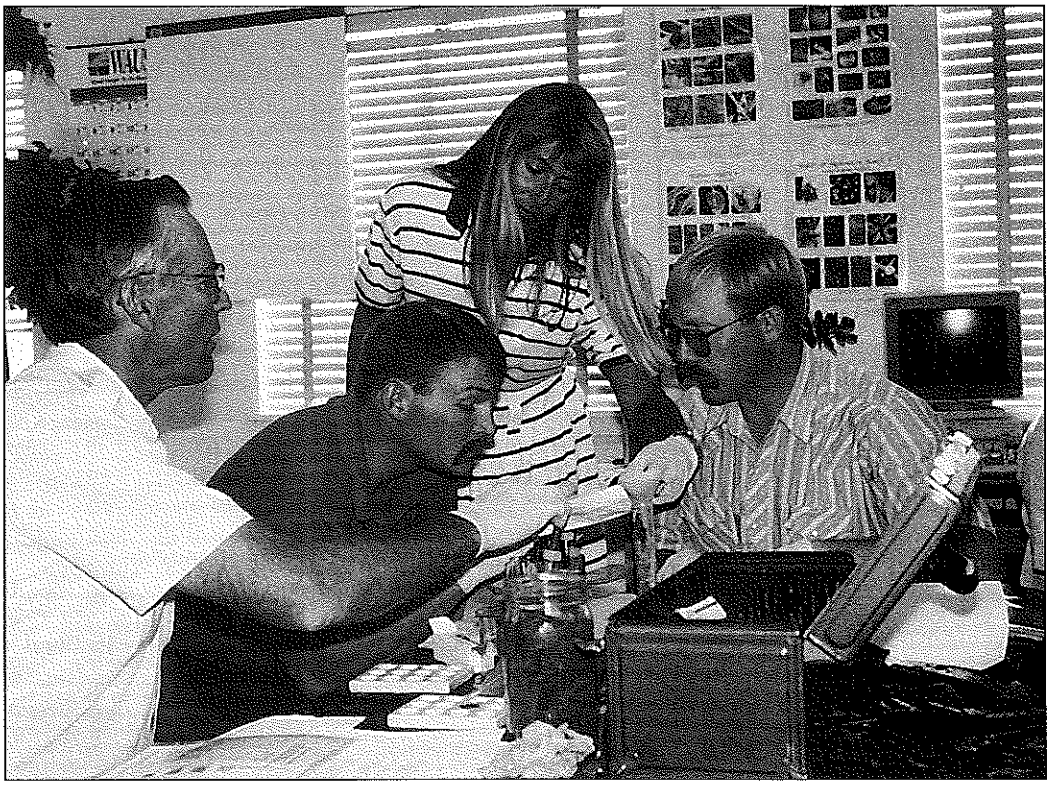
the magazine **Agricultural Education**

September, 1995
Volume 68, Number 3



Innovations in Teaching

THE
AGRICULTURAL EDUCATION
MAGAZINE

September, 1995 Volume 68 Number 3

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PUBLICATION INFORMATION

The Agricultural Education Magazine (ISSM 7324677) is the monthly professional journal of agricultural education. The journal is published by The Agricultural Education Magazine, Inc., and is printed at M & D Printing, 616 Second Street, Henry, IL 61537.

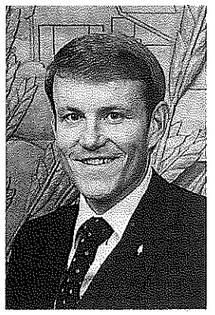
Second-class postage paid at Mechanicsville, VA 23111; additional entry at Henry, IL 61537.

POSTMASTERS: Send Form 3579 to Glenn A. Anderson, Business Manager, 10171 Suzanne Rd., Mechanicsville, VA 23111.

SUBSCRIPTIONS

Subscription prices for The Agricultural Education Magazine are $10 per year. Foreign subscriptions are $20 (U.S. currency) per year for surface mail, and $40 (U.S. currency) foreign airmail (except Canada). Student subscriptions in groups (one address) are $5 for eight issues and $6 for twelve issues. Single copies and back issues less than ten years old are available at $1 each ($2.00 foreign mail). All back issues are available on microfilm from Xerox University Microfilms, 300 North Zeeb Road, Ann Arbor, MI 48106. In submitting subscription, designate new or renewal and address including ZIP code. Send all subscriptions and requests for hardcopy back issues to the Business Manager: Glenn A. Anderson, Business Manager, 10171 Suzanne Rd., Mechanicsville, VA 23111. Publication No. 737246.

Leadership for the Teachership: Remaining on the Cutting Edge



BY JOHN P. MUNDT
Dr. Mundt is an associate professor of agricultural and extension education at the University of Idaho Boise Center.

As I reflected on the theme for this issue of *The Agricultural Education Magazine* "Innovations in Teaching", several thoughts came to mind. I, like many of you, just returned from an annual vocational educators' summer conference. After 29 consecutive years of attending the conference, I paused for a moment and reflected. What did I hear? What was done? What does it mean? Many things are done as a matter of tradition; the welcoming of new teachers to the profession, the peer recognition of outstanding accomplishments and excellence in teaching, the sharing of ideas, the interesting debates about everything from soup to nuts, and the general camaraderie which adds to the general esprit de corps of the profession as a whole. One statement that I have heard at almost every summer conference or professional meeting of agricultural education I have attended goes something like this, "This is the most exciting and challenging time in the history of vocational education". I asked myself, "how can this be?" Every year is the most exciting time in the history of agricultural or vocational education! Is that statement redundant or superfluous? Probably not, if one reflects for a moment; I guess the statement is true. Our world, nation, states, local communities, schools, families, and society as a whole are in a constant state of adapting and keeping up with rapid change. The challenge of this change makes each new year the most exciting and challenging time in the history of agricultural education. Whether we like it or not, change is all around us and as we know, change is not easy, and, in many cases, we resist it. It has been said that the only human being who appreciates change is a wet baby. If we choose not to be a part of the process of change, we will be left behind. Change requires us as members of the profession to be innovators.

So, back to the theme for this issue of *The Agricultural Education Magazine* "Innovations In Teaching". Some synonyms for the word innovate are: change, invent, modernize, revolutionize, and transform. These are powerful words for all of us in agricultural education.

I asked myself, "what could be some logical approaches to the theme?" An idea kept reoccurring in my mind. Each year the "profession", which in my mind is the broad or extended family of agricultural education, recognizes outstanding individuals. At our annual and regional meetings of NVATA, NASAE, AAAE, and FFA, individuals have been recognized who have made significant contributions to the profession and the students with whom they interact on a daily basis. An assumption is that these individuals must be outstanding teachers, they must be innovators, they must be inventors, and the list could go on. So my questions were: What is it that they do? What do they believe about teaching, learning, and motivating students? What do they do in their programs that is unique? What do they believe about their programs? What do they believe about what they teach? What do they believe about their students?

In this issue are some of the reflections, ideas, and beliefs of some of our outstanding teachers. The innovators—those who are on the cutting edge, they are part of the "Leadership for the Teachership". Some interesting synonyms for the word leadership are: direction, guidance, and instruction. Yes, "instruction". How interesting! The word teacher is synonymous with the word leader. So our teachers, and that means all of us, must provide the leadership for the teachership, so that agricultural education can remain on the cutting edge. I have always said that the word leadership means "Responsibility in Service to Others". I sincerely believe that is what we are all about as agricultural educators.

As leaders and teachers we must accept the responsibility for:

1. Exemplifying attributes which actively demonstrate appreciation, caring, and love for students.
2. Having high expectations of students and ourselves.
3. Planning and preparing interesting, student-centered lessons.
4. Presenting instruction with enthusiasm.
5. Effectively managing our classrooms and our students.
6. Effectively managing and organizing our vocational programs.
7. Making timely decisions and developing patterns of behavior which use time efficiently.
8. Maintaining a positive image of ourselves

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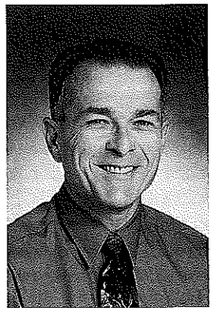
I Don't Just Talk AT My Students - They Are Involved



BY TIMOTHY J. ROLLINS & VICKIE T. LANTZ

Dr. Rollins is an associate professor of agricultural and extension education at Pennsylvania State University, University Park. Ms. Lantz is an agriculture instructor at Big Spring High School, Newville, PA.

The Setting

Vickie T. Lantz just completed her seventh year teaching in a single-person agriculture program of approximately 55 different students, in a four year high school of one thousand students in Newville, Pennsylvania. Newville used to be more of a farming community, but, like so many others, it is slowly becoming a bedroom community for a larger city, in this case the state's capital, Harrisburg. Although moderate-sized dairy herds comprise the largest sector of agriculture, Mennonite and Amish families are developing vegetable and crop farms as well.

Several years ago, agriculture classes at Big Spring High School were two periods long, but academically-inclined students attracted to the agriculture program couldn't enroll for both periods. So, Vickie sequenced single period classes (Agricultural Mechanics I, II, III, and IV and Agricultural Technology I, II, III, and IV) where juniors and seniors were together in alternate years. She teaches carpentry, welding, electricity, plumbing, and small gas engines in agriculture mechanics classes, and in agricultural technology classes, Vickie teaches food science and environmental science, along with plant and animal sciences, to ensure that juniors and seniors do research projects. Underclassmen give up a study hall or an elective to take an agriculture class since there are only seven school periods. Students enrolled in agriculture for four years receive one science credit toward graduation.

Two years down the road, Vickie anticipates changing to a "flex schedule" consisting of four 75-minute periods with a 90-minute period in the middle of the day. Vickie has rewritten all the older curriculum since she started teaching; while it is both good and bad, it's frustrating because she's constantly writing new lesson plans and new curriculum. In a different breath, however, she admits that it helps to keep her young, alive, and not get stagnant. "Maybe that's one of the things that helps the program - we don't ever do the same thing over and over," she surmised. "I'm not afraid to change, and I'm not afraid to show the students that I'm a human being."

