The
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Magazine

December, 1991
Volume 64
Number 6

Application Through Experience

THEME: Supervised Experience

THE
AGRICULTURAL EDUCATION
MAGAZINE

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ARTICLE SUBMISSION

Articles and photographs should be submitted to the Editor, Regional Editors, or Special Editors. Items to be considered for publication should be submitted at least 90 days prior to the date of issue intended for the article or photograph. All submissions will be acknowledged by the Editor. No items are returned unless accompanied by a written request. Articles should be typed, double-spaced, and include information about the author(s). Two copies of articles should be submitted. A recent photograph should accompany an article unless one is on file with the Editor.

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From Torpedoes To Revolution

By Phillip R. Zurbrick, Editor

(Dr. Zurbrick is Professor, Department of Agricultural Education, The University of Arizona.)

This is the thirty-sixth edition of the "Editor's Page" printed under the editorship of PRZ. It started with "Damn the Torpedoes, Full Speed Ahead" (Feb., 1988) and ended with "Revolution In Agricultural Education" (Nov., 1991). The hat has been doffed and is now replaced. The span of three years has included some truly significant events in the evolution of vocational agriculture to agricultural education. Such memorable events as the First National Summit on Agricultural Education and the signing of the National Strategic Plan have occurred in the past three years. I believe it is fair and accurate to say that agricultural education has moved forward and is considerably different today than it was on September 13, 1988, the day the National Research Council (1988) report "Understanding Agriculture, New Directions For Education" was released. The agricultural education profession has progressed to the point of embracing the idea of an expanded mission making agricultural education more than vocational agriculture. While there is still much work to be done before the new mission is in fact reality, there is little likelihood that it will ever turn back.

The Agricultural Education Magazine has taken a number of editorial stances that may have been considered controversial and even perhaps "far out" by some readers. The themes addressed during the past three years have attempted to focus on "leading edge" issues selected to keep the profession "green and growing" while retaining the "bedrock values" which have made agricultural education the stalwart program in **all** of public school education.

Some of the editorials have been written "tongue in cheek" and others have been written with all of the conviction and compassion one individual could muster. In other words, those editorials came from the heart! *The Magazine* has taken a steadfast editorial stand that Supervised Experience (S.E.) as used in agricultural education is more than either SOE or SAE, and that the two terms are **not** the same. Many authors were no doubt shocked to find their articles drastically altered when they wrote about SAE and it was printed as SOE! This was not a typesetting error, it was a reflection of the editor's belief.

The profession needs desperately to recognize that both SAE and SOE are essential components of an expanded mission for agricultural education encompassing programs "for" and "about" agriculture. By editorial policy, SAE was defined as non-occupational supervised experience in agriculture. Logically, the use of SAE is extremely important for students in non-vocational agriculture courses or programs. The use of SOE for students in programs designed to develop occupational competence in agriculture is far superior and more appropriate than is the use of SAE. Both SAE and SOE are forms of Supervised Experience utilizing participatory experience under supervision with an educational objective.

Those individuals or agencies that have not or cannot distinguish between SAE and SOE are demonstrating a lack of professional understanding or commitment to this essential component of the agricultural education program. Those who blindly change the name of Supervised Occupational Experience to Supervised Agricultural Experience have failed to provide leadership to the profession. The National FFA Organization is certainly guilty of this failure in terms of leadership provided.

It is easy to develop a crusading editor's mentality while serving as the Editor of *The Magazine*. It becomes both a challenge and a heady responsibility to come up with a new topic or idea for each copy of the "Editor's Page." It is both challenging and enjoyable to spew forth "fire and brimstone" in a manner and style that will move the reader. To those who were offended, let me assure you the intent was to strengthen and not desecrate. To those half dozen or so individuals who took the time to respond or comment, let me thank you.

There are many challenges that remain to be dealt with and new ones that will develop as the profession moves forward. The need for leadership cannot be overstated. It is crucial! I urge everyone to consider how they might contribute to an enhanced program of education in agriculture. You are never too young nor too old to provide leadership.

As the editor's pen so swiftly slips from my grasp, I would like to share with those who care the last two stanzas of a western poem written by Leon Flick (1990) entitled, "Go and Just Buckaroo." This little ditty was provided to me by a valued colleague. It seems to say it all!

For the East runs this land, and they don't understand
About cows or our points of view.
They don't even care if they're playin' square,
or care 'about some lost buckaroo.

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THEME

It Is Time To Stop Quibbling Over The Acronym

By David E. Cox, Theme Editor

(Dr. Cox is Associate Professor, Department of Agricultural Education, The University of Arizona.)

Much discussion has ensued over the past two to three years regarding changes in Agricultural Education. Responses to the seminar report issued in 1988 by the Committee on Agricultural Education in Secondary Schools entitled Understanding Agriculture - New Directions for Education have been varied. The Strategic Plan establishes a framework for program modification as the profession moves toward the next century. Various states have made programmatic changes in response to the above documents. A variety of articles have appeared in the pages of this publication which illustrate the diversity of change with respect to the design and delivery of agricultural education. These changes deal with content of curriculum, course sequencing in programs, changes in the FFA, provisions to broaden experience programs for students, and the emphasis upon and visibility given to the science of agriculture. A question arises though, as to the depth and substance of those changes. We have observed and even participated in, at varying degrees, the changing of names of the major components of the instructional program in agricultural education.

Name Change

Name change in relation to the supervised experience program component is an example. The term Supervised Agricultural Experience (SAE) is being used in a manner which implies it is the terminology of choice when describing the experiential education component of agricultural education. One may surmise that, along with the elimination of the term "vocational" agriculture, the occupational emphasis of the program is reduced by the elimination of the term Supervised Occupational Experience (SOE). The simple replacement of the word "occupational" by the word "agricultural" allows one to conclude that experience programs no longer have (or require) an occupational focus. Is the intent of such a change to modify the focus of the experiential education component, or only an attempt to improve and update the image of this essential part of the instructional program? The profession must guard against a simplistic nominal change designed to impact image which, when implemented, affects program philosophy and delivery. Perhaps too much has been made in this and other articles with respect to the terminology utilized to describe the experiential educationl program component. As practitioners, we must be more concerned with the purpose, quality and outcomes of the experience programs, than the jargon used to identify them.

Purpose of Experience

A re-examination of and re-dedication to the purpose of experience programs may be in order. Agricultural education has a long and rich history of utilizing an experiential education program component. Dating from the days of the "Supervised Farming Programs" to the current "Supervised Agricultural Experience Programs," two educationally sound principles have been constant. Those principles are the "supervised" nature of the programs and the "experience" nature of the programs. It is not the intent of this article to describe the essentiality of teacher supervision of experience programs. It is understood that such supervision is vital and obligatory to the role of an agricultural educator. Rather, it is the intent of this article to stimulate the examination of and dedication to the experiential nature of those supervised experience programs.

The Uniqueness

As one gives thought to the rich history of this profession, a constant and recurring phenomenon exists, which has made vocational education in agriculture unique in the realm of education. The uniqueness of agricultural education is explained by our emphasis upon "application" of subject matter to real life (occupational/vocational) situations, through the supervised experience program. The soundness of this program component as an educational practice is well documented in the literature. The experiential learning model espoused by Kolb (1984) indicates that learning typically is initiated by a concrete experience. Research on preferred learning styles of students in agriculture (Cox et. al., 1988 and Cox, 1988) indicates that perhaps as many as two-thirds to three-fourths of students in agricultural education utilize an "active, practical learning" style. If this is accurate, not only is there an implication for instructional methodologies, but also for the application and continued practice of subject matter, by the student, in a supervised experience program.

The emphasis placed upon application of subject matter is the hallmark of agricultural education and should be celebrated. It would be a professional error for us to

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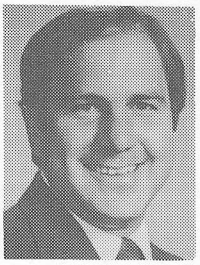
AGRICULTURAL MECHANIZATION
Visions and Choices



By Joe G. Harper

(Dr. Harper is Associate Professor, Department of Agricultural Education, Clemson University.)

Visions and Choices

Where will you be ten years from now? For those of us who will probably still be teaching, what will we be teaching? What will our agricultural mechanics teaching laboratories look like twenty years from now? Will we even be called agricultural mechanics teachers? Have you decided a perception of the future? What is your vision of the future? What choices do you have?

These questions may seem non-productive and probably too philosophical for many of us to devote valuable time to conceptualize a vision of the future, when we seem to have so little influence upon what is happening around us. Actually, the reverse is the reality.

Our abilities as educators to determine the future is dependent upon two fundamental factors. First, do we have realistic perceptions, or visions, of what the future holds? The use of vision as an instructional tool or as a means to increase the possibility of success is by no means a new concept. In athletic activities we use perceptual vision as a means to prepare for the activity. Often times we see ski racers, swimmers, tennis players and other athletes concentrating on visualizing their performance prior to an event. This activity enhances the psychomotor performance in much the same way we use role playing to help students prepare for job interviews. In our agricultural mechanics instruction we use this "visioning" when we teach many different activities such as operating equipment.

Recently I had an opportunity to attend one of those "futuring" seminars which I looked forward to more as a relaxing way to spend a Friday afternoon away from the phone, word processor, and that huge stack of things that should have been done this week, but will have to wait until another week. The seminar seemed to get off to those usual "have you thought about this" starts when before I knew it I was off on a trip without leaving the farm.

The concept presented was that those people who are successful in whatever they pursue, spend time developing a vision of the future. What many of us will be doing twenty years from now is what we now perceive we will be doing. Think about it. Many of the people I work with, and many whom you work with too, are doing exactly what they thought they would be doing twenty years ago. Teaching classes, sitting in a cluttered earth-tone office, going to meetings, and from time to time having a little fun. There is absolutely nothing wrong with the vision, as quite honestly if twenty years from now I can be doing this vision it seems very reassuring and worthwhile. The point is that the vision is not right or wrong, just merely accurate. Think about it.

How many times have we heard people say that they wish their instructional program will exist as it is for just a few more years until they retire, and then "they can do with it as they want"?

