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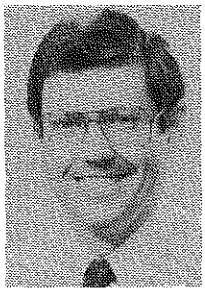
Reshaping Experiential Learning



By Thomas L. Grady, Theme Editor

(Dr. Grady is an Assistant Professor, Department of Continuing and Vocational Education, University of Wisconsin-Madison.)

As educators, we have a fundamental philosophy that our task is to facilitate and maximize learning. That learning occurs as a function of the nature of the learning experience. We believe that if the learning environment allows the student to be passive, little, if any, learning occurs. If the learner is actively engaged, learning is enhanced. Out of such a basic philosophy emerged the notion that we "learn by doing." Just how closely have we adhered to this belief? What has been the nature of our learning experiences in agriculture? How have we approached the conduct of these experiences to facilitate learning? Have we emphasized the doing over the learning? Have we been more concerned about what goes in a record book than what is going on inside the student?

In this article, I will discuss some fundamental questions about how we view experiential learning in agricultural education both in and out of the classroom and offer a few suggestions for your consideration. Secondly, my intent is to give you a framework for thinking about how the rest of the articles in this issue relate to each other and to reshaping experiential learning. To accomplish this, reshaping experiential education will be discussed in three ways: (1) Reshaping our philosophy of experiential learning, (2) Reshaping the structure of the experience, (3) Reshaping the nature of the experience.

Reshaping the Philosophy

How we view experiential learning determines how we approach the reason for and the conduct of any supervised experience. David Kolb's experiential learning model defines a framework that helps us think about a process that focuses on learning. Kolb suggests that learning is fundamentally grounded in concrete experience. The student observes the experience and reflects on its significance. These reflective observations are then used to develop new conclusions and implications for action. The implications serve as guides for students to create new experiences, make decisions, solve problems, or act in different ways. This approach is different from other notions of learning that stress concrete experience as leading to only acquisition of information and recall. It is an integrative learning perspective that combines feeling, perceiving, thinking, and behaving. This approach to reshaping our philosophy reflects the following views about learning:

1. Learning is enhanced when "content" is experienced in "context." Relevant and meaningful learning can then occur because the student experiences the reciprocal and interdependent relationship of knowledge and experience. Learning is also enhanced because learning is a function of direct connection to past experience.
2. The student sees the relationship of different aspects of agricultural knowledge as they contribute to the solution of problems.
3. Learning becomes a transaction between the student and the environment. The student learns to shape the environment as well as adapt to it. Learners recall vividly those experiences in which they had to resolve conflict or work through some kind of challenge or ambiguity. Students come to see the moldable nature of the real world.
4. Students begin to see the limitations to the application of knowledge. The student can experience how applying one agricultural practice may affect a host of environmental and societal issues. As a result, they begin to establish priorities and values about the relationship of agriculture to society.
5. Learning is a function of both "doing" and "becoming". The orientation is toward what is happening to the student as a result of what is happening in the experience.
6. Learning occurs at higher levels because students ask questions of application, discrimination, comparison, organization, analysis, synthesis, and evaluation. We must remember that to teach content without regard for student thinking is to prevent that content from being transformed into student knowledge.
7. The experiential process helps students learn how to learn.
8. The teacher's role becomes one of helping students come to conclusions and generalizations that guide their actions through asking questions. Students become partners and participants in the learning process rather than passive recipients.

An increasingly complex society requires that students think critically, integrate knowledge, adapt to and shape the environment, and identify and understand relationships among its operating systems. A renewed commitment to the concepts of experiential learning will help students develop such characteristics.

Reshaping the Structure of Supervised Experience

If a renewed philosophy leads to change in the learning experience, what might that change look like? While each of us might answer this question differently, one possibility is that the experience could become more collaborative. Such collaboration may take the form of an activity in which students from agriculture, English, math, history, government, and science form a work group to solve a selected problem. Students involved would have the opportunity to

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see the relevance of writing skills, computational skills, different ways of thinking and approaching a problem, the contribution of different knowledge bases to solving a problem, the importance of integrating knowledge in problem-solving activities, and the breadth of questions asked across disciplinary knowledge bases. Students could then form panels or groups and discuss the implications and potential impact of their solutions.

Another structural change is that learning could be viewed as an upward spiral. Such a structure would look like the followinig:

1. Concrete experience - What was it like?
2. Reflection/Observation - What did you notice?
3. Conclusions/Generalizations - What do you conclude?
4. Practice - What will you do?

This four-step process repeats itself in a circular/spiral fashion. The structure indicates that confronting similar experiences in the future would be different from previous encounters because student questions, conclusions, and decisions to act have changed between each set of experiences. The student is involved in "becoming" (upward spiral), not just "doing."

Reshaping the Nature of the Experience

As stated before, the nature of the learning depends on the nature of the experience. In changing the essence of the student experience, one might consider employing more experimentation projects or research-oriented experiences in conjunction with what one is teaching in the classroom. Experiments in emerging dimensions of agriculture such as food science, biotechnology, small animal care, aquatics, and hydroponics lend themselves well to an experiential model of learning emphasizing analytical, reflective, and critical thinking skills. Agricultural economics and marketing related experiences could stress decision-making activities that strengthen higher-order thinking skills in reflection and drawing conclusions about content in context. Local brokerage firms and financial institutions active in these areas would be prime locations for well designed experiential learning opportunities.

Another suggestion might be to create experiences that allow students to wrestle with various relationships between society and agriculture. Such issues might be the impact of sustainable agriculture on rural community development, or the social impact of agricultural technology use (e.g. chemicals, bovine growth hormone, etc.) These activities would expand the learning contexts from the simple application of an agricultural skill or practice to consideration of the integration and impact of agriculture on political, legal, social, economic, and educational forces in society, and vice versa.

Role of the Teacher

In this process, the teacher's role will be different. The teacher will be more active in experiential learning in a variety of ways. One must become a better questioner to help the students think at higher cognitive levels as they reflect on a given experience. In addition, the teacher is more a facilitator than an expert transmitter of knowledge. The teacher nurtures the student through talking "with" the student rather than talking "at" the student. The teacher must also be able to identify where the student is in the experiential learning process to know what kinds of questions to ask. This assists the teacher to know when and how to intervene when a student needs help through a stage.

The teacher must also be a systematic planner. The experiential process does not leave the student without direction. Prior planning must take into account the learning outcome, the learning setting, questions to be asked, and potential problems that may arise to prevent the student from coming to his/her conclusions as a result of reflecting on the experience.

Summary

Reshaping our philosophy of experiential learning speaks to how we think learning occurs through experience. Reshaping the structure emphasizes how we establish and organize the experience. Reshaping the nature of the experience reflects a need to maintain the relevant context for what we teach. Regardless of whether the experience is occupational placement on exposure to broad agricultural concepts, these three elements help us maximize student learning by doing, with the focus on learning.

The articles in this issue relate to varying degrees to each of these dimensions. Read these, reflect on them, and identify ways you can reshape experiential learning in your program.

About The Cover

An urban supervised experience being conducted in a greenhouse. Photo courtesy of Art Hanson, Specialist, Los Angeles Unified School District, Los Angeles, CA.

Agricultural Mechanization
The Basics Do Not Change

By Joe G. Harper, Special Editor
(Mr. Harper is an Assistant Professor, Agricultural Education and Communications, University of Nevada-Reno.)

It has been several months since I have taken the opportunity to write another column. Quite candidly there has been a rather significant lack of motivation. After what feels like an endless series of meetings with teachers, teacher educators, and college faculty the spirit was severely diminished. Our profession is in a dynamic period of change; at times we seem to be looking for direction and focus. In response to these changes we have seen the development of a strategic plan which is long overdue and probably already out-of-date. However a strategic plan is not an end, nor a means, but rather a beginning.

Several years ago I recall one of my colleagues describing the planning process as a strategic plan and a tactical plan. He used the analogy of the planned invasion of Nazi controlled Europe during World War II as an example. Whereas the leaders, lead by Roosevelt, Churchill, and Stalin, conceptualized a strategy for winning the war by a massive invasion of Northern Europe, it was the responsibility of General Eisenhower and his staff to develop the actual tactics for the invasion.

Within agricultural education the conceptualization of a strategic plan is of great importance, however it is the actual execution of the tactics to achieve the strategies that requires the greater amount of work, planning, and effort. With this in mind we in agricultural education have actually just begun to develop and execute the tactical plans. The tactics will require a much larger effort on all our behalfs in order to achieve our strategies for success. I strongly believe that the frustration that many of us are experiencing is a result of our struggles to find tactics that will work to achieve our strategies.

For several months I struggled with the actual composition of this particular column, and missed a couple of deadlines in the process, or lack of process. Then, I was watching an interview on television with Richard Petty whom I admire a great deal. When asked why he hired an engine engineer who had not worked for his team for fifteen years, Petty replied that his team felt a need to get back to the basics in order to be competitive and that "the basics don't change". Those who are the best at what they do seem to be able to grasp the fundamental concepts with absolute clarity. When we are trying to develop our tactics we must focus on the basics in order to achieve our strategies.

As an example, I will attempt to develop possible tactics which could be used to incorporate technology education into agricultural mechanics instruction. First, if you have not done so already, start teaching your students how to solve problems using the unit-factor approach. If you are not familiar with the unit-factor approach, check out the John Deere *Machinery Management* textbook. Students should be able to calculate how many gallons of fuel per hour a tractor is using without a bunch of formulas. We need to get back to basics and teach students how to be able to solve problems, not just plug numbers into calculators and computers. It may be high tech to have a room full of computers, but if our students need such high tech equipment to determine how much fuel a tractor will use to chop forty acres of corn silage, I think we missed something.

Another example would be to teach students the concepts how a tractor pulls a tillage implement. A simple demonstration would be to use a weight, such as a concrete block, and a spring scale. Use the spring scale to determine the amount of force required to pull the weight across various surfaces. Try putting the weight in a small trailer or wagon. Why not determine the force required to pull the weight up a slope? This is a simple, basic approach to teaching students the concepts of draft, friction, and forces. It does not require elaborate equipment, yet is very effective and provides a foundation for additional instruction in determining horsepower requirements, matching tractors and implements, and determining tractor ballast. Remember, the basics do not change.

A colleague of mine has developed a very favorable national reputation for his approach of using a bicycle to teach the basics of mechanical power transmission. A ten-speed bicycle is an excellent tactic for teaching the basic principles of gear speeds and torque relationships. Because the students are able to experience the basics, they will be better able to comprehend the operation and requirements of the various drive shafts, transmissions, final drives, and differentials. Once again, the basics are the key to effective instruction.

