may be done as a question/answer period, based on the day's activity. This feedback is most important, because we can distinguish what the student has learned through this process. Reviewing demonstrates the areas that need more work for the students. This time may also be used for encouragement and positive reinforcement. Each student needs support regardless of success for the day. Strong support will allow the students to continue to work hard and improve their skills.

The day of the actual contest is very similar to practice days. The main objective for contest day is positive participation. This allows the students to feel successful, regardless of the final ranking for teams. Winning certainly helps to reward and motivate students for more future study. In most cases, a contest results in ranking teams based upon the performances of team members. Therefore, a good performance is publicized and rewarded. The instructor must remind other students that positive participation and the attainment of skills were the major objectives.

Training judging teams may also help students in a career. Former dairy judging contestants now have dairy operations where they face the same challenges of working with pedigrees, sire summaries, and type evaluation for dairy cattle. It is always hoped that others will benefit from participating in these organized competitions. These contests help students learn how to win and lose with grace and develop higher self-esteem. They provide experiences at setting objectives in other phases of their lives.

Agricultural education is an "old hand" at experiential education. Contest work has provided many hands-on experiences for students throughout the history of the FFA. Students enjoy this type of learning because they are involved in the process and can see the results of their hard work. We must always remember that we all need to feel good about our performance, and we must enjoy what we do in order to do a good job. ■

THEME ARTICLE

Management Instruction for Farm Women—Learning From Experience

BY JAN DOEBBERT

Mr. Doebbert is an instructor of farm business management at Alexandria Technical College, Alexandria, MN.

The uniqueness of experiential education is its focus on student action and environment. Experiential education "is based on the assumption that all knowing must begin with the individual's relationship to the topic" (Joplin, 1981, p. 157). Creating an environment which supports this assumption requires an understanding that (a) environmental factors influence learning; (b) not everyone learns in the same way; and (c) learning is ultimately self-directed, an individual matter and occurs best when individuals are self-motivated.

Agricultural educators have defended the benefits of experiential education for decades. "Learning by doing" and "hands-on learning" have been our labels. However, we must look at a model which addresses more than the hands-on training which many claim to be experiential education. To adequately defend the experience component of vocational education, the experience must reflect a broad range of characteristics which are universally accepted as contributing to learning and the development of students. Integration of vocational curricula with general education, assessment of student achievement, quality in the classroom, and individualized learning are supported in fully-developed experiential education. Joplin (1981) has developed eight characteristics which are reflected in experiential learning. Differences found for experiential education when compared to other education include:

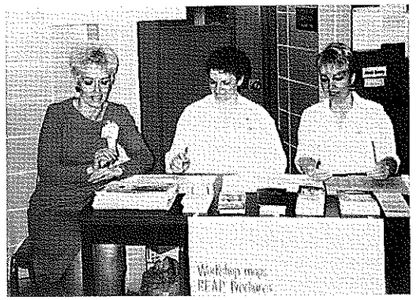
1. Student-based rather than teacher-based.
2. Personal, not impersonal, nature.
3. Process and product orientation.
4. Evaluation for internal and external reasons.
5. Holistic understanding and component analysis.
6. Organized around experience.
7. Perception-based rather than theory-based.
8. Individual-based rather than group-based.

In practice, the Alexandria Technical College "Women in Agriculture" program is one example of a program which incorporates the characteristics of experiential education. The program was initiated at the College in 1988 at a time when farming in west-central Minnesota was suffering from the impact of previous years' low commodity prices, the drought of 1988, and the associated credit crisis. The program focused specifically on the needs of women from families actively in farming. The purpose of the program was to develop skills which would be useful in supporting production farming and which would be transferable to non-farm employment. The courses were credit-based and were transferable into other majors at the College.

To explore the characteristics of experiential education listed above, specific examples of practice will be drawn from the Women in Agriculture program.