Second, is the concept of choices. Not too long ago I heard a business leader respond to the question: "What is the real value of getting an education?" His response was quick and brief. An education does not necessarily make you smarter, happier, richer financially, or any number of the usual responses. He continued by stating that the true value of an education is that education provides you with more **choices.** The better educated you are, the more choices you have to choose from. His point to a high school student was that both he and the student could work in several minimum wage positions, but the student could not work as vice president of a company and he could. The primary difference was the level of education, in this case was much broader than just formal schooling.

As educators, what are our choices? What choices do we have as far as what we teach? or possibly, who we teach? Have we as a discipline over a period of time decreased the number of choices we have, or have we increased those choices? Those who are successful at whatever they choose to pursue are because they had choices, and choose their direction. Do we choose our future, or does someone else choose it for us?

As a practical example, if you have one kind of welding machine, then what are your choices for teaching welding? If we are offering one kind of agricultural mechanics class, then what choices are we providing our students? Furthermore, what choices do we have as teachers? The answer seems to be that if we want to be successful, we need to provide ourselves and our students as many opportunities and choices as we can.

Having a vision of the future and being able to make choices appear to be significant factors for successful teachers and instructional programs. Often times when visiting secondary agricultural mechanics educational

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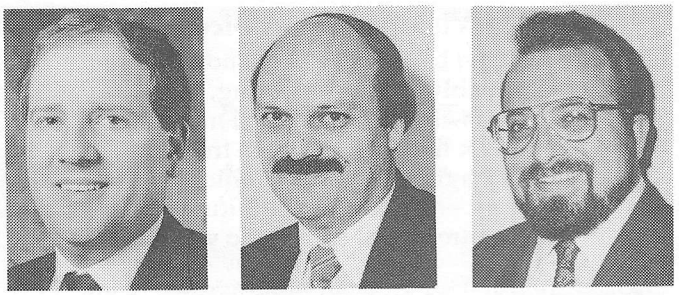
THEME

Information Rich — Experience Poor



By Jack Elliot, Harry N. Boone, and David L. Doerfert

(Dr. Elliot is Assistant Professor, Department of Agricultural and Extension Education, Michigan State University.)

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(Dr. Doerfert is Wisconsin State FFA Advisor and Agricultural Education Consultant, Department of Public Instruction.)

Today we live in an information-rich but experience-poor society (Parnell, 1986). Many educational reform reports encourage programs that apply "basic" concepts using relevant examples or experiences (American Association for the Advancement of Science, 1989; National Research Council, 1988; The National Commission on Excellence in Education, 1983; The National Commission on Secondary Vocational Education, 1985).

Since the early part of this century, supervised experiences (SE) have been an integral part of agricultural education (Boone, Doefert & Elliot, 1987). Supervised experiences have provided students opportunities to plan, budget, make decisions, solve problems, evaluate activities, earn awards, keep accurate records, and provide the valuable agricultural and occupational experiences that make education relevant.

Even within today's information-rich society, it appears that agricultural education programs which are experience-poor exist. Boone, Doefert & Elliot (1987) reported that supervised experience programs are not fully implemented. Two commonly cited reasons for their failure are the low priority of implementing SEs by some teachers and the lack of non-production supervised experiences to meet student needs (Boone, Doefert, & Elliot, 1987; Doerfert, Ellio & Boone, 1989; Miller, 1984; Pals, 1989).

Welfare Reform Is Needed

If in fact agricultural education is experience-poor, then welfare reform is needed, not the welfare of the profession, but rather the welfare of the student. The end results of instruction in agricultural education are to increase the knowledge level both in and about agriculture and prepare students for eventual careers in agriculture.

To achieve these end results and meet the changing needs of agricuture and students, many states are re-examining their agricultural curricula. Many of the resulting changes include: emphasizing science content, developing semester-long rather than year-long courses, creating more non-production course offerings, and offering agricultural courses at the elementary and junior high levels. These steps, in all likelihood, will improve the welfare of the profession, but what of the student?

What is the status of supervised experiences in this reformation process? In many instances supervised experiences have passed unnoticed with the recurring attitude of, "Let's deal with that later."

The objective of supervised experiences is and always has been to make the instruction in an agricultural course practical and relevant to students (Boone, Doerfert & Elliot, 1987; Newcomb, McCracken & Warmbrod, 1986). Phipps and Osborne (1988) wrote: "While classroom experiences develop understanding of principles, genuine understanding and problem solving occur when students are faced with real problem situations that are solved only by the application of principles" (p. 313).

Therefore, even with a revised curriculum that encompasses the many facets of agriculture, the student's welfare continues to be unserved without a supervised experience to allow for the actual application of the principles received from classroom instruction. Why is it then that the incorporation of a high quality supervised experience as part of the curriculum is often overlooked in the reformation process? Often, the decisions to design and conduct supervised experiences which fit the new curriculum are left to the individual agricultural education instructor.

As previously stated, research has shown that many times the agricultural teacher is at the root of the problem of poor quality or non-existent supervised experiences. Perhaps the keys to the problem are that teachers have never been exposed to the procedures of how to develop and conduct high-quality supervised experiences or that examples of contemporary supervised experiences have not been developed.

Supervised Experiences — For Teachers?

Teacher education students are typically expected to apply the principles they receive in their classroom instruction on their own. Does the value of supervised experience end when the high school diploma is received? While personnel in teacher education and state departments of education continue to belabor the

point that supervised experiences are important and should be conducted, little is done to provide teachers actual experiences in conducting supervised experiences.

Do teacher educators spend time role playing supervised experiences in methods courses and student teaching, or is all the time spent on classroom and laboratory methods alone? Do state supervisors spend time with teachers to insure that quality supervised experiences are being conducted, or is quality judged by the number of state degree and proficiency awards submitted? Is the amount of time spent by teacher educators and state supervisors on supervised experiences greater than 10%, or is it less? If supervised experiences are vital to the welfare of the students, why do teacher educators and supervisors spend so little time conducting supervised experiences with our future and current teachers?

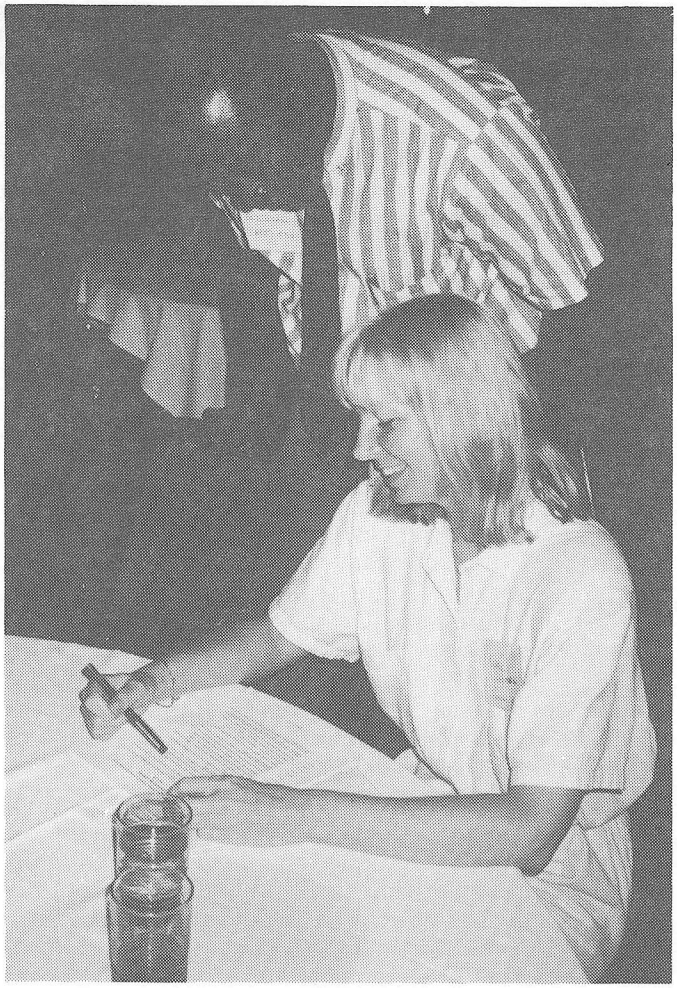
Teachers will more effectively solve the problems of creating relevant supervised experiences for their students if they encounter similar experiences during the pre-service preparation. If agricultural teachers are better prepared to conduct high-quality supervised experiences, won't the welfare of the secondary students be enhanced?

A local and state reward system for teachers who effectively implement innovative supervised experiences is recommended. This diffuser-type of incentive (Rogers, 1983) increases the visibility of conducting innovative, high-quality supervised experiences, thereby encouraging other teachers to adopt the practice. Self gratification is seldom enough reward for the amount of work that is involved in conducting supervised experiences.

Contemporary Supervised Experiences

Secondary teachers of agriculture have a real challenge to reflect the changes in agriculture as they coordinate supervised experience programs to address the needs and interests of today's students within classroom instruction. Today's agricultural education students come from diverse backgrounds. Many students will have little or no agricultural experience when they enter the program and little or no opportunity at home to develop a traditional supervised experience program. Many students in the future will enroll in agricultural courses for only a semester or two. The following examples illustrate supervised experiences that may be adapted to meet the needs of today's students.

1. Students collect water or soil samples to evaluate chemical run-off, safety of drinking water or other potential damage to the environment.
2. Students prepare newspaper articles, public service announcements or radio programs to convey the message of agriculture.
3. Students use skills learned in the classroom on a community service project such as landscaping the area around a nursing home, building a recreational area at a community park or developing a plan to improve the school grounds.
4. Students organize a school cooperative where each student member buys shares in the cooperative. Students can learn marketing, business management, advertisement and record keeping skills as they sell and purchase products. The profits are divided according to shares invested.
5. Students can cooperate with the local lending institutions to organize a local credit association. Students will learn skills in calculating interest, determining loan approvals, and other banking procedures.
6. Students can be encouraged to become entreprenures. Students may establish their own lawn care business, dog grooming or other business operations that utilize skills taught in the classroom.
7. Students may lease a portion of the school greenhouse, nursery, fruit or land laboratory to conduct supervised experience programs in a more traditional agricultural area.
8. All students have the possibility to undertake improvement projects by caring for or upgrading physical facilities at home or with neighbors and relatives.
9. Students develop organizational and record keeping skills as they conduct experiments in the land labs, greenhouses, etc.