Not all the basics are limited to the power and machinery component of agricultural mechanics instruction. An excellent teaching tactic in the agricultural construction area is the testing of concrete beams or cylinders using different water to cement ratios, curing mediums (wet, dry, cold, warm), and the effects of the length of cure. I know that some of you have been teaching the concepts and applications of testing concrete beams for a number of years. The understanding of these basic concepts is fundamental to concrete construction practices. Once again the important point

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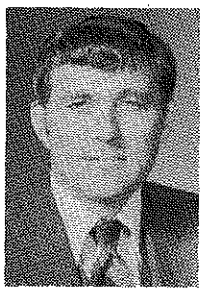
Two Angora Goats



By Gary E. Moore, Theme Editor

(Dr. Moore is Professor and Head, Department of Occupational Education, North Carolina State University.)

When I enrolled in vocational agriculture in Lampasas, Texas, in 1961 I was told I would have a "production project." My vocational agriculture teacher, Mr. Lacy, told me there were three types of projects — production projects, improvement projects, and supplementary projects. Our assignment was to have at least one production project, two improvement projects, and twelve supplementary projects. I never questioned this. After all, Mr. Lacy was wiser and older than I was. I never asked why I needed these projects. Two Angora goats were selected for my production project. Three years later after several dozen production projects, improvement projects, and supplementary projects, I graduated from high school and went to college to major in agricultural education.

During my senior year in college I enrolled in AED 4103 "Supervised Farming Programs and FFA." The professor teaching the course said that a vo-ag student **must** have a project and if he didn't (it was *he* at that time), that was grounds for flunking the student for the year, and furthermore, that was federal law. I also learned about another category of project in addition to what I learned in high school-placement. Students could be placed on a farm or in an agricultural business.

Our text in AED 4103 was Phipps' *Handbook on Agricultural Education in Public Schools*. In our readings I learned 17 reasons why students had an "occupational experience program" (Phipps, 1966, p. 187). The first reason listed was to develop abilities needed to become proficient in agriculture. The second reason was to become established in farming or an agricultural occupation. The list of reasons continued. I then knew why students had projects and I also knew that it was required by law. I accepted what my professor said without a question.

Armed with a college degree in agricultural education and my own experiences as a high school vocational agriculture student, I went out to teach vocational agriculture in 1969. I required every student to have a project. No mercy was shown. At times, I must admit, I was bothered by this stance. It was difficult to arrange projects for a number of the students and I often had doubts what the students were really learning from the projects. But my district supervisor told me I was a good teacher because every student had a project. And I did take pride in the fact that all students had projects.

After teaching high school vocational agriculture for four years I decided to pursue graduate study full time. One of the courses I took was AGR EDUC 641 "Occupational Experience in Agricultural Education." In this course we studied the theory, both philosophical and psychological, that provided the rationale for projects. The SOE was based on the philosophy of pragmatism (the truth of an idea is if it works in actual practice). There were a number of psychological reasons for projects. In simple language we determined students learn best when they actually do something and experience it. Thorndike called this the Law of Exercise. Kolb developed a model for learning based on the theory that learning occurs best when there is concrete experience. During this graduate course I also learned about the expanded definition of what constituted a supervised occupational experience program (SOEP) in the 1970s.

I have now been a teacher educator for fifteen years. I have taught courses at both the undergraduate and graduate level on supervised occupational experience programs, now called supervised agricultural experience programs (SAEP). Much of what I teach about SAEP was taught to me in the past, except I discovered someplace along the way that the Vocational Education Act of 1963 amended the provision of the Smith-Hughes Act that required students to have farm projects. I have taught the gospel of SAEP and project programs with the same evangelical fervor with which I had been inculcated.

Some Second Thoughts About SAEP

During the last few years I have started to have some concerns about the SAEP. The profession has bought the gospel of the project, hook, line, and sinker and has never really asked some penetrating questions. If agricultural educators were asked why students have projects, the answer, without thinking, would be because it is the best way for students to learn. But a question I would raise is, "Are the things that students learn from projects what they really need to learn?" I will concede that projects may be the best way to learn, but how important are the things students learn from the projects? If we are really honest with ourselves, the answer may be disappointing. Let's look at some examples.

When I taught high school, Brian had sheep for a project. He had a rather nice flock of sheep and I was proud of this project. Brian was learning a lot about sheep and practicing what I had taught in class. The *truth* is, Brian's dad had raised sheep all his life. Much of what Brian knew about sheep came from prior experience. If Brian had not chosen sheep for a project, he would still know more about sheep than the average student in the class. The same thing could be said of Walter's beef project, Tim's corn project, John's dairy project, Albert's vegetable project, and about half of the students I had in class. Many of these students were carrying projects that were convenient (i.e., already existed on the farm), and they already had some knowledge

Two Angora Goats

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and skills in the area. There were exceptions, and a number of students did learn valuable lessons and gain skills from their projects. But if I am really honest, I will have to admit that the project program many of my students carried did not teach them much they didn't already know.

Research by Herren tends to corraborate the preceding view. Herren (1986) studied the regional and national FFA proficiency awards winners in 1984. Herren asked the students, "Were you conducting this business or operation before you started taking vocational agriculture?" Seventy percent of the students replied yes. Another question was, "If you had not enrolled in vocational agriculture, would you now be conducting this business of operation?" The response was again 70 percent affirmative. The top agriculture students in the nation were already established in the area before they started their SOEP or would have done so without an SOEP.

On the other end of the good student-good opportunity spectrum was the student with limited opportunities for a SOEP. I had to work hard to arrange a project for this type of student. Warren was one of these students. He wanted to be in vocational agriculture and the FFA but really had no plans to enter an agricultural career. After much cajoling and pressure, he ended up feeding out a pig for his project. What did Warren really learn? He learned how to buy a sack of feed at the local feed store, how to pull the string on the sack to get it to open without ripping the sack, how to run the water hose to the water pan, how to fix the fence when the pig got out, and how to load it in the truck at market time. As a vocational agriculture teacher I had a number of students like Warren. In all honesty, most of them really didn't learn that much from their project — but they had "the project" they were required to have.

I don't want to be overly negative and paint a gloomy picture of projects, but the profession needs to examine the worth of the project concept as it currently exists. Undoubtedly many students have genuinely benefited from a project program. However, there are certainly many instances where students have learned little from their project programs. Just because a student has a project does not mean he or she is learning what needs to be learned.

Toward a Reconceptualization of the SAEP

It is time for the profession to critically look at the SAE concept. I am not advocating that we do away with SAE programs. I would suggest that we rethink the issue, develop a new list of reasons why students should have projects, and reconceptualize what constitutes an SAEP. In view of the changing demographics of agriculture students and the changing curriculum, the reasons for having a project needs to be reexamined. The students would still have an experience program, it would be supervised, it would be in agriculture, but it would not necessarily be for the purpose of establishing a student in an agricultural occupation.

What does a student need to learn from an SAE program? I would suggest the reasons for having projects have changed since I studied the 17 reasons listed by Phipps. At the top of my list would be the following:

1. To locate current agricultural information.
2. To critically analyze issues in agriculture, from both a domestic and global perspective.
3. To apply current technology in a variety of agricultural settings.
4. To use the scientific process in solving agricultural problems or in discovering and/or verifying scientific agricultural principles.

To implement the above ideas it will be necessary to develop additional types of activities for the SAEP. Using *The Experimental Project*, the student will design and implement an experiment. Several steps are involved:

A. Identify an area of interest (i.e., plant growth hormones)
B. Conduct a survey of the literature (compile a list of hormones and describe each)
C. Design an experiment (growing plants using several different hormones)
D. Formulate hypotheses (which hormone will work the best)
E. Conduct the experiment
F. Report the results

There are a number of desirable benefits to this type of project that should be obvious. This type of project should carry the same weight as an ownership project and every student in agriculture should be required to have one. This is not a new idea. Rufus Stimson first advocated experimental projects for agricultural students in 1912.

The Problem-Solving/Critical Thinking Project. The student identifies a problem and then gathers information in an attempt to arrive at a solution. This is a self-directed activity and involves several steps.

A. Identify a problem. (i.e., animal rights, agricultural water run-off, animal hormones, genetic engineering)
B. Gather pertinent information from a VARIETY of information sources. At least one source must be a computerized on-line data information system. Sources may include journals, Agricola, Extension service, books, AgriData, etc.
C. Analyze and synthesize the information.
D. Prepare recommendations on how to solve the problem. The recommendations can be presented orally and in writing.

The goals of the problem-solving/critical thinking project are to acquaint the student with information sources, establish skills in discriminating between different sources of information, and to gain the ability to develop carefully thought out conclusions and recommendations. This project would be equal to the improvement project.

The Technology Project. The student develops and implements an activity that demonstrates or utilizes new technology. Examples are: A.) Using a tissue culture chamber for plant propagation, B.) writing an agricultural computer application, C.) transplanting an embryo, and D.) computerizing livestock production records. This project is equal to a supplementary agricultural skill.

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Teaching Tips
Organizing For Cooperation

By Rose Jones, Special Editor
(Dr. Jones is Director of Communications, College of Agriculture, University of Minnesota.)

The sign on the classroom wall read, "We sink or swim together." At first glance it seemed like a call for global or environmental awareness. Later, when queried about the sign, the classroom teacher explained that it was her class motto for cooperative learning.

Cooperative learning? Is that similar to cooperative education where schools and businesses have linked to provide educational training opportunities for secondary students? Hearing the word "cooperative" may cause some of us to envision those secondary programs where students earn credit for learning experiences gained in the work place.

But cooperative learning and cooperative education have little in common. The teacher I was visiting quickly corrected my interpretation of the phrase by explaining that cooperative learning is a classroom structure where students work and learn in hetergeneous groups. The group and its members are working toward a prescribed learning goal. The overall outcome of cooperative learning is for students to develop a sense of social or group responsibility while making academic progress.

On the surface, cooperative learning looks like some of the group dynamics techniques agricultural educators have been using for years. "Phillip 66" and buzz groups are some of the traditional techniques that immediately come to mind.

But educators who are employing cooperative learning in their classrooms will warn you that sharp distinctions exist between mere group activities and cooperative learning. You can't simply plop people (young or old) into groups and expect them to function well. Nor can you necessarily expect the group to develop, without training, any sense of social responsibility toward group members or toward members of other groups. Students must be taught the skills that are needed to become cooperative group members.

Several different approaches to cooperative learning exist today. Some approaches simply provide guiding principles for the teacher to follow as he or she adapts a teaching style to the cooperative learning philosophy. Other cooperative learning approaches provide actual structures for organizing social interaction in the classroom. Once the teacher learns the structure, he or she can use it to help students learn specific academic or social skills.

Regardless of the approach adopted by the teacher, researchers have identified critical ingredients for successful cooperative learning environments. Some of those critical features include:

- shared leadership among all group members
- social skills training and use
- group autonomy (reduced teacher involvement in groups)
- heterogeneous groupings within each group
- positive interdependence of group members
- individual accountability within the groups

Perhaps the most unusual of these features are group interdependence and individual accountability. Simply put, group interdependence means that the group as a whole is rewarded — through grades, recognition, awards, etc. — for the group effort. Group success is also dependent upon individual effort. For example, the teacher might assign a group grade for a unit test by averaging the group members' scores. Thus, the individual is held accountable for contributing to the group.