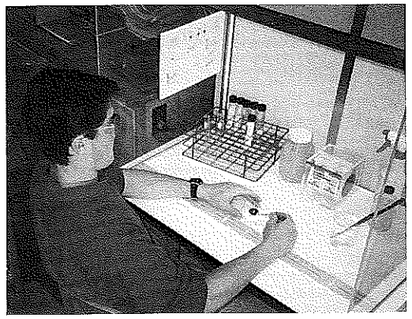
The Interview

What do you believe about motivating your students? How do you motivate students?

Some of the things I do in terms of motivating students relate to my beliefs about teaching. I'm very student oriented, so I try to ensure that students are gathering information. I love to have them teach courses, to get involved, and to come up with projects and ideas that relate to the curriculum. I don't do a lot of lecturing to students because I have them research the information they are interested in. I try to have them motivate each other and really get involved in what they're doing. If students are just taking notes and absorbing the information being presented, there is really no motivation and no reason for them to be there. As students ask questions, I will find they have a particular interest. I'll work with those students to get them to try something new or different. I know where I want them to be, but I don't force them to be there today or tomorrow. I know it takes time, but I'll show them how it can fit into what they are doing and how they can benefit.

Isn't it called motivation, very subtle, but in a very effective way? You think about where you want them to be, rather than say, "This is where I want you to be, now get there!"; you let them come to realize that maybe this is something that they ought to be doing. And then, they get in and do it. So while it's subtle, it's effective, too.

I have some special needs students in my →



Tissue cultures provide the opportunity for students to research and learn about non-traditional types of agriculture. (Photo courtesy of Vickie T. Lantz.)

The students designed, built, and landscaped an interior plantscape that was placed in the administration office. The plants were placed in individual containers and inserted into mulch. (Photo courtesy of Vickie T. Lantz.)

program, too, but I don't ignore them either. They are leaders in the sense that they have the same responsibilities as every other student in my classroom. Although I may test them a little differently, I don't treat them differently. I treat them like they were any other student in my class, and I think they know they can succeed. I'll try to work with them, which is motivating for me as well. They know that they can come into my classroom and have fun succeeding. Nobody is going to put them down because they don't know something or ask questions. I think students feel good about coming into my classroom, and that's another big motivation for me. I never discourage my students from trying and doing new things. I try to encourage them to be as creative as they can be.

You mentioned letting your students do the teaching or doing the research and having them share it with other students. Do you think that's a special way of teaching?

My classroom is an open environment where I encourage students to get up and move around; I have a lot of different research books, as well as computers. It is their classroom, and they feel free to come in. For example, we have a telephone in the classroom; if they are doing research, they can use the phone to research a topic. The students can also use computers to prepare work for another class; it is a very open environment. The students know when they come in, they're not just going to sit there and absorb information, they're going to have a chance to do something, to be part of the learning process, and not just to be talked at. I think it happens in other agriculture programs around Pennsylvania, but here it's a special way of teaching.

Can you tell me about a few teaching methods you use or some that you have had success with?

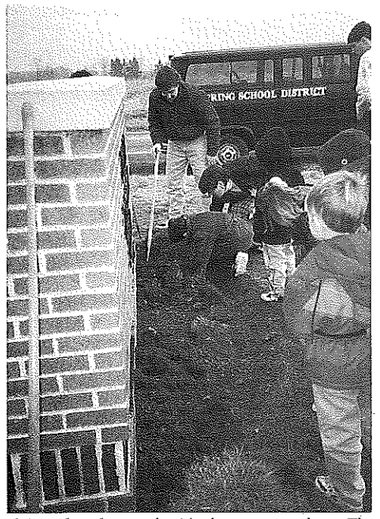
Although I don't make students learn dates, I think they ought to be aware of them. One method I use is a "timeline", except instead of having them do it on paper, the whole class works together. We'll construct a ten foot timeline, three feet wide, and it will hang on my ceiling. Another example was when students completed an electricity unit, they were assigned to develop a cartoon or a safety poster on electrical safety; those are hanging on the classroom walls too.

Constant review is one method that helps my students learn well and be successful. We review what we did the previous day at the beginning of the next class period. I tie it in with what we are going to do that period. Although I'm not successful all the time, I think this is a strong suit I have in the way I teach. My courses aren't easy; it's just that we constantly review, always at the beginning and always at the end. I know it helps my students be successful because they have commented on it. They have mentioned how other teachers tend to move along, and they do not show them how everything relates.

How do you show your students you care about what they learn, how they learn it, and if they really know it?

Although I am in my seventh year of teaching, I still remember when I was in the middle of teaching a soils unit. I hated it, the students hated it, and so we just stopped. I really had to take a look at what my students were doing, what their interests were, and who they were. I think teachers ought to take this into account. My students see me not just as a teacher, but as someone who is trying to do her best to do what is right for them and by them. They know that I have taken the time to make sure that they've learned it. One student commented, "Other teachers don't care that we are learning it. They're just there to get information into our heads, and the teachers don't care." They get the feeling that I do care, and that's important to students.

I am not afraid to talk to my students about their futures and how what they are learning in class ties in with what they want to be. My students see me not just as a teacher, but as a person. I have been to dinner at some of my students' houses, I've had FFA officers over for meetings, and I have had students study for a contest at my house. I will come in to school early in the morning, stay until late at →



Students learn by doing when they work with elementary students. The juniors and seniors worked with an elementary class to plant bulbs around the elementary school sign. (Photo courtesy of Vickie T. Lantz.)

night, or I'll use my planning period. It shows them that I care, and that's the key. I do it rather than talking about it. I actually show them I care by meeting their needs, by coming in when they need me to be there. I don't just say "Yes, I'll do it," but then never actually do it.

If I were to observe you, how might I see your personality and the role it plays when you teach?

I have fairly high expectations of my students not only while they are learning subject matter, but also in their behavior and their level of responsibility. They are in high school and my job is to try and to prepare them to be productive citizens when they leave. A large part of that is learning responsibility, and I really stress that. There are certain things I expect out of them, not just in content area, but in how they treat others in the classroom. My students know I expect them to be there on time, to treat each other with respect, and to treat each other just like you would want to be treated. I treat them as individuals, and I try not to just talk about content or subject matter because I want to give them some life skills.

I have my students do things to develop life skills. In one junior/senior class, my students had to make phone calls to twenty different research institutions asking for information about a topic they were researching. For some of the students that was very difficult to do, even as seniors. But, that is a large part of what I do in my program. I give my students a lot more than just subject matter or content skills; I equip them with the people skills and life skills they do not learn in their other courses.

One method I like my students to use is to partner with another person or in small groups where they sit in a circle. I find that this technique can work to take away the fear of giving an answer in front of a whole group. It allows the students to present ideas without feeling threatened. Normally, my classroom is arranged so that all of the chairs face toward the center, facing each other. Potentially that could be more of a discipline problem, but I have also found I get more discussion from my students. Normally, they would hear somebody behind them and not see them. But this way, they can see each others' faces rather than the backs of their heads.

Would you give me some thoughts on what you believe about learning?

I don't recall where I found this, but I have a quote that says "All students can learn". I really believe that. As a teacher, you have to find out how students learn and you have to figure out what makes those students tick. I understand that all students learn differently, and I really try to vary what I do. It's just a matter of making sure that you spend time getting to know the students and how they like to learn. For example, when I give a test, I try to take my students to a higher level with essay questions. Since I have smaller classes with fewer students, I feel that the least I can do is try to bring them to a higher level of understanding through questioning techniques.

I encourage my regular students to work hard to help the special needs students understand the classroom material. For example, I don't exclude special needs students when we are reading aloud. I encourage the rest of the students to help each other, and they encourage the special needs students. Even though we never say it, I think it is a necessary life skill that students learn to work with different kinds of people.

Do you feel that the classroom environment is a vital part of teaching and learning?

Yes, because I have walked into some classrooms that are sterile; there is nothing on the walls, and you never see anything the students have done. For the most part, students are in my classes because they want to be. That makes it a lot easier for teaching and learning to occur than if its a subject students absolutely hate but have to learn. Sometimes, I'm not sure that it is anything that I do deliberately; it's just putting students into an environment they want to be in. For example, I have students who completed a nutrition unit and the mobiles they made are hanging on my ceiling. My students are proud of what they do, and my willingness to hang it on the wall or on the ceiling says to them, "I'm proud of what you've done, and I'm willing to show other people". So when I say my classroom is very student oriented, it is truly theirs; the environment is a big part of helping students feel comfortable in my classroom.

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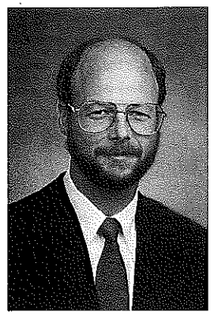
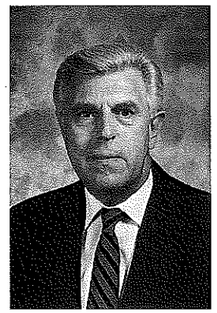
And the Walls Came Tumbling Down: Innovations in Teacher Preparation





BY DAVID C. WHALEY, CORINNE MANTLE-BROMLEY, AND JERRY WEISER

Dr. Whaley is the program chair of agricultural education and director of teacher licensure and Dr. Mantle-Bromley is an assistant professor of education, school of education, Colorado State University, Fort Collins. Mr. Weiser is the principal, Valley High School, Gilcrest, CO.

My own experience in schools was no longer sufficient to understand the teachers' point of view, and the public school teachers with whom I had contact regularly reminded me of it. They would sometimes discount my views of public education, taunting me with, "You people from the university don't understand the real world of the classroom! When are you going to leave your ivory towers and get out in the trenches?"
-(Palonsky, 1986, p. vii).