Supervised experiences for Michigan Agriscience educators ensure that they are scientifically and technically updated and that they understand the concept of supervised experience. (Photo courtesy of Jack Elliot, Michigan State University)

As supervised experience programs are established for non-traditional students, one should not neglect programs for students with traditional agricultural backgrounds and interests. For those students production enterprises, farm placement, agribusiness placement and research projects may be used to enrich their agricultural education experience (these experiences may be used for non-traditional students also).

The key to successfully using supervised experience programs is to find opportunities that enhance students' agricultural education experiences, experiences that permit students to put into practice the theories learned in the classroom. Approval of supervised experience programs should be based on the educational value of the experience and not on satisfying some traditional standard.

Summary

Supervised experiences remain an important component in contemporary agricultural education programs (Doerfert, Elliot & Boone, 1989; Pals, 1989). Recently, an entire issue (October, 1989) of THE AGRICULTURAL EDUCATION MAGAZINE was devoted to the theme, "SOE For The Future." The messages from the articles echoed the message from the National Research Council's recommendations to broaden the range of SOEs to meet the needs of today's students.

Agricultural education programs once contained an experience-rich supervised experience component. To regain that aspect of the program, dedication and effort by all secondary agricultural education teachers is required. Teacher education programs must contain effective supervised experience components where prospective teachers can learn how to develop, conduct and supervise experience programs. To reach the teachers currently in the field, a massive in-service should be undertaken.

The profession needs to explore non-traditional experience programs that compliment the curriculum that is being taught. If a curriculum is worthy of being taught in our high schools, there are educational experiences the students can conduct under the supervision of their teacher. To successfully implement non-traditional supervised experiences one must not use traditional evaluation standards.

In an information-rich society, obtaining relevant experiences appear as an added bonus in the educational system. Supervised experiences offer an avenue to enrich the information required by today's students and eliminate the poverty that exists through the experience-poor.

Expanding the teachers' hydroponics skills led to an increased number of supervised experiences in the area of hydroponics. (Photo courtesy of Jack Elliot, Michigan State University)

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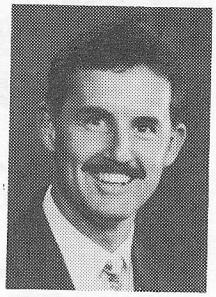
Agricultural Mechanization — Visions and Choices

(Continued from page 5)

programs, the most successful teachers are those who have a clear perception of where their program is going and have a broad range of choices on how to get there. It is always much more reassuring to hear of future plans than to hear, "Well, I haven't had time to think about the future." If this is the case, then the future will be the same as the present. Furthermore, there will be no choices to be made.

As a final thought, do yourself a big favor, and take a few minutes to develop a vision of the future. Think of all those students you will be teaching, what equipment your laboratory will need in five, or maybe ten years, and visualize your laboratory ten years from now. Your vision of the future is the best predictor of the way it will be. The successful teachers and instructional programs of the future will be based upon the visions and choices of the present.

SAE Selection Process: Surrounded by Choices



By Jim Yokum and Kent Boggs

(Mr. Yokum is Assistant State Supervisor/Southwest District Supervisor, Agricultural Education, Oklahoma Department of Vocational and Technical Education.)

(Mr. Boggs is Executive Secretary, Oklahoma FFA, Agricultural Education, Oklahoma Department of Vocational and Technical Education.)

At one point during World War II, General Creighton Abrams and his command were totally surrounded. What was his reaction to this news? "Gentlemen, for the first time in the history of this campaign, we are now in a position to attack the enemy in any direction." To summarize his point, it's not the situation, but the way that we respond that is important!

The situation: Our industry has changed, our curriculum has broadened, our students/clients are more diverse, and our Supervised Agricultural Experience is still looking for a universal definition.

The response: Be proud we are an agricultural youth program, experiment with new options on pre-enrollment schedules, believe there is strength in diversity, and use the National Proficiency Award Program as the basic parameter for SAE guidance.

In our most recent past, SAEs in Oklahoma would most readily be recognized by the term "project," and the project in a majority of situations would be a "show project." The show program provides students an SAE dependent upon the students for its proper care and nurturing. The time honored expectations of skill attainment in the areas of responsibility, financing, record keeping, feeding, housing, general work ethic, caring, and training falls on the shoulder of the student, with support and guidance from the agricultural education teacher and parent. The "show project," with the proper objective can, in many situations, play an integral part in a well-balanced program. As we serve the needs of students in the 1990s, we must look into the future of the 21st century. Students once and twice removed from production agriculture are growing in numbers. These students and their parents have less and less desire to become involved in traditional production-related SAEs.

Student Diversity

If you have been in the profession for any length of time, you have noticed the lack of "agricultural literacy" among our students. Basic agricultural terminology, which the majority of us take for granted, simply does not exist. Gilts tend to be guilts and ewes become yous! A cow is the label for any kind of four-legged bovine, regardless of sex, race, color, or creed! Put simply, this means we are dealing with a totally new breed of student (client). These new students can and will make a contribution to the future of agriculture and the FFA, but they probably do not have a strong tie, if any tie at all, to traditional production agriculture. So far this problem has been confronted by spending too much class time teaching terminology while neglecting new and expanding technology.

We must face the fact that in the future we will serve a new type of student/client. Let us examine some of the agricultural education/vocational agriculture policies and principles that have applied in the past and will continue to apply in the future.

Experience is a Must

The State Board of Vocational and Technical Education in Oklahoma states in its *Policies and Procedures* for agricultural education that "Secondary students must have a supervised agricultural experience program. The instructor's role is also clearly defined by the following statement: "As part of the agricultural program, the instructor shall have a minimum of two class periods for the purpose of planning and supervising the students' supervised agricultural experience program. The State Board also addresses the importance of record keeping by saying, "Each local education agency or eligible recipient shall submit student accounting and other required reports . . ."

Future SAEs in agricultural education/vocational agriculture in Oklahoma will be governed by the following policies and principles:

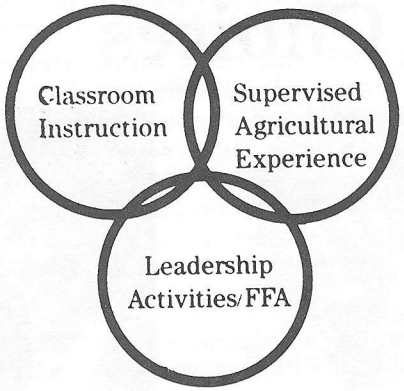
- All students must have an SAE. *(policy)*
- Records will be kept. *(policy)*
- Teacher will supervise and visit. *(policy)*
- Classroom instruction, FFA and SAE must all be equally combined and applied for a well balanced program. *(principle)*
- In Oklahoma we accept the 29 established proficiency award areas as the basic guidelines for what is or is not acceptable SAE. *(principle)*

Policies are reviewed and revised annually, along with new curriculum choices.

Program Elements

For as long as anyone can remember, our concept of a

successful agricultural education/vocational agriculture program has focused on three elements: (1) organized instruction, (2) SAEs, and (3) FFA activities. This concept is best described by the three equal interlocking and overlapping rings, each containing one of the three elements. (Figure 1.)



The close correlation between *instruction, activity* (FFA), and *experience* (SAE) makes the program vocational. The FFA, which is an integral part of each of the other program elements, has the unique characteristic of binding them together. It often serves as the catalyst to advance the student more rapidly toward the intended objective. This concept is not only the accepted practice in Oklahoma, but is applied nationally as well.

To meet the needs of our students and to provide them with the skills necessary to enter and advance in the new fields of agriculture, we have taken major steps to modernize agricultural education/vocational agriculture in Oklahoma. To do this, we have focused on two major areas in our modern curriculum. The first broadens the relevance and scope of the SAEs, and the second requires a new record book that addresses the following:

1. Ownership SAE (production and entrepreneurial)
2. Wage-earning SAE (production placement and/or agribusiness related),
3. Laboratory experience SAE (time on task/monetarily uncompensated hours).

Teachers have been involved from the very beginning in the development of curriculum and record books. This practice of teacher involvement in the decision-making process generates greater acceptance of the material and procedure.

We believe the purposes behind the Agricultural Proficiency Award Program and the Supervised Agricultural Experience Program are really the same. Both programs accomplish the following objectives:

1. Stimulate interest in the instructional program.
2. Stimulate interest in agricultural careers.
3. Enhance and stimulate creative thinking and problem solving through the hands-on-learning-by-doing principle.
4. Reward students by exceptional accomplishments.

We believe the National FFA Organization will continue to review the National Proficiency Awards Program and make necessary changes required to keep pace with changing industry and student/clientele. Our job locally is to elevate the importance, prestige, and diversity of SAEs that reward both the traditional and nontraditional students.

Parental Involvement

This new direction and focus will increase the need for teachers to do a better job of involving the parent in the decision-making process. For the SAE to provide its maximum benefit to the student, the parent and teacher need to be involved in the development, implementation, and evaluation processes. The parent/guardian plays a major role in the success of this activity and should be included in a minimum of one meeting each quarter with all parties involved. This area of our program has given us tremendous strength in the past, and it will continue to reinforce our programs with the grassroots-level of support in the future. The home visit with the student, parent, and teacher involved in the decision-making process reinforces one of the major cardinal rules of education, that of "worthy home membership." We must rededicate ourselves to the commitment of serving all students. We also must be willing to expand our attitudes about acceptable SAEs so that we can help all students make intelligent and productive career decisions.

Teacher Involvement

The teacher's role in the SAE selection process is an area that needs special attention. Personal biases may cause us to oversell an SAE to a student. A student whose parents are in the retail horticulture business may question the wisdom of purchasing a pen of barrows to finish out, just as parents engaged in a stocker cattle/wheat production enterprise may question the validity of their child being encouraged to develop a horticulture SAE. We need to encourage students to explore the resources available to them, as well as their areas of interest. Then we should involve the parents in the decision-making process. Of course, when we do this, we need to be prepared for the overzealous parent. This is the parent who knows, at the time of conception, what his/her child's SAE will be and needs very little, if any, input from the child or agricultural education teacher in the decision making process!