Research efforts point to strong student gains in social interaction among students who are members of cooperative learning groups. Students in these groups seem to become more skilled interpersonally than do students who learn in a more traditional environment. Students with diverse academic, social, and ethnic backgrounds learn to work effectively together and to like each other once they've functioned in a cooperative learning group.

Also, some researchers are reporting achievement gains among cooperative learning groups, especially where group interdependence and individual accountability are built into the group structure. Students in such groups have displayed higher-level thinking skills, shown more motivation toward achievement, and have had better attitudes toward the subject matter, than have students in traditional classroom settings.

With agricultural education being reshaped and re-defined across the country, it seems like an excellent time for us to devote some of our attention to the benefits of cooperative learning and to the possibility of incorporating its tenets into our programs.

For an exploratory venture — and adventure — into cooperative learning, the following resources are suggested:

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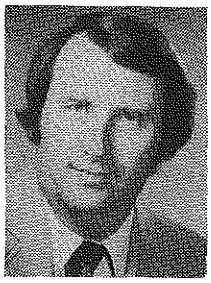
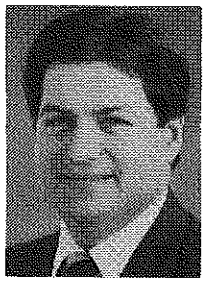
THEME

Reshaping Experiential Education — What Experiences Are Best?





By Joe Townsend and Gary E. Briers

(Dr. Townsend is Associate Professor, Department of Agricultural Education, Texas A&M University. Dr. Briers is Associate Professor, Department of Agricultural Education, Texas A&M University.)

Experiential learning — something new? No, all learning is experiential. Those of us in agricultural education, whether we realize it or not, teach by providing experiences for students. The "key" to the kind of experiential learning desired in agricultural education is a teacher's understanding of and providing for the kinds of experiences that will lead to the most and best learning: These experiences are direct, purposeful experiences. "It is the purposeful experience that is seen, handled, tasted, touched, felt, and smelled" (Dale, 1954, p. 42).

Let's illustrate. Suppose you're teaching a unit on Ruminant Nutrition; your problem area is "Providing Protein Supplements." You've taught about traditional protein sources such as soybean meal, linseed meal, and cottonseed meal. Non-protein nitrogen sources, such as urea, provided in liquid form are next on the lesson plan. You've already shown slides to illustrate the various equipment including the lick wheel feeders used to dispense the protein. Now, how can you best teach your students just what liquid protein supplements are?

A mason jar filled to the brim with the black "stuff" is pulled from behind the desk and placed in front of the students. Surely now, the students have experienced liquid feed: They've read about it, they've discussed it, they've seen slides of it, and they've even seen the actual "stuff." How in the world could you teach this any better? Well, next, you pull out a jar of molasses you used for your pancakes this morning and have the students smell, touch, and taste it. Now, have them taste the other "stuff." WOW, what a difference! This "stuff" that looks like molasses and smells a lot like molasses and is sticky like molasses sure doesn't taste like molasses. It's really easy now for students to learn that the intake of liquid feed is limited by "cutting" the suspension with something such as phosphoric acid. Yes, the student now knows that their cows won't "pig out" on this molasses-looking "stuff" cause it "don't" taste good. Lesson learned, never to be forgotten! Why? Because they have experienced directly liquid protein supplement.

Agriculture provides so many opportunities to use direct, purposeful experiences to allow students to learn. Let's return for a moment (or perhaps introduce you) to Edgar Dale's (1984, p. 43) "Cone of Experience." (See Figure 1.) Dr. Dale proposed this visual aid to help in explaining the "directness" versus "abstractness" of experiences. And, the more concrete or direct an experience, the more likely it is to result in learning for the student. On the other hand, the more abstract the experience, the less likely it is to cause learning. One must be careful to interpret the figure correctly — the further toward the base of the cone, the more direct, less abstract, and "better" are the experiences.

So, the goal of us teachers should be to provide those educational experiences that are most likely to result in real

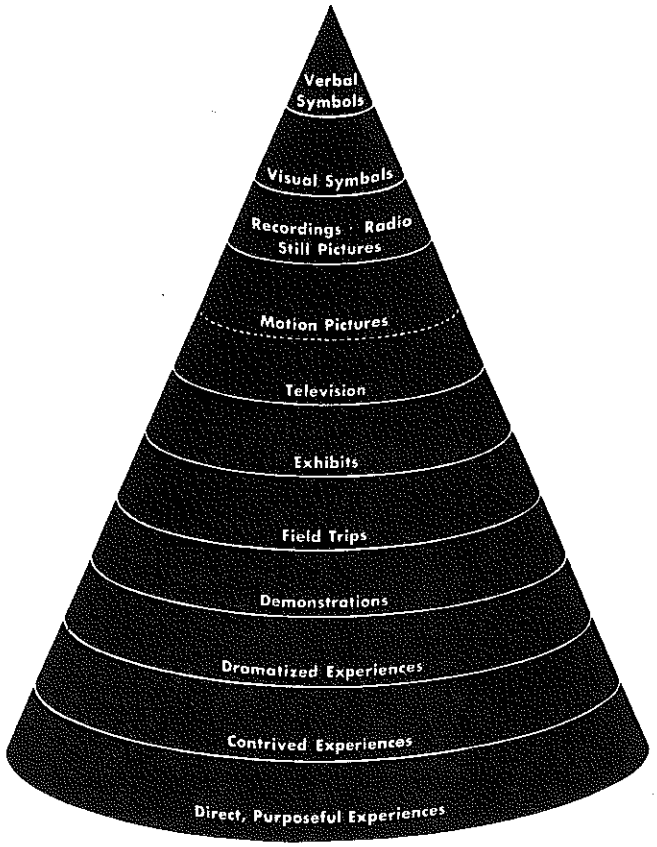


Figure 1. Cone of Experience (Dale, 1954).

learning by the students: experiences that are concrete, that are direct, and that have a purpose. Whether we knew them or not, these principles are the ones upon which we built

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Reshaping Experiential Education — What Experiences Are Best?

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supervised farming programs, supervised occupational experience programs, and supervised agricultural experience programs. The bottom line of all this is simply that in "reshaping experiential education," we do not need to rebuild the foundation; it's as solid as ever, though perhaps we do need to study the foundation, be sure we understand all its "bricks and girders," and review our faith in its ability to "uphold" our reshaped "superstructure."

Well, what then do we need to reshape? Perhaps we need to examine what makes experiences "purposeful." In a recent issue of this magazine, McCormick, Cox, and Miller (October, 1989) categorized experiences into three types: (a) those experiences of a general nature; (b) agricultural experiences to increase knowledge and appreciation of agriculture; and (c) occupational experiences to assist students in preparing for employment in a selected job, occupation, or career. In essence, they are categorizing experiences based on their **purpose**.

McCracken and Darrow (October, 1989), in the same issue, suggested slightly different purposes of experiences — to provide career exploration in agricultural science, to teach students to solve problems, and to teach scientific principles — in addition to the traditional purposes of experiences in vocational agriculture. There remains the one constant in each of these: that the experiences provided to students should be selected with a **purpose** — that the experience be full of purpose — that they be **purposeful**.

The other characteristic of the best learning experiences is that they should be **direct**. This characteristic may be most violated in traditional SOEPs. Let's examine a traditional production "project" for a student of vocational agriculture — say, raising a pig. Having this "project" does not ensure that the student will learn through direct experiences. That pig merely serves as a setting around which direct experiences can be gained. If mom or dad feeds the pig daily, if big sis worms the pig, if the teacher castrates the pig, then the student may not be gaining any direct experiences about swine production.

Similarly, if the student is enrolled in a class on marketing agricultural products, then there might be too many direct marketing experiences that the student will gain simply as a result of having that old pig. The "directness" of experiences should be that the experiences are directly related to the content taught in class and that the student participate fully in the experience.

What, then can teachers do to ensure that students gain direct, purposeful experiences? One state has delineated hundreds of experiences related directly to, and selected for the purpose of applying, the content to be taught in various classes. That is, the experiences are direct and purposeful. These lists of experiences are published in a SUPERVISED AGRICULTURAL EXPERIENCE PROGRAM GUIDE FOR AGRISCIENCE AND AGRIBUSINESS (Instructional Materials Service, 1989). The lists are not intended to be all-inclusive; rather, they are designed to assist teachers and students in planning and selecting good learning experiences. They might also serve to "trigger" the identification by teachers or students of other learning experiences. (See Figure 2). In addition to the lists of experiences, rules and guidelines for supervised experience in agriculture are stated. The requirements for "supervised agricultural activity" are satisfied by one of the following three methods or a combination of the three:

1. Agricultural Entrepreneurship (involves the functions of organizing and managing the factors of production and distribution of goods and services);
2. work experiences in an agribusiness; or
3. . . . supervised agricultural activities which require the development of skills that are considered necessary for employment in the agricultural science and technology industry (p. iv, Instructional Materials Service, 1989).

Students are required to keep a journal of applied activities (a record of the experiences they gain); each activity must be "keyed" to the unit of instruction for the course in which the student is enrolled. So, both "directness" and "purpose" are considered when the experience must be related to instruction.

All of this, however, still leaves the teacher with much to do. Let's illustrate. Suppose you want your students to learn how to calculate board feet. You can show on the chalkboard over and over how to do this, but many of the students probably still won't be able to calculate board feet — even though they've had the "experience" of observing you. It's easy to see that you need to have them participate more directly in the experience. So you devise a series of problems — hypothetical situations — in which they must calculate board feet. After 30 minutes or so of practice, now several of the students have really learned how to calculate board feet. They will be able to do this two weeks, two months, or two years from now. Still, though, there are some students who have not achieved "permanent learning."

What more can you do? Well, the problem is that the experience is not purposeful enough. Some students just don't see the reason they need to be able to calculate board feet. Now, if you could just extend this exercise to a situation in which each of them is calculating board feet for a wooden structure he or she wants to build, then perhaps the activity would be "purposeful." Furthermore, if the students had to buy the materials with their own money, the experience would be even more "purposeful." Obviously, the "trick" is for teachers to be able to select experiences that are not only direct but also have purpose for students. Without doubt, the former (direct) is easier to accomplish than the latter (purpose for students).