Listen closely to the whispers of preservice students enrolled in our universities' teacher education programs, and you are likely to hear murmurs of discontent: "It is not reality", "My college teachers haven't been in the public school classroom in a very long time", "Education classes are busy work—they lack challenge", and "There is a lot of overlap and repetition". In spite of these concerns, however, our new teachers regard their preservice training as the most critical ingredient for launching a successful and long lasting career in education. Certainly, if the value of the preservice experience is so important, shouldn't the very best opportunities be afforded to students in their quest for superior preparation?

Recently, the call for reform of teacher education has been heard from a myriad of stakeholders: The American Federation of Teachers, The American Association of Colleges for Teacher Education, The Holmes Group, The National Education Association, etc. Advocates of this reform suggest that partnerships between university teacher education programs and the public schools may enhance the preparation and efficacy of new teachers. These suggested partnerships are often referred to as "professional development schools".

The concept of the professional development school (PDS) appears to offer one venue for the enriched preparation of preservice students. Originally conceived by the Holmes Group (1986), the PDS "represents a partnership between the teacher preparation institution and a public school that seeks to improve teacher development (preservice and inservice) and to contribute to the research and development of the teaching institution" (Mantle-Bromley and Blocker, 1995). The PDS model strives to empower the teacher preparation process by linking more closely educational theories with the practice of teaching, by actively involving university teacher education faculty and students on-site in the public schools, and by forming a collaborative professional team of university and public school faculty committed to the quality preparation of new teachers.

Traditional teacher education programs are generally constructed with the essential building blocks of on-campus professional education coursework (e.g., introduction to education, educational psychology, teaching classroom reading, methods of teaching), a part-time clinical/practicum experience in the public school system, and a culminating full-time student teaching semester. Micro-teaching (or "practice" teaching) is usually integrated into the professional education coursework and, most often, occurs in a carefully managed, on-campus setting to a group of college peers.

In the professional development school model, education coursework is often delivered to teacher education candidates at a public school site by university faculty and teachers in that public school. Practicum experiences are co-sponsored and managed cooperatively on-site in the public school by these same university and public school faculty. Practice teaching occurs directly within the public school classrooms and exposes the teacher trainees to "real" students in "real" situations.

It has been estimated that there are approximately 125 professional development schools nationwide (Abdal-Haqq, 1992). The research on PDS reveals a number of significant benefits for those involved in these programs. Public school teachers participating in PDS programs have verbalized a sense of increased professional status, a decreased sense of isolation from other professional educators, heightened feelings of collegiality within their school faculty and with the cooperating university faculty, and an eagerness to participate in self-improvement activities such as applied research and reflective teaching. These teachers are also more likely to view preservice candidates in teacher preparation programs as co-teachers, with useful and unique experiences, instead of as guests in their classrooms.

Preservice students in PDS programs →

generally reflect a higher degree of confidence in their abilities to teach because they have refined their skills under substantive conditions in the public school classroom. Teacher education completers of PDS programs have reported a sense of greater understanding and acceptance of the public school culture (Mantle-Bromley and Blocker, 1995) as well as a greater familiarity with the public school climate. University faculty in teacher preparation programs have also projected an increased confidence and greater satisfaction with the quality and rigor of their teacher training programs and with their program completers.

Yet, disadvantages to PDS programs have also been reported. The commitment of time and resources by university and public school faculty is inordinately high, thereby diverting these already precious commodities away from other priorities. Faculty have also reported on the lack of recognition and rewards for their participation in these programs; their colleagues and administrators often do not have the same level of commitment or understanding of the PDS as they do.

Linda Darling-Hammond (1994) refers to PDS programs as "the linchpins in the movement to restructure education", suggesting that these partnerships may be able to change cultural norms (both school and university) to be more collaborative and more encouraging of continual learning. She cautions, however, that PDSs require institutional, policy, and financial support if they are to meet these expectations. She stresses the need to first form relationships of trust and common vision. Concurrent with this first step is the need to build stable, institutional support of the program. A PDS relationship needs time to develop and mature — participants need to know that the arrangement will last over time. In order for these relationships to become reality, however, someone must take that first step.

In Fort Collins, Colorado, professional development school partnerships are currently underway between Colorado State University and three local high schools (two comprehensive schools and one alternative high school). Within the structure of this PDS, preservice students from Colorado State University attend college-level professional education courses on-site at Rocky Mountain High School every Tuesday and Thursday from 7:30 a.m. to 3:30 p.m. During these prescribed times, students attend a teaching methods class taught cooperatively by university and high school faculty, participate in daily practicum/clinical classroom experiences, and participate in a noon-hour seminar for debriefing and reflection. The teacher education candidates all teach a minimum of three 90-minute lessons each semester to high school students in their respective content areas. University faculty, a graduate assistant, and volunteer high school faculty collaborate in offering and managing all experiences. The public school faculty, the university faculty, and the students all enthusiastically report positive benefits and outcomes from their participation.

During the past decade, the agricultural education program at Colorado State University has experienced challenges in providing preservice students with the most appropriate training for their impending roles as agricultural educators. Given the movement away from applied instruction in agricultural mechanics in higher education, university students have had to seek this skill attainment at alternative sites, primarily community/junior colleges. Facilities, equipment, and instruction necessary to provide this essential training are no longer easily accessible on university campuses. Additionally, opportunities to work with the FFA and to supervise student agricultural experiences traditionally take place only during practicum/clinical experiences. These experiences have necessarily occurred outside of the confines of the university classroom and away from the immediate supervision of the university faculty member. Thus, the existence of a professional development school, encompassing the uniqueness of our agricultural education programs, may have sound merit.

An initiative is currently underway to create a PDS with a vocational emphasis at Valley High School in Gilcrest, Colorado. Historically, the agricultural education program at Valley High School and the preservice education program at Colorado State University have provided each other with mutual and supportive assistance. Student teachers from Colorado State University have been placed at Valley High School, and practicum/clinical experiences have also been constructed at Valley High School for university preservice students. In the recent past, the high school agricultural faculty have sought professional development opportunities with the university faculty. Therefore, the creation of a formal professional development school partnership seemed a logical progression for both faculties.

The administrators and faculties at both sites supported the establishment of the professional development school, but desired a broader emphasis on all vocational areas. Instruction in the operation of student organizations and day-to-day interaction with vocational chapters/clubs was just one of many appealing features of the proposed PDS. The delivery of a vocational methods of instruction course for preservice students at Valley High School offered significant opportunities for tying vocational theory into practice. The willingness of the Valley High→

School faculty, with the cooperation of university faculty, to share in the facilitation of both the student organizations course and the vocational methods course added a feature of shared responsibility for the success of the preservice teacher education program. Finally, the willingness of the university teacher education faculty to partner with the high school faculty in providing workshops on topics such as effective mentoring, applied research, and reflective teaching, created an enthusiastic and mutually supportive beginning for this PDS. Certainly, the agricultural education faculties were enthused about providing enhanced training opportunities to preservice students using the high school's equipment and facilities. The promise of the professional development school partnership offered increased opportunities for all stakeholders.

Project planners were able to secure a small grant from the Goals 2000-Educate America Act (Center on National Education Policy, 1995) to initiate the planning processes for the professional development school. Planning sessions were held during the 1995 summer session to develop a comprehensive plan and master calendar. These timelines and activities are described in Table 1.

Potential outcomes of this plan include faculty exchanges between Colorado State University and Valley High School, the enhancement of staff development opportunities for both faculties, opportunities for strengthening the integration of academics and vocational education at the high school, more preservice students and university faculty on-site at Valley High School, and opportunities for establishing a continuum of preservice experiences from part-time practicum/clinical experiences through full-time→

Table 1. Implementation plan for professional development school (PDS) partnership between Valley High School and Colorado State University.

Date	Spring/ Summer 1995	Fall Semester 1995	Spring Semester 1996	Summer Session 1996	Fall Semester 1996
Activity	1. Comprehensive planning by faculty	1. Planning (cont.)	1. Part-time practicum students begin placements at Valley High School.	1. Part-time practicum students continue placements at Valley High School.	1. Part-time practicum students continue on-site.
		2. Awareness of PDS expectations and acceptance by all stakeholders: a. Faculty b. Preservice students c. High school students d. Community partners (parents, etc.)	2. Vocational student teachers begin full-time placements at Valley High School.	2. Applied research efforts continued between VHS and CSU faculty.	2. Vocational student teachers have full-time placements on-site.
			3. Seminar offered on-site for vocational pre-service students.	3. Planning and evaluation.	3. Seminar offered on-site for vocational pre-service students.
			4. Staff development workshop in mentoring offered by faculty from VHS and CSU.		4. Staff development workshop in mentoring offered by faculty from VHS and CSU.
			5. Vocational course in occupational experience offered for vocational pre-service students.		5. Vocational student organizations course offered on-site for preservice students.
			6. Applied research efforts begun by VHS and CSU faculty		6. Basic methods in vocational education course offered on-site.
			7. Evaluation of PDS efforts.		7. Special methods courses in vocational education offered (i.e. Methods of instruction in ag ed)
					8. Evaluation

student teaching.

The overarching goal of this professional development school partnership between Valley High School and Colorado State University is to provide mutually beneficial learning and working experiences for students and faculty of both institutions, thereby maximizing resources and expertise. Although this particular PDS is still in the early stage of operation, its promise for enriching the preservice teacher education program is significant. Professional development schools, while new, have proven to enhance both the local school program and the professional teacher education programs at the university. Preservice students trained in professional development schools are better prepared for their student teaching internships. Their experiences have been gained in a "real" environment under actual circumstances. The faculty members supporting the professional development school partnership have also evidenced a greater sense of purpose and confidence in their roles. Successful professional development schools have brought down the walls of separation between public schools and the university teacher education programs. Certainly this impact can reap untold benefits in the preparation of agricultural education teachers. We have high expectations that the professional development school partnership between Valley High School and Colorado State University may soundly bridge the relationship between theory and practice in creating the most successful preservice experience, and that it will bring university and public school faculties into an equal and collaborative relationship.