1. *Student-based rather than teacher-based.* In retrospect, the planning and development of the program was more important than was anticipated. From the earliest stages of planning, a group of individuals which represented the college administration, agricultural extension, the Farm Business Management program at the college, and farm women met to design the program structure and curriculum. The choice of using potential students in the planning process was different than using farm women in an advisory role. The women involved not only provided excellent input into the process, they literally owned the program. The women on the planning team enrolled in the program and became active supporters in the community and at the college. The students were challenging the system to provide the excellence which they envisioned, rather than the college having to challenge the students to be involved. The planning team ensured that the program addressed the needs of the students and met the standards of the college.

2. *Personal, not impersonal, nature.* As non-traditional students, the women in the program represented a diverse set of experiences and →



Women in Agriculture class participants focused on personal experiences to develop understanding of different perspectives on their current problems.

Organizing workshops addressing agriculture topics provides opportunities to develop planning, coordinating, advertising and fund-raising skills. New strengths were discovered.

personal situations. Ages of the group ranged from the mid-20s to 60. Some of the women were involved in very successful farming operations, others were literally in the process of bankruptcy. To accommodate the needs of these particular students, one component of the curriculum was specifically directed at building self-esteem. Learning as a cohort, the students used team-building tools, such as personality inventories, communications training, and self-reflection, to develop trust and openness in the classroom. The focus in the classroom supported the individual contribution of each team member as opposed to the autonomy of the instructor.

3. *Process and product orientation.* Teaching about farm lending and legal issues to the women in the program involved very open discussion of the lending policies and legal recourse of farm borrowers. No consensus was developed on the best practices for lenders or borrowers. However, individuals were challenged to reflect on the trauma of being involved in lender collection actions and the anger of lender debt forgiveness. Evaluation of the learning reflected a broad understanding of the borrower/lender relationship because of the confrontation in the classroom. The processes of learning became central to meeting the needs of the students. The legal terminology is likely forgotten at this time. However, the personal growth and understanding from the discussions changed students for life.

4. *Evaluation for internal and external reasons.* The requirement of grading to ensure financial aid and transferability of the credits was met in the Women in Agriculture program, but it was not the most significant use of evaluation. Student feedback and self-evaluation were incorporated into each of the courses, individually and jointly. Classroom assessment was integrated into the daily teaching routine to ensure student input. The personal effectiveness component of the program was particularly focused on individual feedback.

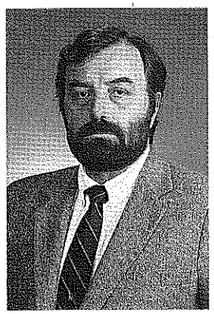
5. *Holistic understanding and component analysis.* Farming, like other industries, is being faced with an unprecedented level of complexity. In a sense, individuals and institutions are learning to operate in an environment which is out of control. Teaching management to Women in Agriculture focused on interactions, as opposed to specifics. Learning new skills which allow individuals to impact or direct, as opposed to control, was supported in the curriculum by integrating the development of personal values with an understanding of technology, general education skills, and awareness. For example, farm record keeping was integrated with an introduction to computers, and business communications was integrated with word processing.

6. *Organized around experience.* Direct experience is the cornerstone of experiential learning. From year to year, experience of students and the agriculture environment required adjustment of course content and delivery, if the same outcomes were to be expected. The relationship of student experiences to the course content was reflected by the choice of project involvement by different groups. To facilitate the concepts of management, communications, and personal development, one group organized and raised over $3,000 to fund a women's issues forum, which was held at the college. A second group assisted in the organization and delivery of an alternative enterprise conference for farmers. Both situations enhanced organizational skills, financial budgets, promotion, and communication skills. Each situation was unique to the experience and current environment of the students involved.

7. *Perception-based rather than theory-based.* Over the school year of seven months, the management component of the program included farm record keeping, farm legal issues, introduction to management theory, and selected production topics which the students chose. Because of time limitations, the program was criticized by some traditional agriculture instructors as being superficial and lacking in theoretical basis. Acknowledging the criticism in the context of experiential education, which stresses knowing the subject from the ground up and starting with students' perceptions, an overview of subject matter has real validity. Women in the program had very well-defined perceptions of farming as a business and a way of life. Reality was not based on what any text would say about how to file receipts; it was based on pulling the slips out of the pickup truck or the washing machine. To ignore that perception was to simply undermine any teaching of improved practice. Experiential education focuses learning of individual students by building a link from a present perception to a future understanding that reflects awareness of others' views.