The reshaping of experiential education is just that a new shape is not necessary. We must simply return experiential education to its original shape. And that shape is one that emphasizes directness and purpose of experiences. "Directness" means both "something you can get your hands on, something you can sink your teeth into" (p. 42, Dale, 1954) and related to the subject matter taught. Similarly, "purposeful" means both that the students can "see" the purpose of the activity — that they have responsibility for the outcome — and that the purpose is "thought through" by the teacher — that it is for the purpose of extending, reinforcing, studying in-depth, enriching, practicing classroom

(Text continued on page 22)

AGRISCIENCE 311 - AGRIBUSINESS MANAGEMENT AND MARKETING

POINTS	
	A. Examine Agribusiness Management and Its Importance
80	1. Train for and/or participate in a contest related to agribusiness management.
40	2. Interview a manager of a local business about the duties of a manager.
40	3. Interview a business person about the decision making process.
40	4. Interview a manager of a local farm or agribusiness about the value of setting goals and objectives.
30	5. Write an essay on the importance of agriculture to the local economy.
30	6. Write a set of goals and objectives for an agribusiness.
30	7. Chart the decision-making process for a specific agriculture problem (Ex: feeding program).
30	8. Develop a scrapbook on a specific agribusiness using articles from newspapers or magazines.
20	9. Develop business and financial goals on your production project.
	Other approved Activities:
50	10. _____
50	11. _____
	B. Identify Economic Principles Important to Agribusiness Management
50	1. Research economic systems of two different countries or governments.
40	2. Interview a local agribusiness person regarding effects of supply and demand on the business.
40	3. Give a speech on effects of supply and demand on the profit of an agricultural producer.
40	4. Interview a local business person about basic economic principles used in business.
40	5. Survey the community to determine demand for a particular agricultural product.
30	6. Write a report describing the free enterprise system as it relates to the world of finance.
30	7. Chart supply and demand of a selected product.
30	8. Examine production costs of a selected product and determine those costs that can be reduced to maximize profits.
30	9. Write an essay on the free enterprise system.
	Other Approved Activities:
50	10. _____
50	11. _____
	C. Illustrate the Use of Budgeting in Decision Making
40	1. Develop a budget for an agribusiness. Use fixed and variable costs as they relate to expected profits.
40	2. Develop a budget for an organization.
40	3. Develop a budget for a hypothetical farm or agribusiness.
20	4. Develop a personal budget for a one-month period.
20	5. Develop a partial budget for a project program.
	Other Approved Activities:
50	6. _____
50	7. _____
	D. Analyze Recordkeeping Procedures
50	1. For a hypothetical farm, prepare a balance sheet, income statement, cash flow statement, and financial strength analysis.
40	2. Formulate a cash flow statement, tax record, balance sheet, etc., for your SAEP project.
40	3. Analyze records for a business showing cash flow and production figures.
30	4. Evaluate production records of an agricultural related business.

AGRISCIENCE 334 - EQUINE SCIENCE

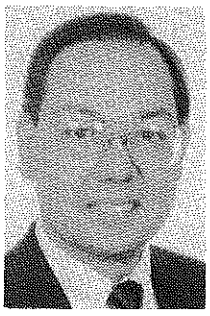
POINTS	
	A Recognize the Importance of Horse Ownership
50	1. Write a newspaper article on your prediction of the role of horses in the future.
40	2. Interview or write a horse owner and ask about obligations and benefits of horse ownership.
40	3. Interview an authority on horse ownership obligations. (Ex: lawyer, humane society representative, veterinarian, etc.)
30	4. Read a book or article on the history of horses. (Ex: Quarter Horses: *A Story of Two Centuries, The Indian and The Horse)*
20	5. Explain the economic importance of horses, or the costs of owning a horse.
	Other Approved Activities:
50	6. _____
50	7. _____
	B. Select Horses According to Use
40	1. Interview a horse rancher about selecting horses according to use.
30	2. Select different horses according to use and discuss their differences.
20	3. Obtain information from a working horse association on selection. Report on selection traits and their importance as related to use.
20	4. Report on the selection of a horse to meet your own needs.
20	5. Collect pictures that show the uses of horses.
	Other Approved Activities:
50	6. _____
50	7. _____
	C. Select Horses Considering Age, Size, Color, and Pedigree
30	1. Make a chart of the teeth of a horse at each stage of development.
30	2. Determine and record the height of a horse in hands and a pony in inches. Explain how and where the measurements are made.
20	3. Visit a horse farm or ranch and photograph and identify different colors of horses.
20	4. Determine and record the age of three different horses.
20	5. Select a horse by only using pedigree and explain your selection.
20	6. Write to the American Quarter Horse Association for the *Breeder's Reference Guide.*
	Other Approved Activities:
50	7. _____
50	8. _____
	D. Evaluate the Conformation of Horses
40	1. Present a speech discussing the selection of horses based on confirmation.
40	2. Interview a horse rancher about confirmation of blemishes and unsoundnesses of horses.
30	3. Illustrate desirable and undesirable conformation.
20	4. Read a current book or article discussing selection of a horse based on confirmation.
20	5. Evaluate the conformation of different horses. Place in order of desirability and discuss your reasons for this placing.
	Other Approved Activities:
50	6. _____
50	7. _____

Figure 2. List of experiences. (Instructional Materials Service, 1989).

(Continued on page 22)

THEME

Reshaping SAE To Provide Experiential Learning in the 1990's



By Jimmy G. Cheek and Larry Arrington

(Dr. Cheek is Professor, Department of Agricultural and Extension Education, University of Florida. Dr. Arrington is Associate Professor, Department of Agricultural and Extension Education, University of Florida.)

The past decade has been a time of reform and rethinking. The Communist world began massive restructuring, the Berlin Wall came tumbling down, and people throughout the world became concerned about issues that heretofore had not been of concern — destruction of the ozone layer, the "Greenhouse" effect, and bio-technology. A crusade to improve education gained momentum during the decade, gaining national attention with the publication of a report called *A Nation at Risk* (National Commission on Excellence in Education, 1983). The report was critical of American education and made numerous recommendations to improve the educational system and process. By the end of the decade the much revered SAT was undergoing revision. In the future the SAT will include an essay, different types of questions, and about 20% of the math questions would not be in the traditional multiple choice format (Toch, 1989).

Likewise, the 1980's was a period of study, refinement, and change in agricultural education. In 1985, the National Academy of Sciences initiated a study of agricultural education in secondary schools which culminated with the publication of *Understanding Agriculture: New Directions for Education* (National Research Council, 1988). Partially as a result of this study, many states renovated or are in the process of renovating the agricultural curriculum in public schools, leaders within the profession called for further reform, and names of the Future Farmers of America (FFA) and supervised occupational experience (SOE) program were changed.

When reform is undertaken, the fundamental "truths" within a discipline emerge and usually become central in the restructuring effort. This was certainly the case with respect to SOE. Some of these fundamental "truths" that emerged from the National Council study were that all students should participate in worthwhile SOEs while enrolled in agricultural education, a broader range of SOEs should be encouraged, and emphasis should be placed on experience and entrepreneurship, not only on the occupation. The importance of experiential learning was emphasized not only in SOE but in the total curriculum.

Experiential Learning is More Than SAE

Experiential learning is interwoven into the very fabric of agricultural education. The basic problem solving teaching model used in agricultural education includes preparation, presentation, application and evaluation. According to this instructional model, once a subject has been taught, the material learned should be applied. Application may occur in the classroom, agricultural mechanics laboratory, greenhouse, or with a homework assignment. Following a unit on marketing, teachers might have their students apply what was learned by selecting a commodity of interest and develop a marketing strategy or role play the process of selling agricultural products.

One of the major methods used to provide experiential learning is SAE. The name change from SOE to SAE was significant, and provided the basis for further defining what supervised experience should be and could be. SAE not only involves occupational experiences but also includes non-occupational agricultural awareness and exploratory experiences. SAE is defined as all of the agricultural, both occupational and non-occupational, activities of educational value conducted by students outside of the class setting where students apply the knowledge, skills, and attitudes that have been learned in the instructional program and where supervision is provided by parents, employers, teachers, and others. SAE is the principle way students "learn by doing" in agricultural education. This article deals with some of the ways SAE can be expanded to provide additional experiential learning activities for students.

Why Experiential Learning

The value of experiential learning in agricultural education has long been recognized as an important part of the educational process. The reason for this is that through practice and experience students apply what they have learned in real situations, thus the material becomes understandable and usable. Moreover, in the process of gaining experience new problems and situations arise causing learners to seek additional information and new ways of applying what they have learned.

Experience provides relevance to the educational process. Dewey (1916) stated: "An ounce of experience is better than a ton of theory simply because it is only in experience that any theory has a vital and verifiable significance" (p. 109). Dale (1946) used the "Cone of experience" to explain the

inter-relationships of various learning experiences to their abstractness or directness. He classified the "doing" experiences as direct experiences, contrived experiences, and dramatic participation and indicated that these experiences were the "bed-rock" of all education.

When using experiential learning, students must practice in real situations, model appropriate behaviors and procedures, and receive appropriate feedback and reinforcement. Also, there should be a lapse of time between practices so that students are put in a situation where they must think as they apply their knowledge to various situations.

Is SAE An Effective Learning Tool?

If experiential education is an effective way of teaching, is there any empirical evidence that SAE influences student achievement in vocational agriculture? Yes, there is solid evidence that SAE influences student achievement.

SOE's importance to secondary vocational agriculture programs was evident in a study completed by Neavill (1973), who found that tenth grade students who had agricultural mechanics, livestock, crop, or soil science projects achieved a higher level of mastery on criterion-referenced tests. Similar studies by McGhee and Cheek (1988) and Cheek and McGhee (1985) found that ninth and tenth grade students with a supervised occupational experience project had significantly higher mean achievement test scores than students who indicated that they did not.

Morton (1978) compared supervised occupational experience scope and achievement using a multiple-choice test designed to measure technical knowledge of agriculture. We found that even when the effects of scholastic aptitude, opportunity, year in school, and instructor project visits were statistically controlled, supervised occupational experience scope was positively related to learning.

Two similar studies conducted in Florida produced results consistent with Morton (1978). Arrington and Cheek (1988) found that for ninth graders, as participation in SOE increased, achievement test scores increased. Noxel and Cheek (1988) had identical results with eleventh and twelfth grade ornamental horticulture students.

The effectiveness of SAE activities for middle school and junior high school students has not been investigated. However, it seems logical that SAE would also be effective at increasing learning at these grades as well.

Innovative Ideas for Using SAE for Experiential Learning

The National Research Council (1988) recognized the importance of supervised occupational experience programs and identified several common characteristics of high-quality SOEs. These SOEs were characterized by involved teachers, planned experiences, adequate resources, and student placement in agribusiness and on commercial farms. Furthermore, it was recommended that a broader range of SOEs be encouraged.

Traditionally, vocational agriculture students have been encouraged to participate in experience programs related to production agriculture or agribusiness. There is a need to think beyond these traditional experiential learning activities. Of particular importance is the need to provide experiences in areas related to biotechnology, food science, marketing, communications, the environment, and exploratory programs.

BIOTECHNOLOGY

Providing experiential learning related to biotechnology will require different and creative thinking. There are examples of programs that have done an outstanding job in this area. One example is a program that is able to place students in a local university agricultural experiment station to work on biotechnological experiments. Many private companies and private laboratories use biotechnology and could provide an opportunity for students to receive experience. For example, a student could work in a tree nursery where the breeding of new varieties is occurring. In some communities, non-agricultural laboratories may have to be used to provide experience related to biotechnology. Local Cooperative Extension agents may be a good resource for identifying possible sites.

FOOD SCIENCE

A common site for food science experience in Florida has been citrus processing plants. Many of these experiences have been related to the handling of citrus rather than the food science behind the industry. Efforts should focus on actively seeking experiences with the testing, processing, storage, and quality control related to these products. Product research and new product development are also areas for potential experiences.