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Leadership for the Teachership

(Continued from page 3)

and the students enrolled in our programs.

9. Maintaining facilities in a neat and orderly fashion.
10. Being an active, dues-paying member of our professional organizations - one who invests not only dues, but one who gives of their time and talent to the organization.

The French theologian, Teilbard de Chardin said, "The future belongs to those who can give tomorrow's generations valid reasons to live and hope". As members of the profession, let us commit ourselves to providing "Leadership for the Teachership" so that Agricultural Education will remain on the cutting edge. Then we can say as teachers, "We have given future generations valid reasons to live and hope." ■

I Don't Just Talk AT My Students

(Continued from page 6)

When your principal, superintendent, or peers talk about Mrs. Vickie Lantz, what makes them think of you as an outstanding teacher?

Some of it is dedication. Having been a state FFA officer and working during summers and the school year in the Agricultural Education Department at Penn State University, I know who I need to see, where I need to go for information, and that's a definite advantage to both my program and my students. I talk to them about that a little and try to get them to see that some of the things I do ultimately will help them in the end. I really believe in agricultural education, in the FFA, and in what we're doing.

I try to provide my students with many different kinds of learning situations and experiences. For example, some of my students attended a school board meeting and presented a wildlife booklet for elementary teachers. They made the presentation to the school board, not me. When the FFA chapter needs to use the school facilities, the students are the ones who make the arrangements.

There are instances when no one explained to my students why they're in my class other than to get a job after graduation. These students feel they will definitely have something concrete when they leave here. I have high expectations of student behavior, too. So I think they would say that I'm very dedicated, they see me at school at all hours, and I am always doing a lot with students. I care about my students, and I think it shows. ■

Educational Secrets

BY JACK F. ELLIOT

Dr. Elliot is an assistant professor of agricultural education at the University of Arizona, Tucson.

Christy Smith and John Morgan share their secrets of teaching with Jack Elliot. Read their responses and incorporate the feasible ideas into your own teaching techniques. It is interesting to note that many of their comments revolve around the process of teaching and not content.

Ms. Smith teaches at the Carl Hayden Center for Agribusiness and was selected as the 1993 National Agriscience Teacher of the Year. Mr. Morgan is an agricultural instructor at Chino Valley High School and was selected as the 1994 NVATA Outstanding Young Teacher.

1. Elliot: What is good teaching?

Smith [S]: Good teaching is teaching that incorporates a variety of methods that include experiential learning or "hands-on" experiences. Teachers should be prepared each and every day with a plan that promotes organized, sequential learning. Good teaching is interesting and encourages students to learn.

Morgan [M]: Having the ability to change someone into a productive, hard-working citizen.

2. What motivates you to excel?

S: Watching students achieve and learn things they never thought themselves capable of. It is also very motivating to have my students and myself recognized by our peers.

M: Diversity.

3. What is your favorite teaching memory?

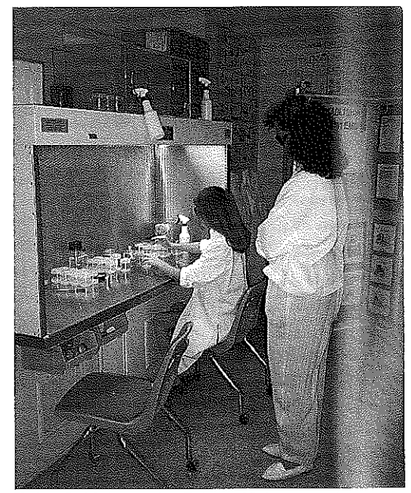
S: That is a really difficult question. Recently, I developed an extremely difficult essay exam to test my advanced students on what they had learned in the agricultural biotechnology program and how they could apply that information to related questions. They could have all blown it off since they have all done so much extra credit this year it probably would not have affected their grade. Instead, not a one of them failed, in fact, the lowest grade was a C. They answered questions with accuracy and eloquence. I graded those tests as if they were in their 3rd or 4th year of college. They didn't do it because they had to, they achieved at that level because they wanted to. It was a very satisfying feeling.

Of course I could tell you of the many children that would not have attended college had it not been for the scholarships they earned for the research they accomplished in this program. I could also tell you of the students that come to school every day just so they can be involved in agriculture. They are all good memories.

M: Assisting in the education of a "special needs" student who was speech impaired. He went on to be a state degree, state proficiency award, and state nursery winner. He ended up being placed in a private welding firm position.

4. How do you motivate students?

S: At this point in time, I have the luxury of knowing all of my students and their families on a personal level. The students I have right now have been with me for a long time, and I believe they have stayed because they enjoy the environment and they are getting something from the program. They are such a close peer group that they encourage and motivate one another. When this kind of student intimacy does not exist, traditional motivators such as award programs, positive verbal/written reinforcement, scholarships, and job placement are used.→



Christy Smith instructing Brittney Vining on explant evaluation while she works in the laminar flow hood. (Photo courtesy of Christy Smith.)

M: I'm excited—so they are excited (mostly).

5. Why do you believe that you were recognized as an outstanding teacher (remember your peers felt you deserved the award)?

S: For successfully implementing "cutting-edge" technologies into agricultural curriculums.

M: The successes of the program including students and awards and facilities that have been designed and implemented.

6. What do you believe about the following:

a. motivation?

S: I believe all people are motivated by different things. As a teacher, I believe it is my job to discover what motivates each and every one of my students, then I can exploit that motivational technique to maximize the potential of those students.

M: I believe that it is probably the most important ingredient for success.

b. teaching?

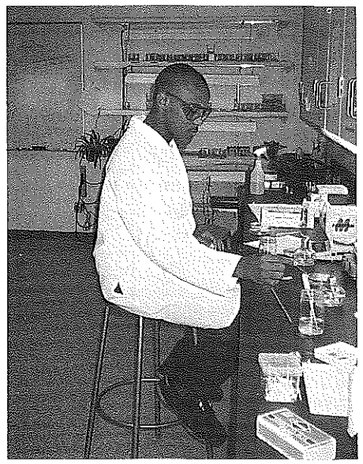
S: I believe that teachers make a difference in the lives of their students each and every day. And, it is within the power of those teachers to make that difference a positive or negative one.

M: I believe teaching can play a key role in shaping the future of the planet.

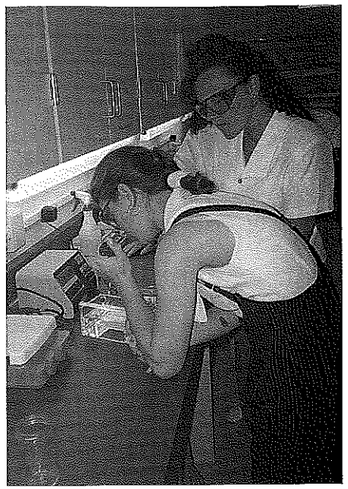
c. learning?

S: I don't think you can ever stop learning. It is the core of what we are and what we become. If you made a conscious decision to stop learning, why bother to go on? For me, existing is learning.

M: I believe learning should be ongoing. "The mind is a terrible thing to waste," is an appropriate saying.



Introduction to Biotechnology student Ty-Juan Swasey is shown here gram staining fish cultures. (Photo courtesy of Christy Smith.)



Amy Carpenter and Cory Marsh load a gel in an electrophoresis unit to perform a DNA analysis laboratory exercise. (Photo courtesy of Christy Smith.)

d. students?

S: I believe that students remember very little of the content they receive in secondary schools. They do remember experiences, attitudes, situations, places, things, etc. I am an experience facilitator.

M: I believe that students are only as successful as you let them be.

7. What is more important: teaching or learning?

S: Learning: individuals learn from everything not just from what they're taught. I believe if all teaching stopped tomorrow, people would continue to learn from their experiences.

M: Both are important. They are somewhat unilateral. Teachers teach and learn, as do students.

8. What is it that you do?

S: I asked a past student, and he said that I should not answer this question, but that one of my students should. So, I asked one as she was walking through. She said, "Everything." I guess that's somewhat true - depending on the day, I could be: teacher, chauffeur, counselor, mother, friend, chaperon, travel coordinator, coach, internship developer, advisor, or a myriad of other things.

M: I teach mechanics, biotechnology, forestry, aquaculture, leadership, you name it. I believe in a diverse program that provides education beyond the secondary level.

9. What is the most unique aspect of your program?

S: Due to the structure of our program,→

the teachers at Carl Hayden have the ability to develop highly specialized programs. I believe that we have the most advanced agricultural biotechnology program in the country. My students are conducting research that has been recognized/published on an international level, and I constantly change the curriculum to adopt emerging biotechnologies as they are developed. I can honestly say that I never took a class (even in college) that exposed students to as many scientific experiences as this program does.

M: Renewable resources which include: aquaculture, biotechnology, wildlife management, and forestry.

10. What is the most unique aspect about you as a teacher?

S: I purposely encourage "non-traditional" agriculture students to participate in agricultural education. I have had some agricultural educators tell me that my kids were freaks just because they don't wear boots and jeans, and they don't even know what a can of Copenhagen looks like. By increasing the diversity of our student populations, I believe agricultural education can continue to grow with our nation.

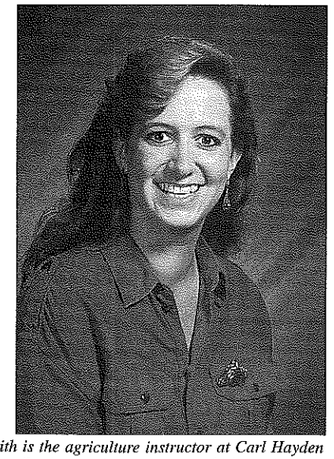
M: Energy.

11. What do you believe about your students?

S: I have the best students in the world. They are devoted to experiencing life. And while sometimes rearranging their priorities to what might not be the socially accepted standard, they accomplish and grow continually.