(continued on page 22)

Modeling Experiential Education in Instructor Preparation



BY LOU E. RIESENBERG & JOHN P. MUNDT

Dr. Riesenberg is professor and head of agricultural and extension education at the University of Idaho, Moscow. Dr. Mundt is associate professor of agricultural and extension education at the University of Idaho Boise Center.

The professional semester in agricultural and extension education at the University of Idaho is designed as the culminating or capstone experience for those who have prepared to become instructors of secondary Agricultural Science and Technology. The professional semester is intended to bridge the gap from the world of academic to the world of experience as a professional. Obviously, the professional semester does not stand alone in developing a quality instructor. Becoming an instructor does not happen accidentally or overnight. Among other things, dedication and hard work by both the students and their professors throughout the undergraduate experience are requisite. And perhaps, above all, the development of a quality instructor takes time and lots of it, both in academic preparation and in the actual experience of being an instructor, especially the professional semester and the student teaching experience.

The semester begins right after Christmas break with one week of early field experience at the secondary school where the student instructor will teach later in the semester. The early field experience is followed by seven weeks on campus, student teaching for ten weeks, and finally a two-week wrap-up session on campus.

The purpose of early field experience is to provide a school setting context for the student instructors. Specifically, the student instructors become familiar with the students, program, school, and community. Additionally, student instructors become familiar with the curricular focus, determine what they will be teaching during the student teaching experience, and complete two or three days of actual teaching in a class with which they feel comfortable. The early field experience provides a contextual relationship for student instructors and their student teaching center. In essence, it helps to answer the question, "What is it really going to be like being a student instructor?"

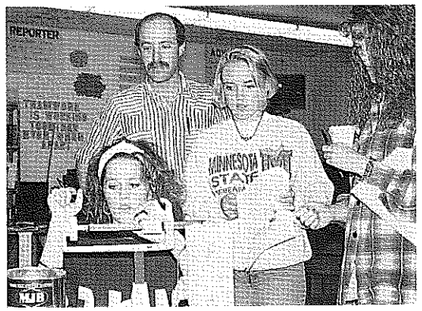
The seven weeks on campus consists of accelerated agricultural education courses, which include methods of teaching, program planning, facilities organization and management, and professional seminar. The seven weeks are intense and focused toward the upcoming student teaching experience. The early field experience has given meaning and created a felt need for the course work in which

Concrete experience is only the beginning of the experiential learning cycle.

the students are participating. The student instructors know that soon they will be participating in student teaching. The accelerated coursework is designed to provide each student the opportunity for success.

The ten-week student teaching period provides the opportunity to perform and achieve, to put to test the skills and knowledge learned in the academic setting, and to learn by doing through experience as a professional. The student instructor is supervised during this time by a cooperating instructor who provides close guidance and assistance. Progress is monitored and feedback is given. The university supervisor provides support and feedback to both the cooperating instructor and the student instructor.

It is extremely important that the university supervisor, the cooperating instructor, and the student instructor work together as a team. Clear and precise communication between all parties is essential to ensure that the learning experience for the student instructor is maxi- →



Agriculture students have many experiential learning opportunities.

Student teaching and discussion in follow-up professional seminars can provide a strong application of experiential learning theory.

mized. The actual student teaching experience is perhaps the single most important activity of the instructor preparation program. The student instructor will look to the cooperating instructor as a model of exemplary teaching and professional conduct. The careful selection of student teaching centers and cooperating instructors is a high priority.