A prudent teacher will include the student's SAE in a school-approved grading system, along with organized instructional activities. FFA involvement and SAEs must be part of the grading criteria. Many problems develop when a student's grades cannot be substantiated. This situation can be eliminated by providing each student, on the first day of school, a handout containing a list of departmental expectations and grading criteria. The handout can be sent home, signed by the parent/guardian, returned, and placed in the student's file for future reference.

Today, in agricultural education, we face a situation much like General Creighton's. We find ourselves surrounded on all sides by traditional and nontraditional students who need Supervised Agricultural Experiences. For the first time in the history of our profession, we can attack SAEs in any direction. Let's take advantage of this situation and respond in an appropriate manner. Good luck!

The Point System — A Solution To The Supervised Experience Program?

By Steve Fraze and Paul Vaughn

(Dr. Fraze is Assistant Professor and Dr. Vaughn is Professor and Chair, Agricultural Education and Mechanization, Texas Tech University.)

Supervised experience programs (SE) have traditionally been one of the strengths of agricultural education. Most of us in the profession point with pride to this aspect of agricultural education which allows students to put into practice the knowledge and skills acquired from classroom and laboratory instruction. No doubt, SEs have greatly enhanced instruction in agriculture.

However, as most of us know, developing quality supervised experience programs is not easy. Nor has it ever been easy. One only has to review the articles in The Agricultural Education Magazine over the past 30 years (and longer) to see that developing quality Supervised Experience Programs has always been a major concern to the profession. Today, the concern is even greater. Interest in agricultural science and technology has brought a change in the agricultural education curriculum and with it a new student who has different interests and needs from the student in the past. Developing high quality, relevant SEs for every student in the agricultural education program may be the greatest challenge facing agricultural education instructors today.

One state that has developed a unique plan for providing SEs is Texas. The plan was developed to address recent changes in the curriculum in the state and to meet the needs of nontraditional students who have been enrolling in newly developed courses. While it is a unique plan that was developed for a specific state, it may well have application to your program. Before we look at this plan, or system, let's take a look at the SE requirements in Texas.

State Requirements

State Board of Education rules in Texas specify that each student enrolled in agriscience courses must have a three month supervised agricultural activity. The activities must relate directly to the course in which the student is enrolled. As a means of satisfying this SE requirement, a point system was developed in January, 1988. It is now in the process of being implemented.

The Point System

Under the Point System, a student is required to acquire a minimum of one thousand (1,000) points. At least one activity must be performed from each unit listed in a course activity guide. Course activity guides for each semester course have been developed as part of the approved state agriscience curriculum.

The student's SE must be supported by accurate records and must be supervised by the teacher a minimum of three times each semester. One supervised period must occur during each grading period. In order to attain full credit for the respective agriscience courses, the student's SE must be in operation for at least a three month period. There are three methods which a student may use to satisfy the SE requirement. A combination of the three is allowed, and in some instances, is required. Following is a review of these methods which are described in greater detail in the publication, "Instructions for Satisfying State Requirements for A Supervised Agricultural Experience Program in Agriscience and Agribusiness," which is published by the Instructional Materials Service located in College Station, Texas.

Methods of Satisfying SE Requirements

METHOD 1 - AGRICULTURAL ENTREPRENEURSHIP AND APPLIED ACTIVITIES COMBINATION

This method is for the student with the "traditional" program (SOE ownership) who is involved in a productive enterprise. The student owns, organizes and manages the factors of production and distribution of goods and services. Students may earn a maximum of 600 points credit per semester from the productive enterprises. However, the student can only earn a maximum of 200 points per six weeks' grading period.

The productive enterprises, or entrepreneurship activities, must be directly related to the course in which the student is enrolled or has completed. Regardless of scope, the enterprises or activities may be used as credit for only one course per semester.

In order to gain the remaining 400 points required to satisfy minimum SE requirements, the student must perform activities listed in the course activity guides (SAE). (An explanation of how the student receives credit will be described in Method 3). Students must keep records in a record book which is designed specifically for this method.

METHOD 2 - AGRIBUSINESS WORK EXPERIENCE AND APPLIED ACTIVITIES COMBINATION

This method is for the student who wishes to satisfy the SE requirements by employment on a farm, ranch or agribusiness (SOE placement). Parents or guardians cannot be the employers. A student may earn a maximum of 240 hours or 600 points credit per semester from the work experience phase. The points are figured at the rate of 2.5 points per hour, and students are to earn a maximum of 80 hours (200 points) per six-weeks grading period.

Students may acquire the remaining 400 points needed to satisfy the minimum requirements by performing activities listed in the course activity guides (SAE). As previously mentioned, an explanation of how the student receives credit will be described in Method 3. Students must keep records in a record book designed specifically for agribusiness training.

METHOD 3 - APPLIED ACTIVITIES

This is the only method which a student may use exclusively for meeting the minimum requirements of the SE. The student may earn up to a maximum of 1,000 points while enrolled in an agriscience course by performing activities (SAE) listed in the course activity guide or activities approved by the teacher. The following guidelines must be followed in meeting and recording the (SAE) requirements:

1. Records must be kept in the Record Book for Supervised Agricultural Experience Program in Agricultural Sciences. Activities are recorded in the "Journal of Applied Activities" pages. Activities listed on these pages and the credit for each activity are summarized and transferred to the "Summary Sheet."

2. Only activities listed for the course activity guide or teacher approved activities shall be used to meet SAE requirements for course credit.

3. A maximum of fifty (50) points per activity may be used for credit for other approved activities. To receive credit for other approved activities, each activity shall have prior approval of the teacher.

4. When Method 3 is used to meet minimum requirements of the SE, a maximum of 400 of the 1,000 points may be performed in the classroom or laboratory. However, all activities may be performed outside the classroom or laboratory.

Pros and Cons of Point System

As with any procedure or plan, there are always pros and cons. Although the list is not exclusive, the following comments have been made about the Point System:

Pros

1. It provides the opportunity for the non-traditional student to have a Supervised Experience.

EXAMPLE

JOURNAL OF APPLIED ACTIVITIES

1st Six-Weeks Period — Course No. 231

Date	Activities Performed	Unit of Instruction	Applied Activities During Class	Applied Activities Outside Class	Total Points
Aug 29	Consulted with school counselor about job opportunities in agriscience. Took an interest inventory test.	S	30		30
Sept 1	Formulated feed ration for market lamb with assistance from feed dealer.	P		40	40
Sept 6	Assisted mom in securing cuttings from coleus plants. Made 50 cuttings and rooted them in bottled.	H		40	40
Sept 15	Interviewed a Soil Conservation Service technician concerning soil components and properties.	B		50	50
Sept 19	Collected a soil sample from mom's flower bed. Mailed it to the soil testing lab for analysis.	E		50	50
Sept 27	Practiced biological control of insects in the home garden.	J		50	50
	TOTALS (Carry forward to next page)		30	230	260

A

2. It enhances career exploration.

3. It encourages more in-depth study in agriscience and agribusiness.

4. It makes it easier for all students to maintain a Supervised Experience.

5. It provides the student with more individual choices for a Supervised Experience.

6. It directly ties the SE to the curriculum.

Cons

1. It depends heavily upon the integrity of the teacher. Some feel it is too easy for the teacher to "pencil-in" activities that never take place.

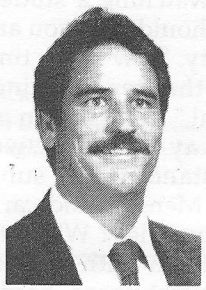
2. The teacher may be pressured by students and parents to give credit for activities that are not relevant or meaningful.

3. The SE requirements may not match guidelines for the American FFA Degree.

4. Some of the methods no longer require monetary records. Since one of the major benefits of the SE has been to teach fiscal responsibility, this important learning activity may be missed by some students.

Will the Point System work in your state or school? That's up to you to decide. As you can see, there are both pros and cons to the system. It is a unique system, however, and it may provide the answer to a dilemma faced for years in agricultural education. Don't discard it until it has been given serious consideration.

Supervised Experience: Urban Diversity Rural Style



By John Morgan and Mike Henry

(Mr. Morgan is Agriculture Teacher and Mike Henry is Principal, Chino Valley High School, Chino Valley, Arizona.)

It's a shame!

He can do nothing.

He just graduated from high school in May of 91. He never made a grade lower than a "B" in any class in all of his years of public education. Sadly, there is little he can do to earn an income while attending college; maybe he can wash cars or flip hamburgers for minimum wage. He loves history. He made straight "A's," but this doesn't give him that competitive edge to land that first job right out of high school. Since he's spent most of his high school years doing homework and playing football he has no saleable skills or the practical experience to make a decision concerning his course of study in college. He's thought about becoming a history teacher or football coach. These are certainly noble professions but the shame is, these are the only things he has had successful exposure to after 13 years of schooling.

This is a familiar story to American educators. Great grades, few practical experiences. A background that has little practical experience that will lead to good decisions concerning a lifelong career, continued education or a decent job immediately upon graduation.

Quality programs of Vocational Education, and specifically Vocational Education in Agriculture, because of the strong Supervised Experience aspect, have almost single handedly taken on the responsibility of providing practical experiences for students — experiences in solving real life problems, dealing with the general public and experiences which build personal competence for future employment.

We have a genuine appreciation for the things that quality agricultural education programs do for students. We are not satisfied with students merely earning a diploma; we know that it is possible for students to "learn to do something" while in high school. We have set this as one of the primary goals at Chino Valley High School, that students are equipped to make decisions from a background of quality, diversified and practical experiences. The agriculture program plays an important role in the accomplishment of the school-wide goal of providing experiences for students.

Urban Agriculture in Rural Programs

Many rural areas which were once dependent upon traditional, large-scale production agriculture as the primary facilitator of a solid SOE are now faced with diminishing opportunities for students to become gainfully employed. Although many of us still harbor feelings about the role of production agriculture on a large scale, we must have the foresight to appreciate what "urban" scale, diversified production experiences can contribute, not only to a solid SE, but to the rural economies. Students preparing for a future in agriculture at Chino Valley High School are encouraged to design Supervised Experiences which realize the limitations of a rural setting, while taking advantage of small scale production entrepreneurship and placement in agribusiness.