M: They can be successful with a little push.

12. Is there a good future for young people



Christy Smith is the agriculture instructor at Carl Hayden Center for agribusiness. (Photo courtesy of Christy Smith.)

who want to follow in your footsteps (i.e., be a teacher)?

S: As long as a free education remains a constitutional right, there will always be teaching jobs. Teaching offers great rewards and great disappointments. It is a bureaucratic maze of pitfalls and dead ends.

M: Absolutely - we need good agricultural teachers who are hard working, energized, and visionary.

13. What is your most innovative teaching technique, lesson or idea?

S: There is one technique that I have been able to use for every class I have ever taught. I use a competitive game show format to review for unit exams, where candy and extra credit points are given for every correct answer (I'd need to explain it in person or submit a lesson plan to illustrate.).

M: On campus SAE opportunities and allowing students to have projects and profit from them ... on campus.

14. What was your most discouraging moment as a teacher (why?)?

S: Watching the same student that won the CARSEF Sweepstakes, experiencing severe emotional problems, and then get pregnant in her senior year of high school.

M: The inability to do it all. Too many other areas crop up which need attending to

15. What was your most exciting moment as a teacher (why?)?

S: Sitting in the AS Activity Center with 542 science fair competitors at the Central Arizona Science & Engineering Fair. I mean, the really BIG DOGS of science were competing, and one of my agriculture studentswon the Sweepstakes for the whole thing. Then we both got to travel to New Orleans to compete internationally.

M: Receiving a grant for aquaculture, I knew it would revolutionize a stagnating curriculum.

16. Why are you a teacher? Reasons for becoming a teacher? Who influenced you? Would you do it again if you had to do it over again?

S: I would not give up the last six years of my life for all the money in the world. I was influenced by participating in 4-H. 4-H provided me with direction, a chance to travel, and eventually a full scholarship to U of A. I wanted to help direct and motivate young people. I wanted to give something back to the industry that gave so much to me.

M: The diversity of an agricultural curriculum, and I enjoy working with high

(Continued on page 16)

Lone Star SAE Innovations

BY CRAIG EDWARDS
Mr. Edwards is an agriculture instructor at Klein Oak High School in Spring, TX.

Introduction

Energy and environmental technology, wildlife and recreation management, floral design, entrepreneurship, and personal skills are developed in agriculture; yes in **AGRICULTURE**. What is even more astounding to some of us is the fact that these courses grace the curriculum in Texas, *yes* **TEXAS** (the land of cattle, cotton, and conservatives). What may come as another shock to those of us that may have been *resting* for the last decade or so is that we were not in the rearguard on these curricula innovations but out in front on the "cutting edge", taking our share of the cuts and scrapes. Some would argue that these changes were merely slight twists and minor turns on the old curricular paradigm, a.k.a. the broad umbrella of "production agriculture". Yes, no, "kinda (*sic*), sorta (*sic*), maybe"? From a purely personal perspective, the previous curriculum appeared to be "a mile wide and an inch deep" while the "new and improved" version can seem so quasi-related that it borders on the outer fringe of the universe we call **agriculture.** The truth, as with most truths, can probably be found somewhere in between.

This baptism, like most, was eventful, daunting, and in certain respects, ***incomplete***. Specifically, what of the new, often *"non-traditional"* students/clients, these courses and others like them attract; and, more precisely, what of their Supervised Agricultural Experience (SAE) Programs? Herein lies a quandary, at least for this Texas agriscience teacher, and I suspect that I have a lot of company.

Case in point: our program at Klein Oak High School is one of three high schools in the Klein Independent School District, and serves an enrollment of approximately 235 students each semester. Of this number, close to two-thirds will conduct a more or less "traditional" animal/plant project program, or "production enterprise". The projects will be almost exclusively "show oriented", with the objective being their exhibition at our local school district project show. These projects go a long way toward meeting the students' state mandated SAE requirement; depending upon course(s) that the student is enrolled in, the student's previous course history, and the duration of the project.

Obviously, this begs the question, "What about the remaining one-third?". Excluding course-related agribusiness work experience (employment) or pre-employment laboratory training, most of these students meet their SAE requirement via *"outside the classroom"* applied activities. Meaning, activities conducted and completed outside the student's regularly scheduled class time that are closely related to the course in which the student is enrolled, and that serve to enhance and reinforce the course curriculum. This reality forms the premise for the following innovation: judge its merits as you see fit, but please do read on.

SUPERVISED AGRICULTURE EXPERIENCE (SAE) PROGRAM

APPLIED ACTIVITIES AWARD PROGRAM

Klein Independent School District (ISD) FFA Project Show

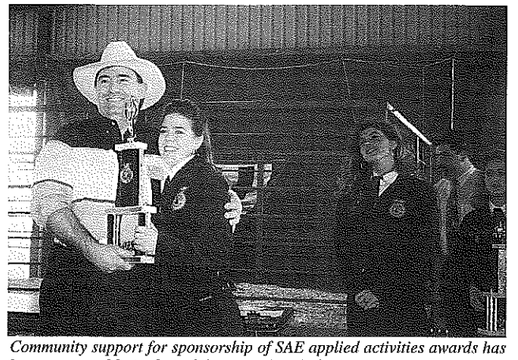
PURPOSE: The purpose of this competition/recognition program is three-fold. First, this event offers an opportunity for agriculture science students **not** conducting a *"traditional"* project program, a vehicle by which they can participate in and feel a part of the Klein ISD FFA Project Show.

Second, it affords them the chance to receive recognition for their efforts in carrying out *"quality"* **applied activities** while meeting the Texas Education Agency (TEA) mandated *OUTSIDE OF CLASS SAE* requirements for all agriculture science courses beyond the agriculture science 101 level (beginning with agriculture science 102).

Third, by both the judging of entries in this event and their subsequent display, a dimension of the agriculture science curriculum, which is often misunderstood and frequently under-→

Coming Next Month

1995-1996 *Agricultural Education Magazine* Themes



Community support for sponsorship of SAE applied activities awards has been comparable to that of the animal and plant categories. Shown here is the trophy sponsor and the Reserve Grand Champion recipient for 1995. (Photo courtesy of Craig Edwards.)

appreciated, will be presented to the general public.

It is hoped that this will be an educational benefit to the students involved, and that it will serve as a motivating factor for improving the quality of agriculture science students' SAE applied activities. In addition, it may serve as a window into the agriculture science curriculum, through which the public may better understand and appreciate the important role agriculture plays in our schools, communities, states, nation, and world.

SAMPLE RULES/GUIDELINES

1) All students entering projects in the applied activities award program must be *dues paying* FFA members in "good standing" with their respective FFA Chapter.
2) All students entering a project must have successfully completed (passed) the agriculture science course the SAE project pertains/relates to, **or** currently be enrolled in a pertaining/related agriculture science course.
3) Projects must be the *original* work of the student entering the project.
4) The project must have been done **outside** of the regularly scheduled class time for the related course.
5) The project must be listed as an **outside of class** activity (with appropriate date, unit of instruction letter, and instructor assigned point value) on the student's SAE record book journal page. For this purpose, a copy of the student's record book journal page **must be included** with their applied activity entry.
6) Only **one entry per student** in each class within a division is permitted.
7) A student may enter as many different divisions as they are deemed eligible.

SAMPLE DIVISIONS

One-Sided Posters	Three-Sided Posters
Reports	Models/Mock-ups
Mechanical Drawings/Schematics	Portfolios
Summary of Interviews	Demonstration Videos
Letters Requesting Information	Miscellaneous

SAMPLE AWARDS/RECOGNITION GUIDELINES

There shall be a class in each division representing each **different** agricultural science course taught during the current school year. First, second, and third place entries in each class will receive **ribbons**. Class winners will compete for division champion. Each division champion will receive a **plaque**.

The **Grand Champion** will be selected from the divisional winners. **Reserve Champion** will be selected from the remaining divisional winners, and runner-up from the Grand Champion's division. Grand Champion will be awarded a trophy/belt buckle, and Reserve Champion will be awarded a trophy.

SAMPLE SCORECARD REPORTS

Student Name _____

Report Topic _____

Course _____

Note: Report topic **MUST** pertain to the class/course for which the student was/is enrolled.

SCORING CRITERIA:

I. **Content** (proficiency with which subject matter is addressed, accuracy, completeness, etc.) **40%** _____
II. **Grammar** (capitalization, punctuation, sentence structure, and spelling) **20%** _____
III. **Interest Arousal in Reader** (left wanting to know more about the subject, etc.) **20%** _____
IV. **Professionalism of Text** (free from typing/correction errors, appropriate use of references, citations, footnotes, etc.) **20%** _____

Total (100%) _____

Judges Comments / Suggestions / Observations:

Conclusion

Well, there you have it, with all it's limitations and shortcomings. It is not perfect, and we continue to tinker and make adjustments. In the two years that the SAE Applied Activities Award Program has been implemented as a part of the Klein Independent School District FFA Project Show, both entries and interest have grown. Parents and school administrators alike have commented, "I didn't know my child could do something like this in Ag," or, "I didn't know→

y'all did these kind of things". Needless to say, we anticipate increased participation and, hopefully, improvement in both scope and quality.

Please permit three caveats from the voice of experience. First, just as we proudly display cattle, swine, sheep, and poultry, place your students' applied activities projects in a locale that is a high traffic area where the community can see, and in all probability, admire their children's efforts. In other words, "put them on the front row".

Second, get "school people" to serve as judges; preferably administrators, counselors, and supervisors that make decisions regarding the status and, more importantly, the future of our programs. Most are not that well versed in the "nuts and bolts" of our curriculum, so use this as a vehicle for educating **them**. The public relations value of both one and two has got to be on the plus side.

Third, we recognize our SAE winners right along side the student who exhibited the grand champion steer or the swine showmanship winner. These presentations take place during our project show award ceremonies. The message here is clear: These projects are **important.** We make no apology for our strong gesture of inclusion regarding these young people. This may or may not be a hard sell in your neighborhood, but if you want students and adults alike to respect these activities, an equal level of esteem must be projected.