The final two weeks of the professional semester are spent on campus in a structured and deliberate wrap-up or debriefing session. The session provides an opportunity for student instructors to reflect on their experiences. To facilitate reflection, questions are asked of the student instructors pertaining to lesson planning and preparation, classroom management and discipline, student motivation, and other topics. Students reflect and interact in group settings and discussions about both their positive experiences and the experiences that were not necessarily positive. The student instructors attempt to clarify their philosophies and beliefs and learn from their experience. Reflection and self-examination create opportunities for self-directed change in the student instructors' action of teaching practice and interactions with students, parents, and colleagues.

The emerging professionals who reflect and self-examine learn to monitor and adjust their own professional growth. The public interaction with peers through the group process is an important part of a successful growth and learning experience, not only during student teaching. The process further prepares the future instructor to successfully enter the classroom.

The question by now may be, "How does the professional semester at the University of Idaho model experiential education?" In order to answer that question, it may perhaps be best to review a model of experiential education at this point, and then determine the relationships of the model and the aforementioned description of the professional semester.

Perhaps the most clearly defined model of experiential education is presented by Joplin (1981) in her article, *On Defining Experiential Education*. Joplin presents a five-stage model generalized from reviewing the processes and components of programs calling themselves experiential. With Joplin's model of experiential education in mind, let us consider how the model's components of **focus, action, support, feedback** and **debrief** fit the professional semester in agricultural and extension education at the University of Idaho as described above.

The semester is designed around the student teaching clinical experience. The **focus** component includes the early field experience and a concentrated seven weeks of formal coursework in methods of teaching, program planning, facilities organization and management, and professional seminar.

The early field experience is an integral component of the professional semester because it gives the student instructors an opportunity to understand and develop some of the context in which they will be studying and working. The field experience is critical to the concentrated seven weeks of study in the formal classes prior to the student teaching experience. During the early field experience, the student instructors have an opportunity to (1) visit and observe the sites at which they will later be working; (2) gather information about the subject matter they will later be teaching; and (3) meet the high school students with whom they will later be working. This information can then be used as context during the seven weeks of class preparation.

Were it not for the early field experience, the students instructors, during the seven weeks, would have to study in a much more simulated context — a less than desirable focus. The student instructors are required to prepare teaching plans, both curricular and daily, based on the situation in which they will be working and the subject matter they will be teaching. Since an important component of the focus stage includes activities that are predicated and dependent on what is to follow, it seems that the early, field-based experience is critical in giving the student instructors some of the context in which they will be working.

The **action** phase of Joplin's model, as it relates to the professional semester, is the actual student teaching clinical experience. Student teaching places the student instructor in a situation where he/she cannot avoid the problems and/or tasks presented. In addition, since the student instructors cannot be prepared for each and every situation they may encounter, student teaching will most assuredly require additional new skills or the use of new knowledge. The student teaching component of the professional semester provides the student instructor with significantly greater responsibil- →

ity than many other learning environments, because this environment has fewer controls than would a classroom atmosphere. The student instructor is given greater responsibility for learning and developing competence.

While university faculty do everything possible to prevent failure on the part of the student instructor, the possibility for failure does indeed exist, and it is a possible and viable outcome. However, in planning the professional semester, the faculty have spent significant time and effort in matching student instructors and their capabilities with the problems and tasks that may exist at a particular student teaching center, including the style of teaching and personality of the cooperating instructor.

In planning the professional semester, the faculty choose student teaching sites on many criteria; however, significant weight is placed on the ability of a cooperating instructor to mentor a particular student instructor. Each student instructor receives at least two full days of supervision from a university faculty. And, in addition, the student instructors meet in a workshop format at least twice during their student teaching experience.

Throughout the experience, **support** and **feedback** are constant, both from the cooperating instructor and the university faculty. The procedures for reporting progress are designed to require interaction between the student instructor and the cooperating instructor at least once a week for an in-depth review of progress. During supervision by university faculty, the reporting system requires that this review of progress be completed jointly with the student instructor, the cooperating instructor, and the university faculty.