In the last three years, only one of the 100 plus students annually enrolled in agriculture at CVHS, has lived and worked on a farm or ranch. This really isn't all that surprising considering the diminishing farmlands resulting from urban sprawl, water rights and increased grazing fees in the Chino Valley area. Most new students know little about agriculture or its opportunities. From the first day students enter an agriculture classroom, they are exposed to many different areas in agriculture.

A typical student's SE might include landscape maintenance and installation, farmstand, and fish production. Granted, the volume in landscape maintenance opportunities does not compare with what is to be found in a large urban setting; but it is interesting to see just how much work an entrepreneurial student can secure in areas where most families are of the dual income stature, with little time to manage their 2.5 acre American dream. Students have found that the rural "do-it-yourselfers" no longer have ample time to mow the weeds, install the irrigation system, or run a fence line, and are willing to pay for the assistance and expertise.

Students placed in agribusiness use a portion of their income to subsidize other enterprises such as beekeeping, vegetable markets, and mechanical production. Program completers are competent, not only in communication skills, marketing, record keeping and problem solving, but their ability to manage money increases tenfold with diversification. Additionally, students con-

tribute to the home economy by canning fruits and vegetables often produced on one-tenth of an acre or less. We believe that student SE's can play a very important role in supplementing a family's income as well as leading to gainful employment. If students are made to appreciate this concept at a young age, competencies gained through SE's will not be shelved upon completion of the program.

The Five Minute Generation

Just watching a student sit down in front of a video game should give you an indication of the importance of diversity. How many times have students lost interest in a unit that tends to include too much "nice to know material," dragging on and on because you thought the only way a student would become competent is by understanding the subject matter so thoroughly that only a Mensa could carry on a conversation with your young prodigy? What students need in the classroom to assist them with SE's in today's agricultural environment is fast-paced, hard-hitting units of instruction that get to the heart of the matter quickly.

Many educators would raise their hackles to hear such talk, but the reality of diversification is ever present in our daily lives and students have a right to ask, "where's the beef?" We have a responsibility not only to provide a curriculum that builds student competence in a variety of areas, but to also let them experience successful exposure to many areas through diversified SEs. We cannot, in good faith, recommend long term, single phase SE's as the way to go. Most students will burn out after the second year, leaving mom, dad, and advisor wondering what to do with all that has been invested. Let's face it, students today will change careers no less than five times over their lifetime. That spells D-I-V-E-R-S-I-T-Y!

On-Site Facilities

Geared towards the multiple use concept, on-site school facilities should include areas where students can carry out a multitude of SE's year around. This holds especially true for students who would not otherwise have access to land or equipment. Facilities at Chino Valley have been designed using the micro scale concept — meaning several small greenhouses, mechanics facility, nursery, vegetable garden, and an aquaculture facility. Having a multitude of small-scale facilities allows students to form business partnerships, small corporations, and individual enterprises on the campus, Our five year plan calls for a farmers market, owned and operated by students able to realize a profit from the sale of a variety of items, including fresh fish processed on site at the time of purchase.

A big issue for educators is the time spent managing multiple use facilities. We utilize three principles in order to free the instructor from full-time management.

1. Interview students and hire motivated individuals as managers of each micro facility, giving them a percentage of the total profit of all student enterprises in that particular facility. Expected duties include such things as scheduling of maintenance, fertilizer applications, feeding and watering, and overseeing sales; all of which can be taught in the classroom and delivered instantly.

2. Allow the students to spend ample class time in the facilities during the regular school day.

3. Build facilities which compliment each other. Examples would include an aquaculture facility with nutrient-rich water runoff pumped into the vegetable garden, nursery and micro-greenhouses. This ensures ease of operation and less down-time for individual facility repair as well as maximum use of all available resources.

Making Diversity Work

Without a doubt, diversifiers are risk takers. Students have the opportunity to see capitalism in action with all the components in place. Instilling the proper capitalistic principles in students is helping to ensure a strong economy for the future. The key to successful student SE diversification is to bounce ideas back and forth, start small, and not dwell on past failures. Starting on a small scale allows students to decide on what to do, and the price they must receive to realize a profit. Teach the students to expect higher costs at the beginning of a small enterprise, but to expect a higher profit margin later.

Be willing, as an instructor, to let the students experiment a little with ideas, even when some of the ideas don't sit well with your own vision of a productive enterprise. One Chino Valley student has had tremendous success raising a variety of game birds and chickens primarily for their feathers. He markets the feathers to wholesale buyers who in turn sell the product to sporting goods stores, jewelry craftsmen, and Kachina doll artists. In the early fall, this same student had great success producing and marketing an assorted variety of berries. Students have a knack for making things work - give them the opportunity! Often it is much too easy for us to help out an undecided freshman by simply assigning an SE to them. The simple truth is that most students today have many interests, and there is no greater way to stimulate the student's interest, sense of responsibility, and employability skills than through diversified SE programs.

About the Cover

Teachers who advocate supervised experience as a part of the total program of agricultural education should, likewise, apply new competencies through experience. (Photo courtesy of Dr. David Cox, Tucson, AZ).

THEME

Non-Occupational Supervised Experience!

By Barry Croom

(Mr. Croom is Agricultural Education Instructor, Midway High School, Dunn, North Carolina.)

As a graduate student in Agricultural Education at North Carolina State University, I had the opportunity to enroll in a course entitled "Occupational Experience Programs in Agriculture." The course covered the importance of Supervised Experience (SE) programs, cooperative education and program management. Things went smoothly until the professor introduced the topic of non-occupational SAE programs in agriculture. Non-occupational SAE programs? I immediately assumed that my professor had taken leave of his senses by even suggesting such an idea. I had always been taught that SOE programs must be either ownership or placement oriented, and teachers should make sure that every student is involved in some type of agricultural experience.

This concept went against everything I had ever learned about SE. Over the past three years I have served as an agricultural educator, I have tried (with limited success) to provide every student in my program with an SE opportunity. Just when I thought I had a grasp of what I needed to be doing with SE, along comes another idea that radically expands the way we should look at Supervised Experience (SE) programs.

As we discussed the topic however, it became clear that this idea is not only a good one, but also one that will eventually lead my clientele toward one hundred percent involvement in the SE program. Let's take a moment to define the concept of non-occupational SE.

Experiential Learning

The concept of experiential learning through occupational experience programs has come a long way since the early 1900's. The Smith-Hughes Act of 1917 mandated that schools "shall provide for directed or supervised practice in agriculture, either on a farm provided for by the school or other farm, for at least six months per year . . ." For many years afterwards, teachers worked hard to develop and maintain SOE programs which helped many young men and women become established in farming. As times changed, students became less interested in farming and began to explore the other career opportunities in agriculture. We began to see more students who loved being in vocational agriculture classes but who did not have the desire or resources necessary to establish ownership or placement programs. A recent study surveyed teachers, teacher educators, and state supervisors on the question of why SOE programs have declined in Agricultural Education. Teachers and teacher educators blamed the type of student enrolling in agricultural education programs as the chief cause for the decline in SOE. State supervisors listed the type of student enrolling as their second choice (Flowers, 1990).

Unfortunately, SOE programs did not adjust to students' interests quickly enough and occupational experience programs became a difficult component for many teachers to maintain.

After the study by the National Academy of Sciences was released in 1988, many state and national agencies began to update curriculums of instruction in agriculture to reflect new advancements in the field of agriculture and to reach and teach a changing clientele. The National Future Farmers of American Organization changed its name to encourage, rather than discourage, participation by non-farm students. Supervised Agricultural Experience (SAE) was developed to broaden the scope of acceptable Supervised Experience (SE) in agriculture. Students enrolled in agriculture were no longer limited to ownership, placement, or directed laboratory experience programs (SOE), but allowed to expand their supervised experience to include (SAE):

- Interviews with agricultural professionals
- Reports
- Research projects
- Speeches
- Observation experiences

These new experiences are not occupational in the sense that students earn some type of wage. These supervised experiences are designed to provide additional knowledge in and about agriculture so that students may make sound and practical career choices. A very significant group of students benefit from these types of SAE programs.

Examples

The following list of situations describe possible applications for the nonoccupational SAE program:

1. Students entering college. Many students preparing to enter college could benefit from research projects and reports. Many of these students are in college prepara-

tory programs in high school and may not have time or interest in developing traditional SOE programs.

2. Agriscience students in traditional programs. In North Carolina, we have approximately 3 programs out of 251 that could be classified as agriscience. Students interested in agriscience are not interested in Supervised Occupational Experience programs, but in research and technical advancement in agriculture. Non-occupational SAE programs are a potential outlet for experiential learning beyond the classroom. Students could use the scientific method to solve problems in all facets of agriculture.

3. Students with interests in agricultural occupations beyond the local community. Suppose you have a student who is interested in a certain type of agricultural crop that because of climate or marketing factors, is not grown in that student's home community. Perhaps the student could develop a research-based SAE program and study ways to bring this crop to the local community.

4. The nontraditional student. Let's face it, we sometimes have students enrolled in our program who do not have the resources or interest to develop SOE placement or ownership-type programs. Non-occupational SAE's are a good place to start in developing interest in this type of student.

These are at least four different scenarios where agricultural education students could benefit from a non-occupational SE program. We should not rule out the possibility that students may still develop both an SOE program and a non-occupational SAE program at the same time.

Troubleshooting Non-Occupational SAE's

The old saying that "nothing is a sure thing" certainly lends itself well to non-occupational SAE's. Certain drawbacks do exist. As an agricultural education instructor, I push students hard to complete proficiency award and FFA degree applications. Unfortunately, those students whose only form of SE is writing speeches on agricultural topics tend to lose out in these award areas. At present, the only awards available to students with non-occupational SAE programs are Computers in Agriculture and Agriscience Student. While there may be few contests for these types of SE's, there are substantial rewards. The 1990 Agriscience Student of the Year walked off the National FFA Convention stage in Kansas City with checks totaling $8500.00 in prize money. Most other FFA award areas don't come close to this amount.