Another acceptable activity may be to have students work with government agencies involved in testing and regulating food products.

MARKETING

Many students have received experience at state or local farmers' markets. However, have students received experiences that demonstrate the international nature of agricultural marketing? One way to provide this experience would be to work with a local broker to develop an understanding of commodities trading. Many commodity organizations and state farm bureaus actively seek new international markets and could assist in understanding this process. Another area might involve having students observe and work with agribusiness marketing cooperatives.

COMMUNICATION

Communication has not traditionally been recognized as an area for SAE. Information careers are one of the fastest growing sectors of employment in the United States. Students interested in a career in agricultural education may need to spend time working with a local Cooperative Extension agent or assisting an elementary teacher prepare lessons and experiences related to agriculture. Students interested in working in broadcasting or written media could work at a local radio station or local newspaper. Another idea would be for students to serve as the agricultural editor of a school newspaper. Attending and participating in a local public speaking short course sponsored by a civic organization or a church would be another appropriate activity.

ENVIRONMENT

In many states, no issue is hotter than the environment and it's relationship to agriculture. Water shortages, groundwater pollution, surface water pollution, and solid waste management are just a few examples. Experience programs

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THEME

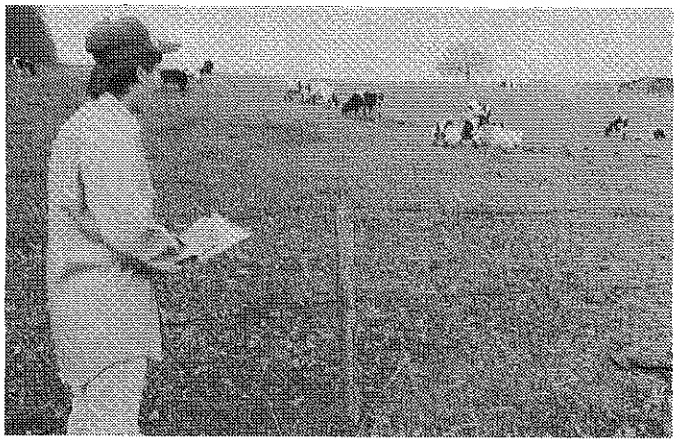
Supervised Experience Record Keeping
A La Carte or House Special?

By David E. Hall

(Mr. Hall is Instructor, Department of Agricultural and Extension Education, The Pennsylvania State University.)

Agricultural education is changing across the country and indeed it must. Program content, clientele and delivery systems are far different from those of only a few years ago. Have our Supervised Experience record keeping systems changed with the times, or are we only offering a record book that was developed for farm boys who took vocational agriculture earlier in this century?

The types of record keeping skills needed by our program graduates have not changed drastically. The applications of those skills are very different from those of the past. A few years ago record keeping on aqualculture, hydroponics, or biotechnology was virtually unheard of and certainly not widely encouraged. Today, these areas are covered within the diversity of agriculture and offer very viable Supervised Experiences. If we are going to support the need for Supervised Experience for all students of agriculture, we must adapt our record keeping systems to include emerging areas without ignoring the traditional ones.



Record keeping for traditional types of production experiences needs to be continued. The system needs to be specific to the area of production.

What is the Need for Supervised Experience Record Keeping?

The need to teach agri-management competencies, including many of the skills needed to keep accurate records, is greater today than ever before in the history of agriculture. Because of agriculture's complexity, rapid change, and a global market, record keeping today may be the single greatest competency area that should be taught to agriculture students.

Students of agriculture need to have a working understanding of basic record keeping. The students' comprehension and use of record keeping should include the areas of agreements, inventories, budgeting, financial accounting, labor records, and records of analysis. These areas always have been essential components of any good record keeping system. Such components will continue to be the mainstays of all quality Supervised Experience record keeping systems.

What Kinds of Experience Records Do We Need?

Supervised experience record systems should be:

Simple to teach and learn.

Adaptable to special agricultural programs and to individual students in those programs.

Easy to keep, correct, and use.

Agricultural education leaders in Pennsylvania have cooperated with agricultural education teachers in their state to produce a record keeping system that meets the needs of students with "traditional" projects as well as the needs of students in "emerging" areas.

Simple

The system is designed to be simplistic in that agricultural education teachers teach the same record keeping skills to all of their students regardless of students' experience program.

All students keep records on their agricultural career explorations, personal characteristics, and program plans. They also have a common summary and leadership recording section.

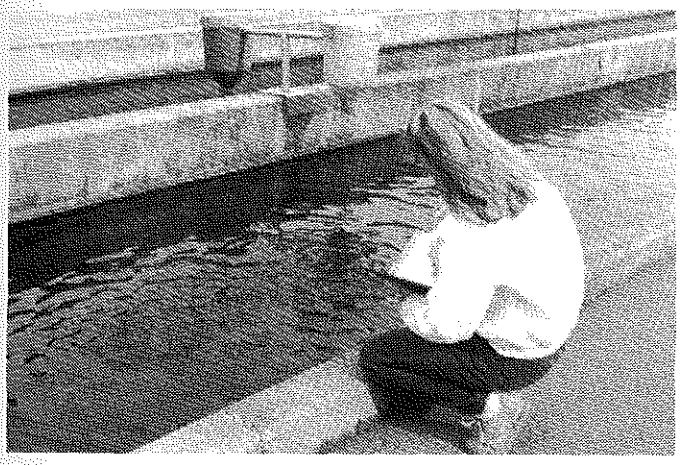
Agriscience and Supervised Experiences dealing with research in agriculture need to be included in the record keeping system.

Adaptable

Every enterprise, whether production, placement, directed laboratory, or explorational research, is kept as a separate section in the system. This allows the system to be adaptable to the needs of a specialized program and the special needs of students within any program. The system is designed to be kept in a three-ring notebook to allow students to add as many enterprise sections as needed. These may be any combination of enterprises. The forms provide a wide range of adaptability, even allowing students to accurately record "non cash" and "transfer" types of transactions. The make-up of the system allows slow learners or educationally disadvantaged students to excel as well as challenge the most advanced academic students who are appearing in many of our science-based programs.

Easy

The system is easy for students to keep, easy for teachers to correct, and easy to see in relationship to awards, degrees, scholarships, tax forms, or other applications.



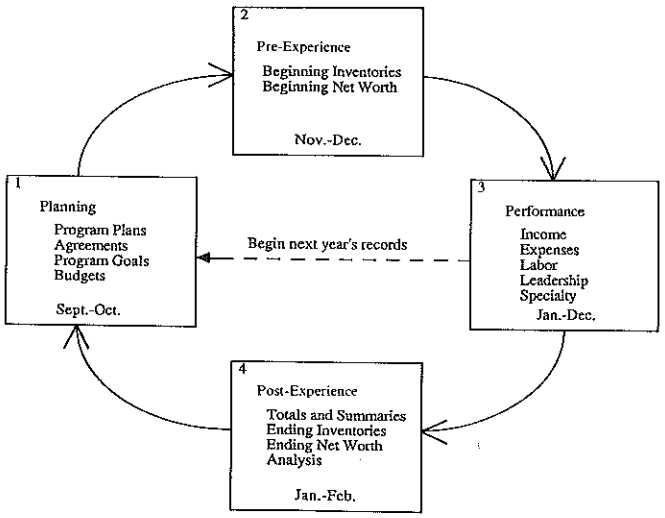
Emerging technologies in agriculture such as aquaculture need to be provided for within any record keeping system.

How Should Record Keeping Be Taught?

Record keeping skills should be taught in the same fashion that a good meal is consumed — not in one gulp, but in a series of complementary servings. Most students of agriculture will be turned off to record keeping if they are overwhelmed. Comparatively, when the topic is approached as a series of parts, each simple yet functional, the complexity does not seem as great. Most record systems keep records on a calendar year. This offers real advantages to teachers who teach students on a year-round basis.

Starting in the fall, time can be spent teaching students how to keep records before they open their first set of records in January. This same approach should be used by students for the actual keeping of their records. Record keeping systems need to facilitate the following four areas, or dishes of the record keeping meal: 1 - Planning, 2 - Pre Experience, 3 - Performance (conducting experience), and 4 - Post Experience. A record keeping instructional model that can be used in teaching year-round students is presented in Figure 1.

Figure 1:
Model for Teaching Record Keeping to Year-Round Students



The approach to teaching record keeping becomes more difficult when students are enrolled in agricultural education programs on a semester or other grading period basis. However, the essential steps must be taught, but in a compressed manner. Figure 2 presents a linear model for teaching record keeping to students enrolled for a semester of agricultural education. A similar model could be used for other time periods.

Figure 2: Linear Model for Teaching Record Keeping to Semester Students

Week 1

1 Planning
- Program Plans
- Agreements
- Program Goals
- Budgets

2 Pre-Experience
- Beginning Inventories
- Beginning Net Worth

3 Performance
- Income
- Expenses
- Labor
- Leadership
- Specialty

4 Post-Experience
- Total and Summaries
- Ending Inventories
- Ending Net Worth
- Analysis

Week 18

(Continued on page 16)

Supervised Experience Record Keeping A La Carte or House Special?

(Continued from page 15)

Regardless of the length of students' classroom involvement, record keeping should be taught as a logical series of skills. The length of time used to facilitate the record keeping instruction and the actual keeping of records will be dictated by the time students are enrolled in the agricultural education program.

Who Needs Record Keeping?

The answer to who needs record keeping always has been and always will be . . . everyone. Whether a person is an entrepreneur or works for someone else, this individual must, in our present capitalistic society, possess a certain degree of efficiency in record keeping skills. Profits are made on good management decisions. Businesses of all kinds, but especially those of an agricultural venture, must rely on accurate records to direct and influence those management decisions. The more accurate and complicated the records, the more usable information that is available for students to use in making sound decisions.

Records need to be usable. Advisory council members could evaluate record books as part of an application for awards.

Summary

Recorded keeping systems need to be flexible and reflect the variety of experiences prevalent in our progressive agricultural education programs. We should allow students to select from the A LA CARTE menu instead of requiring them to have the HOUSE SPECIAL when it comes to record keeping.

Teaching Tips Organizing For Cooperation

(Continued from page 8)

(1) Brandt, Ronald S., ed. 1990. Cooperative Learning. Educational Leadership. 47 (4):4-66.

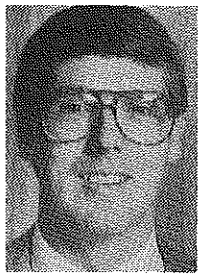
(2) Cangelosi, James S. 1984. Cooperation in the Classroom. National Education Association, Washington, D.C.

(3) Dishon, Dee and O'Leary, Pat W. 1984. A Guidebook for Cooperative Learning: A Technique for Creating More Effective Schools. Learning Publications, Inc., Holmes Beach, Florida.

(4) Johnson, David W. and Johnson, Roger T. 1987. Learning Together and Alone. Prentice-Hall, Inc., Englewood Cliffs, New Jersey.