I would be very happy to correspond further with any interested parties on this topic, and would most welcome ideas, comments, suggestions, or information about similar programs. Please write or FAX me, Craig Edwards, Klein Oak High School, 22603 Northcrest Drive, Spring, TX, 77389; FAX (713) 370-9783. Thanks!!!

Reference

Instructional Materials Service and Texas Education Agency. (1989). Supervised agricultural experience program guide for agriscience and agribusiness. College Station, TX. ■

About the Cover

Inservice education offers agricultural educators opportunities to develop new ideas for innovations in teaching. The instructors shown on the cover are conducting a soil analysis for micronutirents in a horticulture workshop offered to Idaho agriculture instructors.

(Cover photo courtesy of John P. Mundt.)

Educational Secrets

(Continued from page 13)

school students. Frank Molina was my greatest influence - straightened me out - made me see secondary level a little better.

17. What is your greatest success story as a teacher?

S: I had a student who came from an illiterate family, neither her mother or father could read. Her father was a diesel mechanic, and the family lived in the shop, sleeping on a dirt floor. This kid worked a full time job, went to school, participated in sports, and completed an agriscience research project. Her parents continually held her back, refusing to sign scholarship applications. Because of her agriscience research project she was awarded a full 4-year scholarship to ASU.

I am also very proud of the fact that we have the only commercial micro-propagation lab in Arizona, and it is operated by students.

M: High student placement in college and the work place upon graduation (42% college, 100% college or work).

18. What is the most important advice you could provide a young person entering teaching?

S: Be resilient, innovative, organized, AND NEVER STOP LEARNING!

M: You've got to be rough and tough - yet compassionate and sensitive to the needs of others. It's a tough combination, but essential for productivity.

19. What is the secret to being a successful teacher?

S: Just accept that EVERYTHING is your job. If it's not in the job description, and it's good for kids, DO IT ANYWAY.

M: Being yourself. It's okay to make mistakes and to show your real self to students. They'll respect you more in the long run.

20. What is one word that describes you as a teacher?

S: Ambitious.

M: Motivated.

21.What are your most enjoyable and least enjoyable aspects of being a teacher?

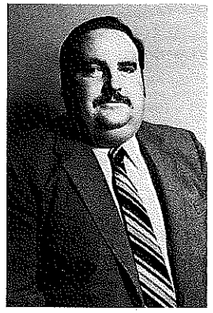
S: Most Enjoyable - Working with anyone who wants to learn.

Least Enjoyable - Pointless meetings, bureaucracy, and paperwork.

M: Most Enjoyable - Diversity of job.

Least Enjoyable - State and Federal Bureaucracy (paperwork) ■

Are We On the Right "Track"?



BY RICHARD MESKE

Mr. Meske is an agriculture instructor at Black Hawk High School in South Wayne, WI.

During the past several years, there has been considerable effort put forth by various State Department of Public Instruction personnel, some University staff members, and fellow instructors in leadership positions to change traditional and/or typical vocational agriculture (agricultural education) programs from production emphasis to an agriscience and/or "high tech" emphasis. There have been numerous publications and presentations all of which infer that unless the agricultural education programs become more technology oriented, students will avoid enrolling in these electives and agricultural education will be phased out of the school curriculum.

These advocates of "high tech" also imply that the traditional "vocational agriculture" programs of the past twenty-five years, have offered students experiences that have bordered on obsolescence, been somewhat useless, nonfulfilling, non-challenging, non-exploratory, repetitious, uncreative, non-problem solving, and generally lacking in quality. Nothing could be farther from the truth in a quality agricultural education program!

Having taught agricultural education over the past twenty-three years and having been involved with our professional association in various positions has given me the opportunity to observe what I consider many excellent programs; offering the student participants a broad base of agricultural education subject matter both in the classroom and through the FFA. Both phases of the program are providing relevancy to the students' vocational and avocational needs. However, this does not imply that change is not in order! Quite to the contrary, change is in order in our curricular offerings; but perhaps these changes are best accomplished by subtle, on-going modifications, not drastic revisions usually suggested by the proponents of "high tech". We should not suddenly throw out the well-developed, traditional agricultural education programs, replacing them with "high tech" and science oriented offerings. The word "technology" is certainly not new to our vocabulary; consider the change from slide rule to calculators, and the change from typewriter to computer. These improvements and a host of others represent technological change, but not everyone everywhere accomplished them suddenly.

With computer technology advancing so rapidly, I would advocate a more gradual, analytical approach to agricultural education curriculum changes, while keeping much of our traditional subject matter and course content. The traditional material is still very applicable and timely with respect to individual student needs, current society needs, and economic demands.

Today's graduates are competing for positions that are more "service" related versus "high tech". Approximately six to fifteen percent of today's graduates are needed in the high tech industries. According to the *American Forecaster* by Long and Reim (1986), "current occupational statistics indicate a trend of shifting jobs from manufacturing to the service industries in the United States".

In light of the above trends, I believe we should continue to offer our "traditional" agricultural education students the basic knowledge and skills development in animal science, plant science, mechanics, supervised experience programs, record keeping, and leadership. We must, however, integrate the newest technologies into existing curriculum where it improves and enhances the subject matter being taught. Several years ago in the state of Wisconsin, a study was conducted called the "Parker Project". The bottom line of that study showed that employers desired to have prospective employees come to work with a solid understanding of the "basics" within their area of specialization and have a desirable work ethic including: being punctual, trustworthy, dependable, honest, and demonstrating self initiative. The businesses would train the individual for specific job skills that they would need to succeed in their position.

Terms such as "High Technology", "Tech Prep", "Education for Employment", and "School to Work Transition" are confusing and need to be clarified and carefully redefined. All of these terms sound great, but what, specifically, do they mean? It appears to this author that each of the initiatives should be supported by sound objectives and more importantly a listing of teacher/student activities which would facilitate and accomplish→

those objectives. All too often, "buzz words" and "terminology" are provided by those wanting change, but little if anything else follows, resulting in no change at all.

There are many curricular components that are available to supplement agricultural programs. Many of the "applied" curriculum packages are definitely an asset to the existing agricultural program, but I believe that the agriculture instructor must recognize, synthesize, and articulate with other curricular offerings, being careful not to duplicate those disciplines! Many times today a "cooperative" effort is incorporated within a classroom/lab to complete a given task. This experience certainly allows the opportunity for students to work together to accomplish the desired outcome. Contrast this with the traditional student/individual project, where they must analyze, organize, and carry out plans. This later approach is still very necessary if the student is to realize and understand the meanings of self-discipline, self-motivation, self-satisfaction, and real accomplishment due to their own personal effort. They need to experience individual effort and accomplishments as well as being part of the whole.

Typically, students have enrolled in agricultural education courses primarily wanting and expecting "hands on" activities in the classroom and through their involvement within the FFA program. I believe that this is still the desire of the majority of students. The basic skills and achievements acquired in a traditional agricultural education program will never become obsolete and they can be applied to more sophisticated technical equipment on the job at a later date. The question is often asked if students are the same today as they were yesterday. I do not feel that today's student is much different than when I started teaching twenty-three years ago. Today's student has a different set of circumstances to deal with now than what we dealt with as high school students. A teacher today is expected to counsel, diagnose, arbitrate, instill self esteem, and provide recognition for the student. The FFA organization, and other youth activities, have been the one salvation for many students. The involvement by the student in youth activities provides a means for their education and gives them a voice in the decisions that affect their lives. It gives them opportunities to hope, trust, share, and learn by doing. I truly believe that students who "fall through the cracks" lack the desire to make themselves the best they can be. We will always have students who choose to reject learning, have limited capabilities to learn, and lack interest in learning. This is the greatest challenge to us as instructors, to find that "niche" that is the spark for every individual student. I personally believe that the FFA has done more to overcome these obstacles and inspire students than any other program in the school system today.

As teachers and advisors, we must continue to share our knowledge and experience with students. We must continue to value student activities enough to allow all students an opportunity to make such actives a viable part of their lives. We must be willing to lead and watch students make honest mistakes as they learn. We must remember, when people are **committed** and **enthusiastic**, marvelous things happen! The greatest thrill for me, as an instructor is to see shy freshmen enter into the program, witness their personal growth, and finally see them as mature self-confident graduating seniors who know what options lie before them after high school.

Over the past twenty-three years, I can honestly say that all of the programs and activities that Black Hawk Agriculture Program/FFA has ever sponsored or been involved with were conducted to provide an opportunity for students. No activity was ever conducted for the purpose of an award supplement. Students make the final decision on what programs are sponsored each year. Ideas and suggestions are derived from student involvement and that has helped the Black Hawk agriculture department become what it is today. The program has expanded and changed, adding courses in natural resources and biotechnology/food science.

In conclusion, it seems sensible to me that at the middle and secondary school levels, we should continue to provide viable agricultural education (vocational) programs. We should place a greater emphasis on developing certain characteristics in our students such as:

- positive attitudes in accomplishment and creative achievement
- a good work ethic
- skills and problem solving capabilities
- pride in workmanship
- a desire to continue their technical education in post-high school institutions

I am fully confident that the agricultural education/FFA programs within our schools will continue to provide "grass roots" education and training that will be beneficial for all students involved. A goal of mine would be for all students to have exposure to the agriculture curriculum while in middle school so that preliminary career pathways can be chosen to allow students to prepare and be exposed to school to work transition. Agricultural education continues to be, and will always be, on "track" for our students.

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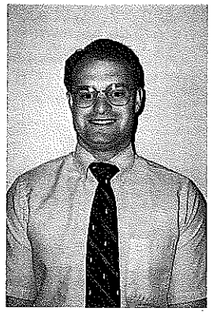
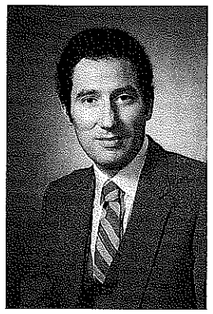
Agri-Science Camp Spells Ag-Citement!