Another drawback of non-occupational SAE programs is recordkeeping. At present, few provisions exist for keeping records of what students are doing in non-occupational experience programs. I contend that with modification, records could be kept on just about any SAE program. If the student is involved in research and experimentation, then laboratory recordkeeping procedures would be appropriate. Students involved in interviewing and observing agricultural professionals at work could use an exploratory type of recordbook. For those students involved in writing speeches and reports on agricultural topics, the written copies of these two activities along with a bibliography could serve as the record.

Conclusion

Non-occupational SAE programs are the saving grace for supervised experience in the Midway High School Agricultural Education Department because they provide something for every student. Today, one out of every four students shows an interest in or engages in production agriculture. Student interest has increasingly shifted away from traditional agricultural occupations such as farming and ranching and into the areas of plant and animal science, food science, biology, marketing, and research. Agricultural educators need to continue to evaluate programs to see if they are actually meeting the needs of students, or are we just meeting teacher's desires and needs. A veteran teacher and good friend once said, "If a student does not wish to participate in your program, take part in FFA activities, or develop (SE) programs . . . make sure that it is the student's choice and not the teacher's choice."

Non-occupational SAE programs can be beneficial learning experiences for students with limited interest in traditional agricultural careers. It is our job as educators to make sure that we offer every possible opportunity for students to establish, maintain, and succeed in the Supervised Experience Program.

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From Torpedoes To Revolution

(Continued from page 3)

But throw the gate wide, 'cuz I'm still full of pride,
And I'll fight 'em till my life is through.
And out in the West, when they lay me to rest,
I'll go and just buckaroo.

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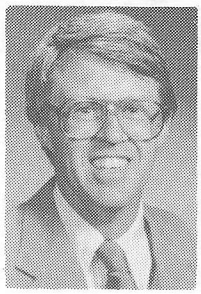
HISTORICAL REVIEW
December, 1941 & 1966



By John Hillison, Special Editor
(Dr. Hillison is Professor and Program Area Leader, Agricultural Education, Virginia Polytechnic Institute and State University.)

December, 1941

An article was written about the Fordson Horticultural Gardens in Dearborn, Michigan. During the summer months the program operated for 10 weeks. A combination of fieldwork and classwork was used. The classroom was equipped with microscopes, books, bulletin-board space, and resembled a biological laboratory.

Horticulture as taught at the Fordson School was accredited by the University of Michigan as a science subject acceptable for college entrance. Students of varying ages - elementary through senior high school - attended the program. The overall strategy was to teach agricultural practices as applied sciences. The author (Paul Jones, school director) concluded "Every school should have a garden where the production of the essential food and crop plants can be observed by the students. Agriculture by indoctrination has not achieved rural-urban or urban-rural understanding or cooperation to the degree which most benefits our nation. (The students in the program) are tomorrow's citizens whether they will be businessmen, farmers, holders of public office, factory workers, or professional men."

Walter Rawson (teacher, Hillsdale, Michigan) described an apprentice program used in his agricultural education department. The program was started because of a need for a better practical financial background by newly established farmers. The author had noted several struggling Young Farmers who could have used such a background.

The author advocated offering apprenticeship training at the crucial time the new farmer was becoming established. He suggested offering part-time instruction for the 16-18 age group and make apprenticeship training available from then on until the young farmers were established as tenants.

The next part of the article gave case study reports on five students who had participated in the program. All were becoming established as tenant farmers, were making good labor incomes, and had paid off $300 or more per year on obligations.

Birch Ober (teacher, Roaring Spring, Pennsylvania) wrote about the use of periodical literature in the classroom. He described farm newspapers as using an appropriate reading level; the articles emphasized actual experiences, and good reading habits were instilled in students. Teachers also found the newspapers useful for teaching adult students.

Other news shared in the issue included Elmer Johnson moving from Colorado to the U.S. Department of Education as a specialist in Agricultural Education. The National FFA had 241,024 members in 7,325 chartered chapters in 7,826 departments. There were 332,925 vocational agriculture students.

December 1966

Editor Cayce Scarborough introduced the theme of College Programs for Prospective Teachers with an editorial about the topic. He noted how willing people were to render opinions about their college preparation for teaching. If we look to the future and try to anticipate what skills the teacher of the future will need, it would be possible to do a job analysis approach. However, the job analysis approach would show that the young teacher cannot be prepared for all areas of expectation.

Scarborough continued on to advocate the preparation of a real pro or professional. The professional side is more important than the specific semester hours required in narrow areas. He concluded by stating, "When we try to take a long look at the needs of a teacher education program for developing real pros as teachers of vocational agriculture, and take a close look at the programs now in operation, we must question whether the two have much in common. In fact, I believe, that we need to test the hypothesis that present-day programs in teacher education are not designed to meet the demands of a beginning teacher of vocational agriculture in today's modern schools."

Thompson and Bjoraker (teacher educators, University of Wisconsin) wrote an article about teacher internships. Their internship experience was intended for master's degree candidates. Students could complete more technical coursework in their undergraduate majors. The interns could emphasize more psychology and special problems. Most could complete the intern program in an academic year and two summer sessions.

The intern would spend one complete semester in a school system as a bonafide faculty member. The intern would receive a $1,200 salary. The intern would have

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THEME

Reflecting Industry — Supervised Experience In Agricultural Mechanics

By Glen M. Miller

(Dr. Miller is Assistant Professor, Department of Agricultural Education, The University of Arizona.)

Like other areas of the Agricultural Education curriculum, Agricultural Mechanics is a science based series of competencies with application to supervised experience for programs both in and about agriculture. Experiential needs of students can be efficiently met through industry current agricultural mechanics.

Industry Standards

Teaching competencies needed by students for industry requires facilities and equipment which reflect industry standards. This is a time honored problem in all aspects of agricultural science and especially in agricultural mechanics. Industry cooperation has been the critical factor in allowing students the opportunity to apply the scientific principles of agricultural mechanics to industry current applications.

Industry is also setting standards for our programs which are not being followed. The agricultural industry has been subjected to regulation to insure a safe working environment for employees. While regulation was not always welcome, the need for safety in the workplace is clear. Safety has always been an integral part of the curriculum in agricultural mechanics and a critical factor in protecting the teacher from exposure to unnecessary liability.

The Agricultural Education profession has experienced a reawakening regarding safety and its effects on teachers and students. Westrom and Lee, (1990), Miller (1990), Hard and Miller (1990), Flether and Johnson (1990) and others have addressed safety and its related health risks in recent research efforts.

How Are We Doing?

In an effort to determine the state of safety in vocational education laboratories as compared to industry standards, a study of safety compliance rate of selected secondary vocational education laboratories within two urban counties in Arizona was recently completed.

An instrument derived from a school laboratory safety evaluation developed by Lawrence B. Everett (1981) was completed on site. Less than one-third of the laboratories studied were agricultural mechanics laboratories. The instrument identified safety compliance in ten major areas including Walking-Working Surface; Means of Egress; Fire Protection; Medical and First Aid; Personal Protective Equipment; Tools; Welding, Cutting, and Brazing; Electrical; Compressed Air Equipment; and Environmental Control. Each major classification had a sub-scale of items which were marked as in compliance or not in compliance of standards by "The General Industrial Safety and Health Regulations, Part 1910." An example of a sub-scale under Tools would be:

1. Stationary power tools anchored to the floor. (1910.212(b)

Each item on the scale was given a numerical value which reflected the average rating of importance assigned by a panel of ten safety specialists. Items were rated on a 0-10 scale with 0 indicating no importance to laboratory safety and 10 indicating utmost importance. Subscales were averaged into ten major categories.

Compliance Concerns

The results are reported according to the 10 categories and 21 schools. Walking-working surface items such as safety lanes, non-skid surfaces, laboratory appearance neat and orderly, etc., are generally in compliance with an overall score of 76%. One school is a notable exception with a score of 9%.

Means of egress which include standards such as laboratory has at least two exits, exit doors and access to exits are not locked from exit side, etc., demonstrated a lower overall score of 54%, indicating that the large majority of laboratories fail to meet standards. The lowest scoring school was only 23% in compliance, while the best school was 100% in compliance. Fire protection items, including fire alarms, fire extinguisher locations properly marked, maximum distance to fire extinguisher 75 feet, etc., had an overall score of 66%. The lowest compliance was 11% with the greatest compliance being 100%. Emergency telephone numbers posted in the laboratory, evacuation procedures posted in the laboratory, and first-aid supplies readily available comprised the medical and first-aid category. The overall compliance in this area was 30% with eight schools having no com-

pliance and three schools in 100% compliance. Personal protective equipment included items such as face shields, industrial quality eye protection provided and required, etc. The overall score was 67% with two schools not in compliance and four schools in 100% compliance.

The overall score for tools was 73% compliance with subscale items, including stationary power tools anchored to the floor, stationary tools arranged so that individuals are protected from hazards of other machines, etc. The school in highest compliance scored 100% and the poorest compliance score was 34%. Welding, cutting and brazing compliance was the highest of any category with an overall score of 92%. The lowest compliance was 46% with thirteen schools in 100% compliance.

Subscale items included arc welder cables, electrode holders and ground clamps in good repair, compressed gas cylinders chained or secured in an upright position, friction lighter available and used to light welding or cutting flame or pilot light, etc. Electrical subscales included electrical outlets and fixtures properly grounded, electrical disconnects identified, extension cords and portable power tools properly grounded or double insulated, etc. The overall percentage was 81% with the lowest compliance being 43% and the highest 100% for four schools. Compressed air equipment was in compliance an overall average of 56%. Subscale items included pressure gauge in air line, air used for cleaning regulated to not more than 30 psi, etc. The school in highest compliance scored 100% and the six schools with the least compliance scored 0%.

The final category was environmental control. Items included total laboratory ventilating, illumination, noise level, washing and clean up, safety stands, guarding, etc. The overall percentage compliance was 93% with a high compliance of 100% and a low compliance of 42%.

Table 1 reflects the percentage compliance based upon the total compliance points possible and the score by school. Wide variations can be seen between schools with the highest compliance overall being 94.7% and the lowest being 32.03.