(5) Slavin, Robert E. 1987. Cooperative Learning: Student Teams. National Education Association, Washington, D.C.

Focus on the Future: Reshaping Experience Programs



By Bob R. Stewart and Bob Birkenholz

(Dr. Stewart is Professor and Coordinator, Department of Practical Arts and Vocational-Technical Education, University of Missouri-Columbia. Dr. Birkenholz is Assistant Professor, Department of Practical Arts and Vocational-Technical Education, University of Missouri-Columbia.)

Programs of agriculture in secondary schools have been undergoing major changes during the past several years. These programs have been affected by many external forces and program leaders have made important and far-reaching decisions which have altered the nature of programs. Declines in the number of persons involved in full-time production agriculture, increases in the service industries, and a relatively weak economic climate in agriculture have promoted many teachers to re-examine the structure and content of their programs.

Since its inception, the supervised experience component, (i.e. supervised farming program or home project as it was previously called), has been an integral part of secondary agricultural education programs. In fact, this aspect of the program pre-dates the more visible FFA/leadership development component. When the FFA was first organized, supervised experience programs were necessary in order for members to achieve degrees and to receive awards. However, many persons interested in agricultural education are now examining the role of the supervised experience component of the agricultural education program.

Student follow-up data indicate that program graduates are less homogeneous today than they were 15-20 years ago. More students are choosing to continue their education beyond high school. Although fewer students are employed (or self-employed) in production agriculture, more are finding productive and satisfying careers in a variety of fields in agribusiness, horticulture, forestry, and natural resources. These observations should lead agricultural educators to conclude that corresponding changes should also be made in the programs provided to prepare students to become productive and contributing members of our society. Do our historically-valued, production-oriented, supervised experience programs contribute sufficiently to the preparation of students for future careers in agriculture? The answer to this question is not clear.

Teachers in some states have asked if it is appropriate to require all students to complete a supervised experience program. For some students, supervised experience programs have been presented as optional activities to consider as with athletics and music. Other teachers have suggested maintaining our ties to traditional views of SOE in order that we not "throw the baby out with the bath water" in this year of rapid change. After analyzing the intent and the expected benefits of quality supervised experience programs, one might conclude that myopic views at either extreme are undesirable. Therefore, in order to modernize our programs without sacrificing traditional values, we should examine how to adjust the experience-based component of secondary agricultural education to meet the needs of a more heterogeneous students clientele.

In Missouri, agricultural educators have begun to examine the rationale for including supervised experiences for students who enroll in agricultural education courses in secondary schools. A 1985 conference titled "shaping the Future in Agricultural Education" was attended by agricultural industry representatives, legislators, teachers, teacher educators, state supervisors, educational administrators, and students. Those in attendance at the conference noted that supervised experience should continue to be an important part of agricultural education programs. However, it was recommended that changes be made in the implementation and administration of this phase of agricultural education programs. In Missouri, we have been working for three years to implement such program modifications.

One major activity which was critical for teacher acceptance, involved the development of criteria which can be applied to a variety of situations to assess the acceptability of any project as part of a student's Supervised Agricultural Experience Program. Teachers enrolled in a graduate course at the University of Missouri-Columbia titled, "Planning Programs of Supervised Experience in Agricultural Occupations," during the summer session, 1989 developed the following criteria (which were adopted by the Joint State Staff in Agricultural Education) as a guide to help teachers identify appropriate SAE's for their students.

Criteria for SAE Programs

The SAE program will consist of one or more projects which meet the following criteria:

1. SUPERVISED — Does the project plan include supervision by the teacher and parents (guardian), and/or employer?
2. AGRICULTURAL — Is the project in an area related to agriculture?

(Continued on page 18)

Focus on the Future: Reshaping Experience Programs

(Continued from page 17)

3. EXPERIENCE — Does the project include practical, hands-on activities?
4. PROGRAM — Do the planned activities include record keeping and expansion?
5. INSTRUCTION — Will related instruction be provided?
6. TIME — Will the activity be conducted outside of class time?
7. ECONOMIC BASE — Does the activity have the potential to contribute to family living now or in the future?

Projects or activities which meet the above criteria would be considered appropriate, and when viewed collectively would constitute an SAE Program for secondary agriculture students. However, these criteria alone are not the panacea. Teachers must examine the needs of each student and the opportunities that are available. It is important to recognize that the initial projects undertaken by some students may not fully comply with each of the above criteria. Subsequent planning sessions and supervision may provide opportunities to expand the scope and complexity of experience programs to increase the benefits for each individual student. Therefore, these criteria should be viewed as targets rather than minimum standards.

Supervised experience programs have also been viewed with skepticism by some students, counselors, and parents. For some, this perception may have been a barrier to student enrollment and participation in the agricultural education program. The following guidelines are also suggested as teachers work with students in planning and conducting appropriate supervised experience projects.

Suggested Guidelines

1. Students do not need to have an SAE project *prior to enrolling* in an agriculture course.
2. Each student (with the teacher's assistance) will identify an SAE project during the first quarter of the school year.
3. The SAEP will be related to the student's agricultural interest or to the courses which the student is or will be enrolled.
4. The experience program will be agreed to by the student, parents (guardian), teacher, and employer (if applicable).
5. The teacher of agriculture will be responsible for the supervision of the SAEP. Each student should receive four SAEP visits per year *or* each teacher should make at least 180 visits per year.
6. The SAEP for each student should be based on their individual needs and the experiences available. It is expected that as the student progresses from grades nine through twelve that the experiences will become progressively more challenging.
7. Students will be instructed about how to keep accounting, instructional and leadership records. Students will also be expected to keep records of their SAEP which will be a factor in assigning their course grade.

These guidelines provide the basis for including experience programs as an integral part of secondary agricultural education. The primary justification for encouraging students to conduct such programs relates to the unique educational opportunities which are created and cannot be duplicated in a classroom situation. Additionally, agriculture teachers need to rise above a hierarchial view of experience programs which have traditionally placed production agriculture projects at the top of the pyramid. The quality of experience programs should be judged on the quality and variety of experiences received by the student and less on the targeted enterprise. Also, teachers need to re-examine the importance of economic gain as a measure of the quality of experience programs.

The question arises, "Is income more important than experience?" Most teachers find income to be an excellent motivator for high school students; however, from an educational perspective the experience gained by students should receive a higher priority. Conversely, all other factors remaining equal, the opportunity for students to earn money is desirable.

In Missouri we will continue to expect students enrolled in secondary agriculture to conduct supervised experience programs, but they do not need to have projects identified prior to enrollment. Rather, we will expect the teacher to take the initiative to work with students and parents to develop an appropriate program which expands in focus and scope each year. We believe that supervised experience programs are just as important for today's students as they were when formal agricultural education began.

Agricultural Mechanization The Basics Do Not Change

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is that agricultural mechanics instruction is based upon the application of basic principles and the basics do not change.

These are just a few teaching tactics which emphasize the basic concepts fundamental to agricultural mechanics education. Often times I hear the response that in order to incorporate aspects of technology education into agricultural mechanics programs there is a need for a lot of expensive, high tech teaching equipment. Quite frankly, this is probably not a very promising tactic because we are not focusing upon the basics. As we develop our tactics to implement strategies for the future it is very important that we as educators base our programs upon the basics. Agricultural mechanics is based upon the fundamental laws of the physical sciences and in order to be competitive we need to get back to the basics and the basics do not change.

THEME

Experiential Learning: A Matter of Style

By Tim Rollins

(Dr. Rollins is Assistant Professor, Department of Agricultural and Extension Education, The Pennsylvania State University.)

Marty is one of your FFA chapter officers and relishes working in the repair shop of the local implement dealer for his supervised agricultural experience project. David, who is Marty's buddy and one of the top academic students in your high school, is a computer hacker and works at the local feed and supply store for his agricultural experience project. Why does Linda work in the garden center of a large retail department store designing landscapes and helping customers select landscape materials and supplies for her agricultural experience project? Linda's closest friend, Rebecca, raises game birds for a sportsman's hunting club! What might explain the differences between these experiential learning projects that Marty, David, Linda, and Rebecca have chosen?

Some of the same characteristics these four students exhibit in their supervised agricultural experiences provide a common thread that runs throughout all students, including your agricultural science students. These characteristics are individual preferences for learning and can be described as "learning styles." In your effort to help students develop skills and master knowledge, you are challenged by students with a wide variety of learning styles. Knowledge about learning styles is a tool you can use to improve not only your classroom instructional program, but also enable you to provide more effective supervised agricultural experience programs. The learning styles of each student are an important consideration that should be considered when you help plan their agricultural experiences projects.

A learning style is the way a student prefers to learn. J.W. Keefe (1982), a noted researcher of learning styles, defined a learning style as "the cognitive, affective, and physiological traits that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment." (p. 87). Collectively these traits characterize how learners typically learn best. But there is no one best learning style. An individual's learning style, simply stated, reflects differences in the way he or she acquires-perceives-, processes-thinks-, and assimilates-learns information.

Knowing the way a student prefers to learn can also be a useful motivational tool. Research suggests that students tend to place themselves in and seek out situations and tasks that allow them to use their preferred learning styles. Let's see if we can describe some of the differences in how Marty, David, Linda, and Rebecca prefer to learn.

Marty learns best using his senses — seeing, touching, hearing, and smelling — and he applies what he learns by using manipulative skills. His motivation to learn comes from being in environments where his senses are fully engaged. Although Marty is quiet, shy and keeps to himself, he is good at checking, inspecting, observing, and performing precise tasks required to be a good tractor mechanic. He likes to know the right way to solve problems when he is troubleshooting a mechanical problem and shows his patience in a steady, established work routine.

David, on the other hand, has a short attention span and becomes restless and impatient while routinely updating the store's computerized inventory. Although David would really prefer to create new programs, his supervisor highly values his creativity and imaginative solutions to problems because David created the software applications for the computerized inventory. His supervisor likes for him to wait on customers too because he is enthusiastic, relaxed, confident, and relates well to customers. David doesn't mind because it gives him an opportunity to exchange ideas and interact with adults which he really enjoys doing in a setting different from high school.

Linda's supervisor in the garden center finds her very decisive, reliable, orderly, and systematic in her work habits but sometimes at the customer's expense. There are times when she is more interested in drawing landscape plans and selecting plant materials to plant than seeing to customers' immediate needs. Although Linda is logical, fair, truthful, and impartial with people, she sometimes tends to treat relationships too casually.

Although Linda causes Rebecca some difficulty in their friendship, Rebecca avoids disharmony and conflict by complying with Linda's wishes. Rebecca takes emotional relationships very seriously and is sympathetic to other people's needs. Rebecca is flexible, tolerant, and easily adapts which is evident by her new occupational experience project. Raising game birds for the hunting club where her father is a member will be her fourth project in less than two years. Rebecca draws upon her past projects for knowledge that she can relate to new experiences. Her father is constantly reminding Rebecca to finish one project before starting another one because he is now caring for her small flock of sheep and the permanent pasture she planted one year ago that now needs to be irrigated and fertilized.