BY BRET R. IVERSON AND ROBERT A. MARTIN

Mr. Iverson is an agriculture instructor at Maquoketa Valley High School, Delhi, IA. Dr. Martin is a professor of agricultural education at Iowa State University, Ames.

Have you ever experienced the excitement of an upcoming event? You can't wait for time to pass? You spend your time counting the days, hours, and minutes until the big day? That's how it feels to be a part of the Agri-Science Camp in Maquoketa Valley Community Schools in Delhi, Iowa. All of the excitement is focused on what has become an annual event like no other of its kind. The Annual Agri-Science Camp represents an excellent way to build excitement into the study of agriculture. One could say that it is more like AG-CITEMENT. What is an Agri-Science Camp? Why is it needed? How does it work and what are the results? How can others do what Maquoketa Valley Community Schools did in Iowa?

What?

The Agri-Science Camp is a summer day-camp for fifth, sixth, and seventh grade students who may have an interest in learning something about agri-science. At Delhi, Iowa, the day-camp is sponsored by the Maquoketa Valley FFA Chapter and the Maquoketa Valley School District. The overall purpose of the camp is to excite and educate young people about agri-science in a fun atmosphere using learning by doing techniques. The specific goals of the camp are:

1. To expose fifth, sixth, and seventh grade students to the agricultural sciences.

2. To apply math and science principles to agricultural settings.

3. To develop new science lab activities for the agricultural education program.

4. To improve the image of agricultural education in the community.

5. To help encourage young, talented students to enroll in the agricultural education program at some time in the future.

Why?

Middle school students have exposure to all kinds of educational programs. However, few, if any, of these programs, courses, or activities focus on agriculture. Eventually, middle school students must make decisions relative to the courses they will take in high school. Without exposure to the full range of possibilities, how will these children and their parents make informed choices? One of the best reasons to develop and conduct middle school agriculture programs is to help students explore career possibilities in agriculture. Conducting a summer day-camp on agri-science also strengthens the need for a summer contract in agricultural education because the program is focused on teaching specific skills and knowledge.

How?

The camp is held at the Maquoketa Valley High School Agriculture Building. The Annual Agri-Science camp is held in July over a five day period, and students are informed through a visit by the agriculture instructor at each elementary school center. A brief news story with an application is placed in the school newspaper in April, and a letter is sent in June to each student who applies for the camp. This letter explains to parents and students information on camp activities, field trips, and items needed by the students, including any special clothing.

Instructors, of course, need to decide for themselves the best length for the course and the best way to manage it. The camp at Maquoketa Valley operates from 8:00 a.m. to 2:00 p.m. except for an all day field trip, which may occur. The field trips and several activities are changed each year at Maquoketa Valley because some of the students want to repeat the experience from year to year. Costs vary from year to year and depend on the cost of transportation for field trips. The average cost is about $30.00 per person. Costs can be covered by business donations, FFA sponsorship, school support, and application fees. Maquoketa Valley has generally charged the participant for travel, food, and miscellaneous expenses. A variety of laboratory activities, which actively involve students in math and science, are essential for the success of the agri-science camp. The activities should be well-planned and written for the age level of→

Gardening project as a part of the AgriScience Laboratory. (Photo courtesy of Bret Iverson.)

Fish tanks/aquaculture project at the AgriScience Camp at Maquoketa Valley School District. (Photo courtesy of Bret Iverson.)

the participants. Advanced-level science experiments can be used, but some of the preparation must be done by the instructor prior to the laboratory activity. (See examples below.)

LABORATORY ACTIVITIES

Agri-Science Breakfast	Hydroponics
Earthworm Counts	Plant Tissue Culture
Parts Per Million Experiment	Germination Experiment
Residue Counts	Land Measurement
Meat Carcass Evaluation	Team Building Exercises

The courses are designed to expose students to agricultural careers that use science and math. Each tour is designed to give students a chance to participate. Students are encouraged to ask questions, conduct experiments, and interact with employees and employers. This interaction promotes understanding of how skills and knowledge in science and math are used in agricultural occupations. (See examples below.) The tours can be organized by surveying the community, mapping agricultural companies or related businesses within a 150-mile radius of the school, and meeting with the advisory board or alumni for suggestions. If the trip is long, periodic rest stops are advised.

TOURS AND TRIPS

Fish Farm	Capon Factory
Community Colleges	Horse Farm
Meat Lockers	Seed Companies
Equipment Manufacturers	Botanical Gardens
Science Centers	State University
Historical Farm Sites	Fish Hatchery

State Parks

Recreational activities can be used to round out the day's events and add more fun and interest to the camp. These activities can supplement for break time and be fillers for time between events. (See examples below.)

RECREATIONAL ACTIVITIES

Canoeing	Picnic	Shopping
Frisbee Golf	Fishing	Photography
	Golfing	

Outcomes?

The Agri-Science Camp can be and is a very successful tool to use in bringing an awareness of agriculture to students in a special way. Over one hundred students have attended the day camp at Maquoketa Valley. The Agri-Science Camp is an educational experience that happens to be a lot of fun for the students as well as the teacher.

The program has helped justify extended contracts for agriculture teachers, and it has garnered support for the agricultural education program from the community. Maquoketa Valley elementary school teachers now call on the agriculture teacher as a resource person for information to be used in their programs. Elementary school teachers have given high marks to the Agri-Science Camp as being the source of much discussion and interest by students even after several months have passed. Parents have praised the Agri-Science Camp for helping their children further develop social skills and gain new friends. The Agri-Science Camp can set the stage for an even stronger agricultural education program in the school district, and that is exactly what happened at Maquoketa Valley.

How About You?

The best advice coming from the Maquoketa Valley experience with the Agri-Science Camp is to <u>try</u> something. As the advertisement says, "Just Do It!" The critical elements are to get organized, advertise and promote the program, and conduct a hands-on, action-packed event that will become the talk of the community. Agri-Science does spell AG-CITEMENT! ■

AGRI-SCIENCE CAMP
MATH SAMPLE PROBLEMS

Area of a rectangle: (Earthworm counts)

A corn field is 2000 feet long and 1000 feet wide. What is the area of the field? How many acres in this corn field? Hint: 43,560 square feet in an acre. Length x Width = Area.

Answer: 2000 feet * 1000 feet = 2,000,000/43,560 sq. ft. = 45.91 acres

Volume of a cylindrical structure: (Grain storage and fish tanks)

A silo is 60 feet tall and the diameter is 24 feet. What is the volume of the silo? Hint: 3.14 x (r2) x height = volume.

Answer: 3.14 x (12 x 12) x 60 = 27,129.6 cubic feet

Dressing percentage of a steer carcass: (Meat Judging)

The live weight of an Angus Steer is 1200 lbs. The slaughtered carcass weighs 700 lbs. What is the dressing percentage? Hint: Chilled carcass weight / live weight x 100 = dressing percentage.

Answer: 700 / 1200 = .83 x 100 = 58%

Middle school students from Maquoketa Valley School District in Delhi, Iowa, are shown here touring Iowa State University Food Technology Laboratories. (Photo Courtesy of Bret Iverson.)

Looking Through a Window of Opportunity to Observe Theory in Practice

BY CLARK W. HANSON
Dr. Hanson is a professor and supervisor of teacher education in agriculture at South Dakota State University, Brookings.

When a professional is recognized for excellence, little, if any, information about the individual is presented or reflected upon in depth, to the point that another professional could acquire information which could enhance one's competence. Thus, the reason for this article is to become acquainted with the 1994 Agriscience Teacher of the Year, Linda Rist. What kind of teacher is she? What is her background in this new and emerging curriculum area of agricultural education?

Is there a window of opportunity to observe theory in practice? Is there a chance to see how one teacher, recognized for excellence, installs a knowledge base leading to practical application?

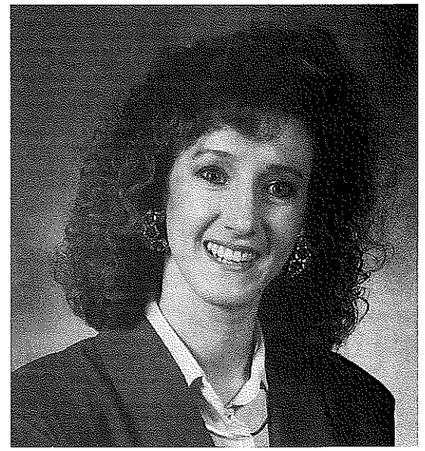
How does an agricultural educator proceed when there are no agricultural mechanics facilities available as part of the instructional program? Such is the case in South Dakota's West Central High School, the home of Linda Rist. Over the years, programs throughout the country have experienced similar situations for a number of reasons. Often times, the profession looks to such a facility as a means of offering the final component of a hands-on program, namely instruction in a wide variety of curriculum areas within the scope of agricultural mechanics.

How does an instructor bring excellence to a program without a program component that many in the profession consider indispensable? Linda Rist looked to the emerging fields of agriscience and biotechnology as a means of developing a modern, up-to-date agricultural education instructional program.

In the book entitled <u>Methods of Teaching Agriculture</u> by Newcomb, McCracken, and Warmbrod (1993) Chapter 1, "Factors Influencing Decisions About Teaching", highlights several components of good teaching, including the major influences of a teacher's skills and knowledge. Ms. Rist's approach to teaching includes a major emphasis on a hands-on approach to instruction. The curriculum designed for the West Central program is the result of Ms. Rist's commitment to seeking out a variety of teacher in-service workshops leading to a major revision of the secondary program curriculum. The curriculum and the resulting instructional program are the culmination of a self-determined approach to making major shifts in the instructional program.