Table 1. Facility Safety Compliance Score Overall

School	Percentage	School	Percentage	School	Percentage
1	84.00	8	77.74	15	68.30
2	76.20	9	79.34	16	76.80
3	54.00	10	81.10	17	32.03
4	62.88	11	56.00	18	89.86
5	82.36	12	79.90	19	80.35
6	76.00	13	94.70	20	63.58
7	81.60	14	68.20	21	82.26

We Need To Improve

Clearly, there are disturbing shortcomings in the compliance of vocational education laboratories in Maricopa and Pima Counties, Arizona. The 21 sample schools vary widely, but it is clear that as a general trend, schools which score poorly in one category are generally weak in most areas. Many factors could contribute to these deficiencies. The age of the facility has an impact on several categories. Other categories where compliance is low, however, must be recognized as a matter of neglect or negligence. There can be no acceptable reason for failure to comply at a level of 100% in areas of medical first aid, personal protective equipment, and fire protection. Certainly, those in the agricultural industry could not stay in business if they failed to meet basic personnel safety standards. The oldest facility can be clean and painted. Every school budget must afford personal protective equipment critical to the safety of students and teacher. Every laboratory can be equipped with a medical first-aid kit and clearly marked evacuation plans.

A renewed effort must be placed on compliance with basic standards of safety in vocational education laboratories. This research clearly demonstrates that efforts in enforcement of safety standards must be pursued aggressively. If students are to use supervised experience in agricultural mechanics, then we must be sure that the safety as well as the competencies reflect industry standards.

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responsibility for teaching 2 to 4 classes and be under the supervision of a master teacher. The intern would also be involved with seminars taught by university staff.

Froehlich and Bundy (Iowa State University) reported a study on why qualified vo-ag teachers don't teach. Their survey collected data from 823 non-teaching agricultural education graduates from Iowa State (70.8% of all graduates from January 1, 1940 to July 1, 1964). The most common professional areas entered were farming, feed and seed business, extension service, and high school teacher other than agriculture. Respondents who left the teaching profession cited such reasons as lack of advancement opportunity, salary, too many evening responsibilities, long hours, and state reports.

Other articles included Occupational Choice and Tenure of Ag Ed Grads (Hoernor and Bundy), the Supervising Teacher (Binkley), and Providing Information about College (Atherton).

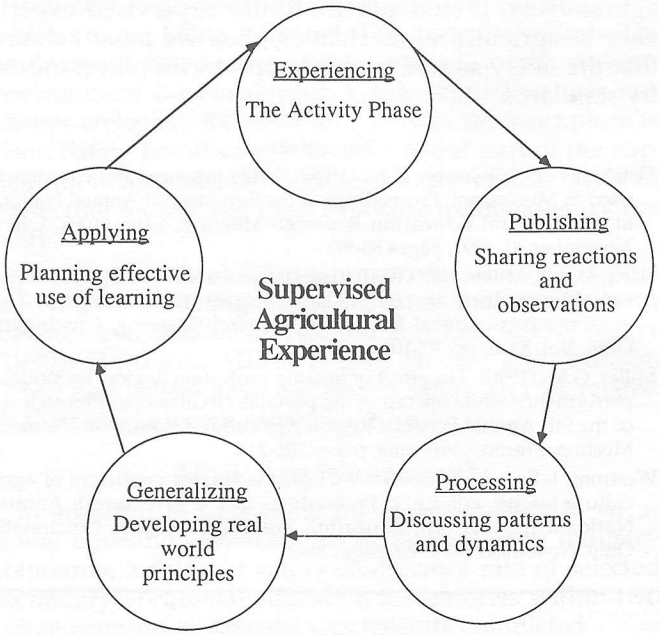
Reinventing Experience Programs In Agriculture

By Robert A. Martin

(Dr. Martin is Associate Professor, Department of Agricultural Education and Studies, Iowa State University.)

Supervised Agricultural Experience (SAE) represents the ultimate goal of education in agriculture. Putting agricultural knowledge and skill to work in real situations is at the heart of agricultural education. Whether one shadows a professional in agriculture, grows a crop of tomatoes, assists a grocer in processing and packaging meat, or operates a lawn care business, the student applies the essence of what is learned in agricultural education - i.e., applied biology, chemistry, physics, communications, computational skills, and business management. If we believe that the SAE program is the critical element of agricultural education, then what model should we follow? What strategies should we follow in conducting SAE?

The Experiential Learning Cycle



Adapted from Pfeiffer & Company, University Associates, 1991

Figure #1

The model in Figure 1 represents the essence of supervised agricultural experience programs. One could start anywhere on the model because the experiential learning process is a continual process. However, planning effective use of learning implies that formal instruction has occurred and the student is ready to actively experience the application of the knowledge and skills. Careful planning by the learner and the instructor will increase the chances that the experience will be successful. The activity phase requires active participation with guided supervision. This phase is a combination of independent and supervised experience. This is a critical phase because it is the phase upon which all others are built. It provides the foundation for publishing, processing, generalizing, and planning.

The process of publishing implies reporting what was done and what was learned and accomplished during the experience program. More important than this type of reporting is the process of sharing real-life experiences in the classroom. This sharing of experiences brings students and teachers closer together in the process of relating technical knowledge and skills to real life work. The processing of the experiences over time leads to the discussion of the dynamics of the agriculture business and industry. The result of these discussions helps teachers and students to draw conclusions regarding what changes should be made regarding further planning for effective use of learning. The inter-relationships of learning skills and knowledge and use of experience help students see the relevance of what is being learned.

The Experiential Learning Cycle can be a real catalyst to enliven instruction in agricultural education whatever the program emphasis may be. If programs of agricultural education are changing, as they surely are and will continue to be changed, then we must reinvent SAE for all programmatic thrusts. Regardless of program emphasis, the basic principle remains the same. The principle focus is on applying knowledge and skills in real situations. This principle can be achieved only when specific strategies are followed in conducting the SAE program.

Strategies for SAE

If we are to reinvent supervised agricultural experience programs we must follow a list of specific strategies. The strategies outlined here represent what successful agricultural educators follow to integrate SAE into a complete agricultural education program.

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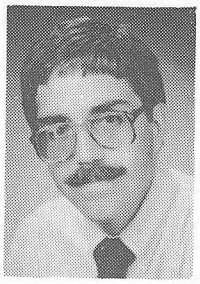
COMPUTER TECHNOLOGY RESOURCES
It's Not Just Computers; It's Technology!



By Nathaniel D. Jaeggli,
Special Editor

(Mr. Jaeggli is Extension Computer Specialist, Cooperative Extension System, Montana State University.)

For the past three years, Dr. Wade Miller and I have attempted to describe and share how computers are currently being used in agricultural education. It's not just computers, however, that are changing; it's a whole interrelated network of equipment, software and people. The IBM Personal Computer (celebrating its 10th anniversary) may have sparked the revolution, but a host of related technology is participating as well. In this last installment of our column, I attempt to inventory some of the technological changes that are occurring and how these changes may effect agricultural education.

The Office of Technology Assessment in a report prepared for Congress titled, "Rural America at the Crossroads: Networking for the Future,"[1] describes the term "information-age technology" by subdividing it into *information technologies, transmission technologies,* and *switching and networking technologies.* Due to convergence, the divisions between and among groups of technologies is not clear cut. "The future is the sum of several innovations coming together," says Margaret P. Ezell in the Journal of Extension (Fall, 1989).

Information technologies allow individuals to store, process and reorganize data into a more useful form. Common examples found in many of our schools include computers, printers (impact and laser), copiers and, for some, scanners, VCRs and laser disk players as well. In 1989 (Cooper, 1991), it was estimated that there were 16 million computers in business, 20 million in residences, and 2 million in the educational and scientific communities. As improvements in hardware have occurred, opportunities for computer applications have expanded as well. A number of applications should be in common use by all agricultural educators and might include all of the following:

Word Processing
Flat File & Relational Databases
Desktop Publishing
Spreadsheets
Communication Software
Graphics Applications & CAD Programs

Utility programs can be used to copy disks, create menus, recover lost data, backup hard disk systems or protect against computer viruses.

In addition to the more general applications there are at least as many applications written to meet the specific needs of individuals or groups.

Access and transmission technologies are the means by which individuals can transmit or receive information from other individuals or information systems. Some examples are cables, radio waves, and satellites. Telephone and television/radio technologies are the most common forms of this technology. Telephones are an example of point-to-point connection while television/radio is an example of point-to-multi-point interconnection. Decisions made about telephone systems and carriers will affect our office environments for years to come. Television/radio technology has proven to be an effective educational tool for reaching large groups of people in various locations, an application called distance learning.

FAX machines and modems are common examples of convergence of technologies. Both systems are digital in nature, but must rely on analog technology (phone systems) for connections point to point.

Answering machines and pagers have been the brunt of jokes and frustration for some people; however, for most of us they are a method of telephone messaging. Voice mail is an interactive form of the answering machine which allows callers to not only leave but receive messages as well. Cellular phones are becoming a more common form of portable communication device (replacing CB's) because of the voice quality and range.

Satellite technology offers instant coverage of the North American continent. The use of satellites for voice and data communication is transparent to most people. For a few hundred dollars an hour (satellite time only), programming can be delivered throughout the United States and beyond. Receiving dishes are relatively low cost and satellite programming has subsequent value as videotape inputs to follow-up educational programs.

Network technologies are the means by which transmitted information can be managed, routed, and interconnected. These include, for example, switches, bridges, routers and Wide/Local Area Networks (WANs and LANs). Some examples of network services include Bitnet used for E-mail communication between university educators and NSFNET used to interconnect research facilities on a national basis. Agri-Data is an information service providing market news and educational resources for agriculturalists, and literally thousands of hobbyists offer database services in the form of BBS's. On-line information services such as CompuServe and Prodigy offer consumers access to large volumes of data, research, E-mail, games and software on a fee-for-use basis.

Tom's system came alive as he flipped on the power strip. He sat back and watched with surprise at how natural all of this felt. Making coffee used to be the first priority of his morning routine. Now it's checking -E-mail and updating his personal information manager. Yesterday was typical of the way technology was impacting him as a teacher. At 9:00 he received a FAX reply to a message he had left on Dorothy's voice mail. From 1:00 to 1:30 he participated in a telephone conference with other instructors from 11 western states. After school Tom prepared "overheads" on his computer, using a laser printer and scanner. At 4:00 he set the VCR to record a satellite downlink, a portion of which he would use with today's classes.