Let's see if what we have learned about the supervised experience projects of Marty, David, Linda, and Rebecca can help you determine their learning styles. How will this help you determine the types of learning experiences your students would prefer in a supervised agricultural experience program? How would a basic understanding of learning styles help improve your effectiveness as a classroom instructor? Can you increase the motivation of these students to

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Experiential Learning: A Matter of Style

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learn more by appealing to their preferred styles of learning? Each of these students has distinct differences in how they prefer to learn. Have you been able to discover the differences?

There are many instruments available to assess student preferences for learning in order to determine their individual learning styles (see Annotated Bibliography). One instrument — the Myers-Briggs Type Indicator (Briggs & Myers, 1977) — contains four separate indices that reflect one of four basic preferences directing the use of an individual's perception and judgment. The four preferences are *Extraversion* or *Introversion; Sensing* perception or *Intuition* perception which reveals basic learning styles differences; *Thinking* judgment or *Feeling* judgment; and *Judgment* or *Perception.* The MBTI provides information about the ways learners prefer to perceive meaning (*sensing vs. intuition* — a cognitive dimension), to express values and commitment (*thinking vs. feeling*), and to interact with the world (*extraversion vs. introversion*) (Keefe, 1982).

According to the Myers-Briggs theory, in a typical classroom of 35 students you could expect to find only 7 students of Marty's type. Marty would be characterized as an *Introverted-Sensing* student who is basically reflective and considers things deeply before acting. He relies on his eyes to tell his mind things which accounts for his need of physical stimulation through his senses. Marty would be inclined to learn more about how an alternator works by tearing it apart than listening to an explanation of reading and studying a diagram.

On the other hand, his best friend, David is an *Extroverted-Intuitive* type. You could expect to find approximately the same number of students like David's type in the typical classroom as you would Marty's type. David relies heavily on people and his surrounding environment for his stimulation as an *extrovert.* That probably accounts for his success with the store's customers. His *intuitive* nature allows his mind to tell his eyes that by computerizing the store's inventory, he could be rewarded with the respect and admiration of his supervisor.

As a *Thinking-Judgment* type, you could expect to find more students of Linda's type than either Marty's or David's types in your classroom. Linda's lack of commitment to the customers' needs is typical of the *thinking* type. She favors the logical types of activities involved in designing a landscape plan more than the illogical human beings she may have to deal with at times. The *judgment* type requires her work habits to be planned and followed to completion. Knowing this about herself would allow her to consciously be aware of these traits. With a little encouragement and reinforcement from you and her supervisor, Linda should be able to become more flexible in her work habits and more understanding of human nature. This should also improve her comradery with Rebecca, her closest friend. Can you describe Rebecca's type?

If you think Rebecca is a *Feeling-Perceptive* type, then you are beginning to understand learning styles. Rebecca's deep commitment to her relationship with Linda is typical of the feeling type. The fact that Rebecca has initiated four different agricultural experience projects in the past two years speaks to her natural resistance to fixed plans, a typical behavior of *perceptive* types. Her intentions were good when she started each of her projects, but she failed to complete them. How might an agriculture instructor knowledgeable of learning styles help Rebecca complete one project?

When high school students enrolled in Iowa agricultural education programs were asked to indicate their perferences for 19 learning activities, their first choice was to learn in laboratories and shop activities. Their second choice was working on group projects with classmates and their third was to follow their own impulses and be flexible. Their two least-favorite preferences were learning by formalized instruction (lectures, teacher assignments, homework) and having to memorize facts (Rollins, 1988).

More than two-thirds of these students preferred the *Sensing* learning style where they rely on experience rather than theory, trust the conventional way of doing things, and prefer to begin from what is known and real. These students need to move step-by-step through a few experiences with their senses as fully engaged as possible. They thrive on established routines, work steadily and patiently and are interested in facts and details. They will seldom use their imagination, prefer experiential and activity-oriented instruction, and prefer doing something with tangible objects rather than listening to what someone is saying. Does this sound like Marty?

Iowa agriculture students overwhelmingly preferred an instructional technique which is unique to agricultural education hands-on-experiences. All of the more conventional instructional techniques — lectures, teacher assignments, and homework — were met with much disfavor. What implication does this fact have for you and your style of teaching?

Research has shown that teachers do not necessarily teach the way they were taught to teach. Rather, teachers have individual learning styles and tend to teach in ways that they learned best. In cases where the teacher's teaching style matches the student's learning style, an ideal teaching-learning environment may exist. If this situation is not present, the student may lack the enthusiasm necessary to motivate themselves to learn. Ultimately it may be necessary for the instructor to devise instructional strategies which take into account different learning styles of those students.

The use of agricultural experience projects to enhance experiential learning for students is yet another tool at the disposal of agricultural instructors. To properly implement and efficiently utilize this strategy requires basic knowledge and understanding of your students' learning styles. Knowing the kinds of learning activities your students prefer will not only maximize their learning potential but will also enhance your effectiveness as a teacher.

References

Briggs, K.C. & Myers, I.B. (1977). *Myers-Briggs Type Indicator* (Form G™. Palo Alto. Consulting Psychologists Press, Inc.

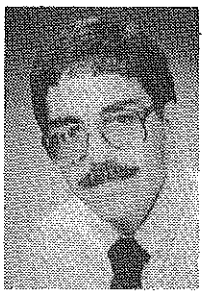
Keefe, J. (1982). *Student Learning Styles and Brain Behavior: Programs Instrumentation Research.* Reston, VA: National Association of Secondary School Principals.

Rollins, T.J. (1988). Level of Critical Thinking of Iowa Secondary Agriculture Students. Unpublished doctoral dissertation. Iowa State University, Ames.

FEATURE COLUMN

Computer Resources Technology

Help For Your Blankety, Blank Reporter



By Nat Jaeggli, Special Editor

(Mr. Jaeggli is Coordinator, California Agricultural Education Computer Network, University of California-Davis.)

How many times have you been successful in getting your chapter reporter to write articles for a local paper or the state/regional FFA newsletter? If you're like most of us, you've tried to assign this as a project. If it's completed at all it's probably too short, or lacking in sufficient detail and proper style necessary for a good news story. If you have been successful, congratulations; if you haven't, there is help for you and your reporter.

Agridata Resources Inc. (ARI) has as part of the AgEd resource file 11 reports taken from the FFA Reporters handbook.

FFA 269	CHAPTER PUBLIC RELATIONS
FFA 316	NEWS RELEASE: BOAC PROJECT
FFA 309	NEWS RELEASE: CHAPTER BANQUET
FFA 310	NEWS RELEASE: CHAPTER MEETINGS
FFA 313	NEWS RELEASE: CONV. DELEGATES
FFA 314	NEWS RELEASE: FAIRS/SHOWS
FFA 312	NEWS RELEASE: JUDGING TEAM
FFA 315	NEWS RELEASE: LEADERSHIP CAMP
FFA 307	NEWS RELEASE: MEMBER OF MONTH
FFA 311	NEWS RELEASE: NEW GREENHANDS
FFA 308	NEWS RELEASE: OFFICERS ELECTED

These files are designed to help you deal with this problem. One report describes the role of an effective reporter, while the other reports are fill-in-the-blank news stories, dealing with such topics as "Judging Field Days," "Fairs and Shows," and "The Annual Chapter Banquet," etc.

By capturing these stories to disk, you can print, edit or use them over again. If you print them out you can have your reporter fill in the blanks, legibly by hand. However you should probably have the reporter retrieve the file using a word processor, then modify the file by entering the specific chapter information. When saving the "new story" to disk, be sure to use a unique file name so they don't overwrite any existing files.

If you aren't an ARI subscriber you may want to create your own fill-in-the-blank stories. Look back in your files for the best news stories about your chapter activities. Select several that represent activities that you will be participating in the near future. Now have your reporter enter the text of these stories and save them as individual files. Next step is to go through and delete all references to dates, times and names of participants of the event. In their place, enter spaces for that information to be filled in later.

Whether you make your own news stories or use ARI's you will be improving the computing and writing skills of your students. After your reporter has used several different "news models" that include all of the necessary elements combined in an interesting style, they will be better prepared to write stories of their own.

Finally, share your own ideas and success with other teachers. Not only will it help to improve your own skills but theirs as well. Dr. Wade Miller and I are anxious to hear from all of your who read this column.

Two Angora Goats

(Continued from page 7)

Conclusion

As a profession, we often take what has been done in the past in regards to projects and pass it on. Oh, we do modify it slightly on occasions. We will change a word such as "farming" to "agricultural" or "occupational," but in the main, we continue what has always been. Today's SAEP does not differ much from the original project idea, the "home-school cooperative plan" formulated by Rufus Stimson in 1908. It is time the agricultural education profession thoughtfully and critically looked at this thing called the project. It needs to be reconceptualized. This treatise is an attempt to get the profession started on that task. Agricultural students of the future will need to learn more from their SAEP than how to raise two Angora goats.

References

Herren, Ray, (1986). Factors associated with the SOEP and career objectives of the 1984 regional and national proficiency award winners. The Journal of the American Association of Teacher Educations in Agriculture. 28 (2), 51-60.

Phipps, L.J. (1966). Handbook on agricultural education in public schools. Danville, IL: Interstate.

Reshaping SAE To Provide Experiential Learning in the 1990's

(Continued from page 13)

related to the environment could be provided with governmental agencies, engineering firms, and local education personnel responsible for teaching the public about water conservation, recycling, and other environmental issues. For example, many local Extension agents are actively involved in re-cycling bio-degradable yard waste. Students could become involved in working with Extension professionals in this re-cycling effort.

EXPLORATORY PROGRAMS

Several states now have formal agricultural education programs at the middle school level. What are appropriate SAE activities for younger students? Students may be required to interview agricultural employees about their job or they may observe agricultural operations. Using directed laboratory experience, there are an unlimited number of possibilities. Students could work on the school land laboratory, greenhouse, agricultural mechanics lab, or other school facililty before school, after school, during study period, or on the weekend. Students could also conduct science fair projects at home as part of their SAE activities. Small production projects may also be appropriate.

Conclusion

The supervised occupationa1 experience program has certainly been an effective method of providing experiential learning experiences to vocational agriculture students. The agricultural educational profession must decide how broad supervised agricultural experience will be and how much is enough. New areas and areas for further development include biotechnology, food science, marketing, communication, environment, and exploratory programs. It may be that all experiences cannot be provided in an agricultural setting.

References

Arrington, L.R., & Cheek, J.G. (1988). STUDENT ACHIEVEMENT IN APPLIED PRINCIPLES OF AGRICULTURAL OCCUPATIONS AND IT'S RELATIONSHIP TO SOE SCOPE. Gainsville, FL: Institute of Food and Agricultural Sciences.

Cheek, J.G. & McGhee, M.B. (1985). Assessment of competencies possessed by students enrolled in applied principles of agribusiness and natural resources education. *The Journal of the American Association of Teacher Educators in Agriculture*. Winter, 26 (1), 55-56.

Dale, E. (1946). AUDIO-VISUAL METHODS IN TEACHING. New York: The Dryden Press, Inc.