Moreover, each student instructor is required to complete a portfolio of his/her student teaching experiences via a daily diary, a series of self-evaluations, a compilation of all instructional materials used, and a recording of perceptions developed through observation of other teacher, the cooperating instructor, and interviews with administrators of the school. The purpose of the portfolio is two-fold. The portfolio becomes a part of the support and feedback, and secondly, it becomes the basis of information for many of the activities involved during the debrief phase.

The professional semester requires two weeks of time with student instructors in what Joplin labels as the **debrief** stage. The emphasis in the professional semester on the debrief stage is on the amount of time and variety of approaches to the debriefing.

Incidentally, a unique feature of the professional semester debrief stage is that each faculty member involved in the professional semester does not necessarily supervise the student instructors during their student teaching. Therefore, during the debrief with faculty who have not supervised the student teaching, the student instructors must bring back significantly more information than would be required if all faculty had observed.

The activities of the debrief stage of the professional semester require that each student instructor participates fully, and the perceptions and philosophy of each student instructor are gauged against the experiences and perceptions of their peers and also against the theoretical model presented as a recommended practice, by both the university faculty and the cooperating instructors.

Lastly, and perhaps most importantly, the most important considerations during the debrief stage are the implications for the student instructors, if and when they accept a position after graduation. Another cycle of experiential education begins after signing that first contract.

Reference

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Management Instruction . . .

(continued from page 19)

8. *Individual-based rather than group-based.* The individual development of women in the Women in Agriculture program has been stressed. Upon completion, each individual was required to move from the classroom into a unique set of challenges and opportunities. Preparation for continuation in the farm business role or off-farm employment was accomplished by supporting the unique strengths of each student, as opposed to molding a replication of a predetermined model. In the process, a universal set of skills was developed which met requirements for the college and for training objectives.

The Women in Agriculture program at Alexandria Technical College was a rewarding experience for both students and teachers. This conclusion was documented in focus group research conducted by outside evaluators and by the student evaluations. Duplicating the success may not be easy. However, using the model outlined above provides clues which were not clearly articulated as the program was initially developed. Education, not vocational education only, can be improved through reflecting on one's personal practice using experiential education theory.

Reference

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Youths Make An Impact

BY NOLA GRAMM
Ms. Gramm is an associate director in the Governmental Affairs Division of the Illinois Farm Bureau, Bloomington.

Youthful achievement inspires a feeling of exhilaration — particularly when an accomplished high school FFA member expounds on a given topic or issue. I believe most people stand in awe when an FFA member is speaking; I sense a feeling of exhilaration and pride present in the audience.

It has been my privilege to solicit FFA members to testify before the Illinois General Assembly House and Senate Committees in support of funding for agricultural education programs. A young person speaking to a legislative committee commands respect and attention unparalleled with that given business leaders and other accomplished speakers. There's just something overwhelming about wanting to see potential leaders excel.

At one recent hearing at the Capitol in Springfield, a state FFA president delivered such powerful testimony that a burst of applause broke out at its conclusion. The chairman of the committee holding the hearing stated, "I doubt if this committee has ever heard a public testimony so well thought out and presented as this young man has delivered here today." Very few people who testify trust themselves to speak without notes and look directly at each listener they are addressing; few receive the undivided attention of their audience throughout the presentation as did this young man.

I once heard the National FFA president introduce President George Bush at the National Convention. In my estimation, the introduction far surpassed the President's speech. Undoubtedly that was due in large part to that young person's outstanding introduction. I can still hear that meticulous, articulate opening, though I have no recollection of President Bush's speech.