Preparing for tomorrow means taking advantage of the technology that's available today. The current technology frenzy didn't occur full blown, it evolved. The skills necessary to deal with technology must evolve as well. The use of technology in education must be part of a plan you and others develop to support the way you work. Like a quilt, the pattern of technology use must come together a piece at a time. Information-age technology is changing not only the way we work and think, but the kind of solutions we offer to fulfill our mission as agricultural educators. Based on established traditions and a vision for the future, information-age technology can be a catalyst for change.

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Reinventing Experience Programs In Agriculture *(Continued from page 20)*

1. Meet with students and discuss the possibilities.
2. Meet with parents/employers/professionals.
3. Survey situation.
4. Explore possible experiences.
5. Set goals.
6. Plan program.
7. Outline approved practices.
8. Identify skills to be developed.
9. Associate the experience to formal day school education program.
10. Follow-up student experiences with further planning and visits.
11. Meet with parents/employers.
12. Assist in record keeping.
13. Assess student involvement in experience.
    a. Evaluate practices/achievements.
    b. Evaluate competencies achieved.
14. Write comments in record book and sign record books.
15. Assist students in using records for decision-making.
16. Assist students in using records to apply for awards.
17. Report achievement in SAE to public.
18. Write public relations articles for reporting student SAE program.
19. Award achievement in SAE.
20. Use displays to promote SAE.
21. Report SAE work to school board and administration.

SAE's Ultimate Purpose

The ultimate purpose of teaching the various forms of knowledge and skills in agriculture is to help students to use newly acquired knowledge and skills in meaningful ways. One of the best ways to ensure student understanding is to arrange to make use of knowledge and skills at the time learning is to occur (Marzano, et., al., 1990). While experiential learning in general may not be unique to the study of agriculture, the multi-faceted approach to experiential learning in agriculture and its emphasis in the curriculum certainly makes it unusual. In-school and out-of-school experiences which focus on the utilization of knowledge and skills related to the instructional-learning process represents a key component of the agricultural education program. The supervision and evaluation of experiential learning and the eventual recognition of students for excellence in experience make this aspect of agricutural education critical to the mission of the program and a cornerstone to the curriculum.

Through a successful SAE program, the student develops personal responsibility, self-confidence, self-esteem, job satisfaction, human relations skills, basic citizenship and cooperation. In addition, students learn skills of time and money management, record keeping, entrepreneurship, and related job skills.

Supervised Agricultural Experience is a vital part of the agricultural education program. It meets the goals and objectives of both the local school district and the agricultural education program.

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It Is Time To Stop Quibbling Over The Acronym

(Continued from page 4)

become so involved in quibbling about SOE vs. SAE that we allow this component of the program to atrophy and die. If we become so involved with all the sweeping changes and forget or at least minimize the "application" component of agricultural education, we will no longer be unique. Once the uniqueness of agricultural education, in the form of "application" of subject matter, is gone then so may be the program. When agricultural education begins to "look like" almost any other program in the school, and does not provide a unique instructional delivery system, our demise may be imminent.

It certainly is not the intent of this author to imply that by using the acronym SAE that we are contributing to the eradication of our profession. On the contrary. In fact, since participating in authoring an earlier article dealing with the breadth, depth, and intensity of experiences (McCormick, Cox, and Miller, 1989), it is now even more critical that students enrolled in agricultural education be provided with opportunities for application of subject matter to real situations. Application of subject matter comes about by a deliberate program of experience conducted by a student and supervised by a teacher of agriculture. This program of experience is in addition to and supplements any and all instructional strategies used by the teacher. Supervised experience must not be confused with all the effective "hands-on" teaching methods utilized by agricultural educators. Supervised experience programs are the program component, supervised by the teacher and conducted by the student, which provide for the application of subject matter.

A Role For Each

Supervised experience programs should be used by the agriculture teacher to not only provide application for the instruction, but also to individualize instruction. This can be done by utilizing an experience program of an occupational nature (SOE) to assist certain students in preparation for employment or self-employment. Students enrolled in agricultural coursework in which the content is aimed at agricultural literacy or science should be supervised by the agriculture teacher in conducting an experience program to provide them with a variety of agricultural experiences (SAE). In either instance, the focus for the student must be the "experience" in applying the subject matter taught to situations which are real to them. Likewise, the focus for the teacher must be the "supervision" in order to carry out the educational intent (application of subject matter) and to maintain quality and outcomes of the experience programs.

Agricultural education faces challenges daily. These challenges, if met with appropriate thought and action, will result in a stronger and more vibrant instructional program. However, the uniqueness of agricultural education must be highlighted, enhanced, and adapted to modern instructional programs. Innovative and appropriate use of both SOE and SAE by a professional teacher will strengthen the practice of this profession.

Further evidence of the necessity for agricultural education to maintain and celebrate our uniqueness in terms of application of instruction has been seen recently in both the popular press and the academic literature. Studies have indicated, and some national speakers and educational reformers are advocating that general education subjects should be taught in a manner in which the material can be applied to "the real world." Specifically, reference is made to instruction in science, mathematics, and English. It is interesting to note that the general education community is now beginning to talk in terms of application of subject matter, a principle that has been employed in vocational education for years. This principle has been a basic tenet of agricultural education since its inception. It has had a variety of labels over the years, but the principle has endured because the practitioners of the profession have consistently focused on "supervision" and "experience" to bring about the application of instruction.

Consistent Adaptation

Continued discussion regarding future direction and change will undoubtedly occur within the profession. Cosmetic as well as substantive change in agricultural education will occur. The philosophy will expand to include a variety of instructional programs and delivery systems into agricultural education. New audiences and clientele will be discovered. A new generation of agricultural educators will emerge to educate a traditional group of clientele along with the new audience. In all cases, those of us who practice this profession must be mindful to hold onto that which has made the instructional program in agricultural education unique and successful. We must also be mindful that success with application of subject matter through supervised experience programs provides a solid educational basis to adapt this component to instructional programs today and tomorrow. By careful and diligent professional utilization of the appropriate Supervised Occupational Experience Program or Supervised Agricultural Experience Program as an integral component of the agricultural education program, the teacher of agriculture can maintain both the quality and outcomes desired by focusing upon application of instruction through supervised experience. Remember, application will be enhanced when the teacher "supervises" and the students "experience" subject matter applied in real situations.

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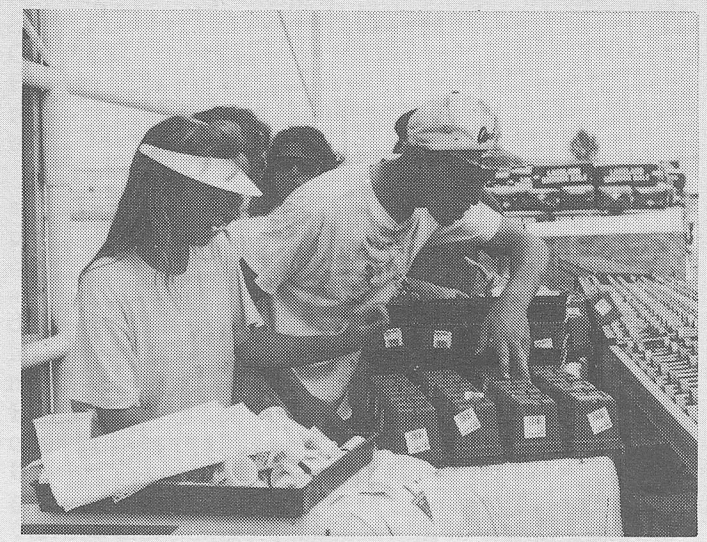
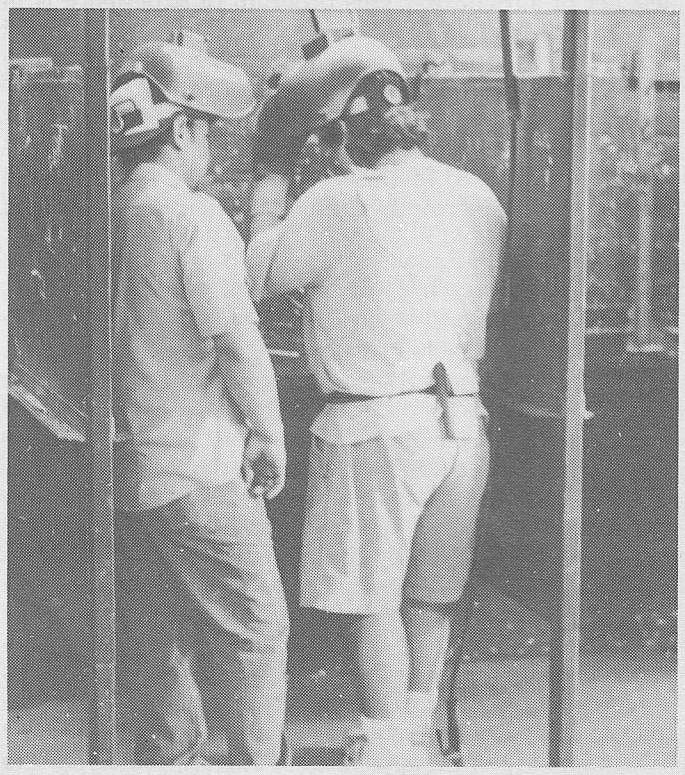
Stories in Pictures



Agriculture students gain experience tagging plant containers at school in support of placement in a local nursery. (Photo courtesy of John Morgan, Chino Valley High School, Chino Valley, Arizona)

Agriculture students run a small irrigation installation business as part of their Supervised Experience program. (Photo courtesy of John Morgan, Chino Valley High School, Chino Valley, Arizona)

Research projects can be SAE projects. These students are researching fertilizer efficiency in field crops, and their results will be used to benefit local farmers. (Photograph courtesy of Midway High School)



Failure to dress properly for the job would not be tolerated in the agricultural industry. Why tolerate it in a student's experience program? (Photo courtesy of Glen M. Miller)