Dewey, J. (1916). DEMOCRACY AND EDUCATION. New York: The MacMillion Company.

McGhee, M.B. & Cheek, J.G. (1988). Competencies possessed by students enrolled in fundamentals of agribusiness and natural resources education. JOURNAL OF THE AMERICAN ASSOCIATION OF TEACHER EDUCATORS IN AGRICULTURE. Spring 29 (1), 27-35.

Morton, R. (1978). The relationship between the quality of supervised occupational experience programs and achievement of students in vocational agriculture. Unpublished doctoral dissertation, The Ohio State University, Columbus.

National Commission on Excellence in Education. (1983). A NATION AT RISK: THE IMPERATIVE FOR EDUCATIONAL REFORM. Washington, D.C.: U.S. Government Printing Office.

National Research Council. (1988). *Understanding Agriculture: New Directions for Education*. Washington, D.C.: National Academy Press.

Neavill, A.T. (1975). Criterion-referenced assessment of ninth and tenth grade instruction in agriculture (Doctoral dissertation, The Ohio State University). DISSERTATION ABSTRACTS INTERNATIONAL. 33 5264-B.

Noxel, S.A. & Cheek, J.G. (1988). Relationships of supervised occupational experience programs scope to student achievement in ornamental horticulture. JOURNAL OF THE AMERICAN ASSOCIATION OF TEACHER EDUCATORS IN AGRICULTURE, Winter, *29*, (4) 24-31, 48.

Toch, T. (1989). Putting a new SAT to the test. *U.S. News and World Report*, December 11, *107* (23), 60-63.

Reshaping Experiential Education — What Experiences Are Best?

(Continued from pages 10 and 11)

instruction. Finally, if classroom instruction — course content — is selected carefully and purposefully, then experiential education — direct and purposeful — will occur.

References

Dale, Edgar. 1954. Audio-visual methods in teaching — Revised edition. New York: Holt, Rinehart and Winston, Inc., p. 42-44.

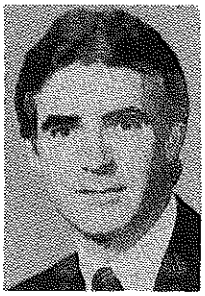
Instructional Materials Service. L989. Supervised agricultural experience program guide for agriscience and agribusiness. College Station: Instructional Materials Service, Department of Agricultural Education, Texas A & M University, 99 pp.

McCormick, Floyd G., David E. Cox, and Glen M. Miller, 1989. Experiential needs of students in agricultural programs. *The Agricultural Education Magazine*. Volume 62, Number 4, p. 10.

McCracken, J. David and Edward F. Darrow. 1989. Supervised practice in the science of agriculture. *The Agricultural Education Magazine*. Volume 62, Number 4, p. 12.

THEME

From Project Method to SAE — Rethinking the Concept



By R. Kirby Barrick

(Dr. Barrick is Professor and Acting Head, Department of Agricultural Education, The Ohio State University and Chair of National Task Force in Supervised Agricultural Experience.)

In the Spring of 1989, The National Council for Vocational and Technical Education in Agriculture approved the appointment of a national task force on supervised agricultural experience. The specific charge to the task force included studying, recommending and developing activities which will result in desirable changes in supervised programs. In effect, the question was posed: Has the supervised experience portion of agricultural education kept pace with the changes in the curriculum?

What Is the Problem?

At first glance, the point could be raised, what is the problem? After all, if there is no problem, then there is no need to rethink the concept of supervised experience. However, research conducted over the past ten years clearly shows that many students do not complete an experience program, some experience programs may not be an extension of the instructional program, and some emerging instructional programs may not lead toward traditionally accepted experience programs. To help give leadership to addressing the problem, the national task force was convened. The Council appointed eight members to the ad hoc group. They represent all parts of the agricultural education program and the United States geographically.

What Are the Duties?

The task force has taken on a major responsibility. Although the home projects concept from the turn of the century has served well, with adaptation, for over 80 years, supervised experience may not have kept pace with the evolution of agricultural education in the public schools. The task force started with the basic question, "What is supervised experience?" and is proceeding from that point.

Goals Developed.

During the initial meeting of the task force in the summer of 1989, three major goals were identified. They include:

Goal 1: To develop an operational definition and rationale for supervised agricultural experience

Goal 2: To enhance a focused commitment of SAE participants to the concept of SAE.

Goal 3: To promote SAE opportunities through greater awareness and incentives.

The goals will serve as the guiding statements for the task force. The council agreed to the goals during its October 1989 meeting, paving the way for the task force to begin its work.

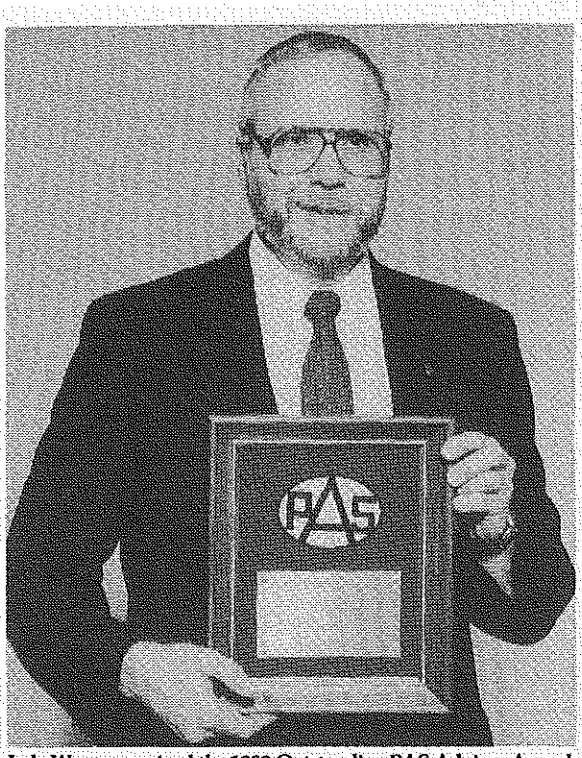
Task Force Activities.

From the goals and major objectives, 25 initial activities have been suggested. The activities are for the task force to conduct itself, direct other interested groups to conduct, or seek participation in some other ways.

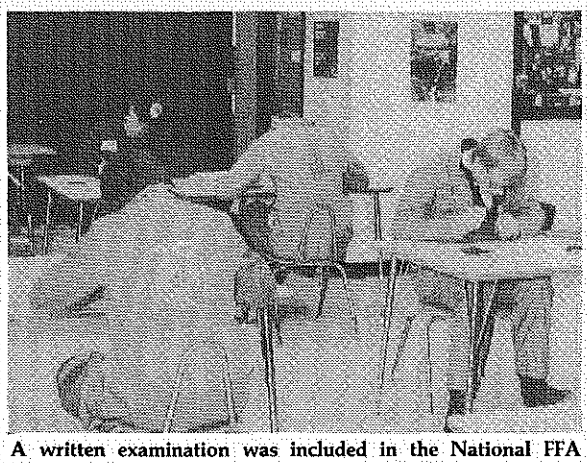
For example, the task force, in the early spring of 1990, began a group of activities that address the status, definition and role of supervised agricultural experience. As those activities near completion, the task force will develop and implement strategies designed to encourage national, state and local review of supervised experience concepts.

The next step, beginning in 1991, will be to move toward implementation. From the development of materials to the sponsorship of state, regional and national conferences, the profession in its entirety will be encouraged to effect the needed change. The task force welcomes suggestions from all of agricultural education. The philosophical tenets of supervised experiences must be rethought so that modern programs of agricultural education preserve the concept through appropriate activities.

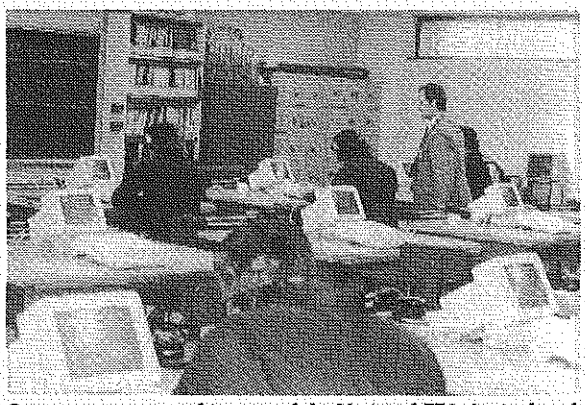
Stories in Pictures



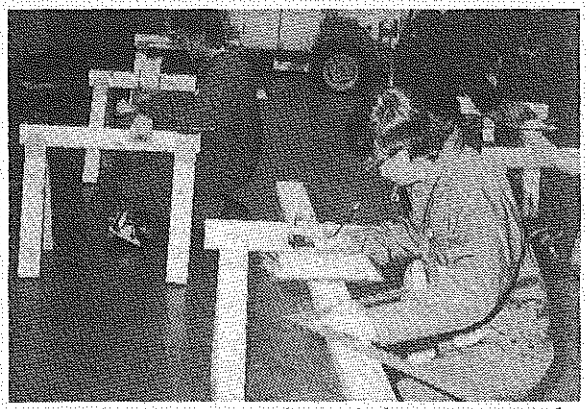
Lyle Warner received the 1989 Outstanding PAS Advisor Award, honoring his efforts to provide that "extra" in making PAS worthwhile and special for students in agriculture. The Outstanding Advisor Award is sponsored by the National Vocational Agricultural Teachers Association. Lyle teaches agribusiness and advises the PAS chapter at Bismarck State College, North Dakota. (Photo courtesy of PAS)



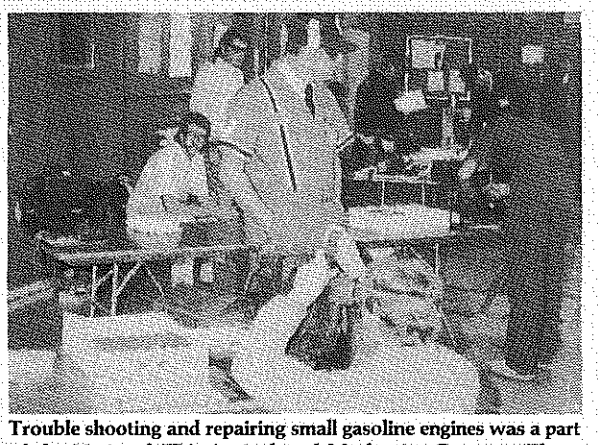
A written examination was included in the National FFA Agricultural Mechanics Contest. (Photo courtesy of Dr. Glen Miller, University of Arizona.)



Computers were used in part of the National FFA Agricultural Mechanics Contest. (Photo courtesy of Dr. Glen Miller, University of Arizona.)



A practical problem requiring the use of a framing square is solved by contestants in National FFA Agricultural Mechanics Contest. (Photo courtesy of Dr. Glen Miller, University of Arizona.)



Trouble shooting and repairing small gasoline engines was a part of the National FFA Agricultural Mechanics Contest. (Photo courtesy of Dr. Glen Miller, University of Arizona.)