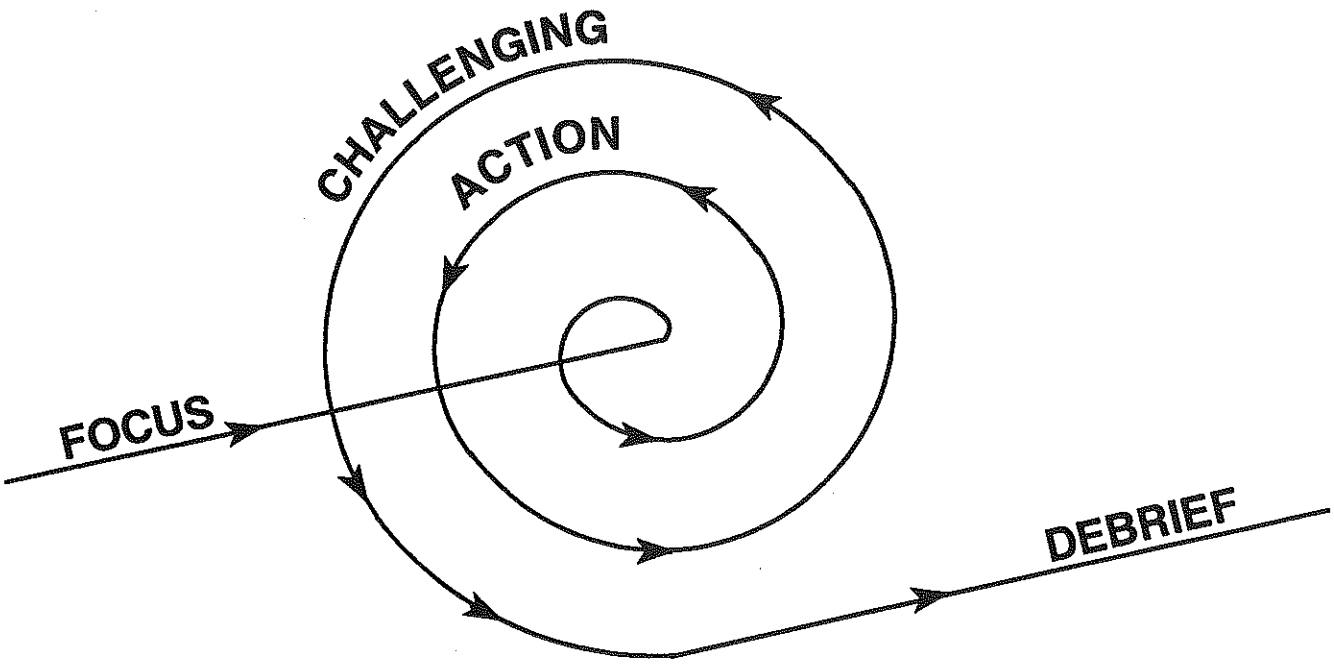
We must tap this valuable resource to inform our legislators of the importance of agricultural education and the industry of agriculture in general. In agricultural education, it is imperative that we make better use of this precious commodity of outstanding communications ability. Successful speaking techniques used by these unique individuals should be duplicated in our schools' curricula. Granted, not every FFA member has this talent, but there are plenty of talented members to use at many opportune times. Others in agricultural industry and education simply cannot have the same impact on leaders. ■

A New Look In October . . .

Thanks to the involvement of one of our key supporters in agricultural education, *The Agricultural Education Magazine* will have a new look in October. The experimental design of next month's issue will bring us one step closer to making permanent improvements in the quality and appearance of our professional journal. Let us know what you think! Drop a note to the Editor, one of the Editing/Managing Board members, or your regional editor.

Joplin's Five-Stage Model of Experiential Education

FEEDBACK • FEEDBACK • FEEDBACK • FEEDBACK



SUPPORT • SUPPORT • SUPPORT • SUPPORT • SUPPORT

Joplin, L. (1981). *On Defining Experiential Education*. Journal of Experiential Education. 4 (1), pp. 155-158.

FOCUS—Presenting the task specific enough to orient, but NOT too specific so as to rule out unplanned learning.

ACTION—Placing the learner in a stressful or jeopardy-like situation where the problem must be addressed, often an unfamiliar environment requiring use of new skills or knowledge.

SUPPORT—Providing security and care that stimulates learners to challenge themselves and experiment.

FEEDBACK—Providing information to students about what they have been doing. Most effective when power of learner and facilitator are equalized.

DEBRIEF—Sorting and ordering of information obtained from one's experience in a public process (e.g., class presentations, class discussions, and summary papers). Key to verification of learning and often leads to the next five-stage cycle.