Newcomb, McCracken, and Warmbrod (1993) suggest dimensions of a complete program of agricultural education. Some of the dimensions included are classroom instruction, application of learning, the school laboratory, Supervised Agricultural Experiences, persons in the community, involvement of parents, and working with teachers and administrators in the school. Ms. Rist has taken the hands-on principle of teaching agricultural mechanics and applied the same technique to agriscience and biotechnology. Application of learning is evidenced by the fact that all students conduct a variety of research projects. The practical application of learning abounds.

Ms. Rist is respected for her ability to work with parents and fills the role of Head of Vocational Education. A number of significant developments has occurred recently, including the arrangement for an articulation agreement with a post-secondary institution under→



Ms. Linda Rist is the agriculture instructor at West Central High School, Hartford, SD. (Photo courtesy of Linda Rist.)

the Tech Prep program. Linda served on an area consortium curriculum steering committee which resulted in piloting the South Dakota Integration of the Applied Biology and Chemistry Curriculum (ABC Curriculum) and subsequent infusion of content into all agriscience classes. She is also a trainer for the ABC Curriculum available from CORD.

The development of the curriculum and implementation of the school laboratory has been aided with the assistance of a $39,000 investment. The moneys were the result of a grant which Linda wrote and was subsequently funded by the State Office of Vocational Education. This has enabled the school to secure equipment and teaching resources to ensure the success of the program, including a video camera attached to a microscope linked to a television monitor.

In light of the apparent success that the West Central High School program has experienced in the last few years, can one make an analysis of Ms. Rist's approach to teaching and the "Principles of Teaching and Learning" as presented by Newcomb, McCracken, and Warmbrod (1993) in their college textbook for Agricultural Education majors?

Principle: When the subject matter to be learned possesses meaning, organization, and structure that is clear to the students, learning proceeds more rapidly and is retained longer.

Ms. Rist is a highly structured individual who carries that same trait into the teaching profession. Learning is easier if the material is presented in a sequential fashion. Terms are a part of the daily instruction and communication occurs at the students' level, particularly in the area of biotechnology. The description is made utilizing scientific terms brought down to the students' level, and soon the students can readily understand the material.

Principle: Students must be motivated to learn. Learning activities should be provided that take into account the wants, needs, interests, and aspirations of the students.

David Fischer, Superintendent of West Central High School, states that Ms. Rist's philosophy of teaching includes taking some time with each and every student. She is persistent and sees each students' project through to the end. Linda causes this principle to come into play as she checks on each student, goes the extra mile, and pays attention to the "little things". Talented academic students are enrolled in the program, and Linda possesses the attributes necessary to work with students who have a wide range of abilities. Ms. Rist aggressively seeks out opportunities to identify new ideas for the secondary curriculum.

Principle: To maximize learning, students should "inquire into" rather than "be instructed in" the subject matter. Problem-oriented approaches to teaching improve learning.

Linda indicated that all student use the scientific method of discovery in their daily laboratory activities and reports. Students ask "What would happen if _____?" If the materials are available, students will design an experiment or plan and determine for themselves what would occur. The class may be studying viruses detrimental to animals, prepare an oral report, and, in turn, teach each other.

Principle: Students learn what they practice.

Ms. Rist devotes 40% of the agriscience coursework to hands-on laboratory activities. This follows the well-known fact that students retain more material and knowledge when given the opportunity to practice what has been taught. To facilitate this principle, Linda has created a "home-made" electrophoresis kit *(Note: Electrophoresis is a method used in the laboratory to separate organic chemicals in a chromatography liquid environment to identify unknown organic compounds.)*, thus enabling students to have ample opportunity to conduct and observe this analysis process. Linda indicated that she prefers to teach in the same manner in which she is comfortable for her own learning to occur. Students enjoy the laboratory activities as they see things fit together and the little "light bulb" comes on. A person can only picture a limited amount of detail in one's mind. Once the skill is performed, the student has a much better understanding of what is being studied.

Principle: Supervised practice that is most effective occurs in a functional educational experience.

The West Central High School also has a "make-shift" horticulture facility which Ms. Rist has to put to maximum use. She has not been hindered or held back by the lack of facilities, but she, instead, has striven to adapt and make the best of the situation. Linda provides the supervision necessary to ensure student success.

Ms. Rist has demonstrated that an instructor can make the transition from a traditional production agriculture based program to a science-based, problem-solving curriculum. Adequate facilities are desirable, but the teacher of the curriculum and the ability to motivate students remains the key ingredient to a successful program.

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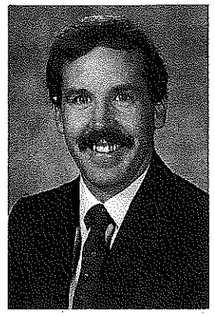
Factoring Contributing to the Effectiveness of Agricultural Education Teachers: What Students Say



BY VERNON D. LUFT AND GREGORY W. THOMPSON

Dr. Luft is a professor and occupational teacher educator in the department of curriculum and instruction at the University of Nevada, Reno. Mr. Thompson is a graduate assistant in agricultural education at the University of Missouri - Columbia.

If agricultural education students were asked what they like about their teachers, a number of varying responses would be obtained. Student groups, civic organizations, and professional associations often select their "outstanding educator" or "teacher of the year", and the criteria used in these selections are often varied and subjective.

A great deal of research has been conducted over the years to determine the qualities and practices that contribute to teacher effectiveness. Other research has addressed competencies (technical and professional) needed by occupational teachers, including agricultural educators. However, little has been done to determine specific characteristics and activities that contribute to the effectiveness of secondary agricultural education teachers as perceived by students enrolled in the program. What do the students say? What characteristics should an agriculture teacher possess, or what practices should be carried out to be effective as perceived by students?

A study was conducted in North Dakota (Thompson, 1989) to determine the extent to which student agree that certain characteristics and activities of agricultural education teachers make the teachers more effective. Junior and senior agriculture students in twenty-five randomly selected high schools were surveyed.

The students were asked to respond by indicating their level of agreement with statements, which were characteristics or activities carried out by agriculture teachers, using the following scale: 5 = strongly agree; 4 = slightly agree; 3 = neither agree nor disagree; 2 = slightly disagree; 1 = strongly disagree. This scale was used to determine a mean score for each item which was then used to depict the students' level of agreement.

Results of the Study

Since the results of the study are quite self-explanatory, each of the statements with the corresponding mean score will be presented and categorized in the same manner in which they were presented to the students. The results are as follows:

Teacher-Student Relations

Agriculture education teachers should:	MEAN
1. allow students to express their opinions on subject matter.	4.43
2. try to understand student problem and concerns.	4.20
3. insist that students be courteous to people in positions of authority.	4.02
4. insist that students be courteous to other students.	4.00
5. make students feel that each one contributed individually to the success of the class.	4.00
6. praise good student performance.	3.99
7. set up a discipline plan so students will know in advance the consequences of their actions.	3.73
8. set high standards for students.	3.72
9. push the students to their full potential.	3.69
10. change the due dates of assignments if students have other activities which take up their time.	3.67
11. become close personal friends with some students.	3.41

Personal Characteristics

Agriculture education teachers should:	MEAN
1. be committed to helping students learn.	4.34
2. enjoy teaching.	4.34
3. show enthusiasm for teaching.	4.32
4. serve as a good role models for students.	4.21
5. be self-confident and poised.	4.18
6. be prompt and on time.	4.06
7. be neatly dressed and well groomed.	3.76
8. show their commitment to teaching by belonging to professional teacher organizations.	3.48

Instructional Planning, Delivery and Evaluation

Agricultural education teachers should:	MEAN
1. give precise, clear instructions.	4.38
2. provide a comfortable learning environment.	4.22
3. help students learn to think for themselves.	4.21

4. state objectives clearly so students will be aware of class expectations. 4.19
5. provide career opportunity information. 4.15
6. encourage creativity. 4.14
7. use audio/visual aids to enhance teaching. 4.13
8. give frequent feedback so students know how well they are doing. 4.13
9. prepare several hands-on student activities. 4.12
10. be knowledgeable in all areas of instruction (soils, livestock, mechanics, agribusiness, etc.). 4.11
11. use a variety of teaching procedures. 4.02
12. conduct well-organized classroom presentations and activities. 4.01
13. clearly state the long-term goals of the class. 4.01
14. direct students to additional resources outside the classroom. 3.99
15. give students and opportunity to increase a grade by doing extra credit assignments. 3.98
16. be able to connect daily lessons to other topics, current events, or personal lives. 3.98
17. invite guest speakers to class. 3.97
18. give grades according to students' individual abilities. 3.95
19. frequently check for students' understanding of the subject matter. 3.94
20. fairly and consistently evaluate students' progress. 3.86
21. relate personal stories and experiences on the subject matter. 3.86
22. offer opinions within each subject area in terms of assignments, topics, evaluation, and discussion. 3.81
23. individualize instruction to meet the needs of each student. 3.80
24. make students responsible for their own learning. 3.78
25. frequently review previously studied material. 3.64

FFA

Agricultural education teachers should: MEAN

1. let the members make the decisions for the chapter. 4.12
2. encourage members to hold an annual banquet. 4.10
3. help students set and work toward meeting personal goals. 4.09
4. promote recreational activities and fellowship. 3.93
5. encourage 100% member involvement at meetings through committees and program of work. 3.90
6. encourage students to participate in other appropriate activities such as speaking events, judging contests, and parliamentary procedure. 3.90
7. organize summer campouts, picnics, and/or other recreation as chapter activities. 3.82
8. encourage programs such as Building Our American Communities, Safety, and Food for America as part of the FFA program. 3.78
9. use class time to complete FFA activities. 3.72
10. give students classroom points for being in FFA. 3.44

Supervised Agricultural Experience Programs

Agricultural education teachers should: MEAN

1. advise students how to improve their SAE program. 3.97
2. become involved with county and state fairs to help students show their productive enterprises. 3.91
3. schedule SAE visits in advance with each student. 3.87
4. emphasize SAE program area awards for students (proficiency, record book, State FFA Degree awards). 3.80
5. assist student during summer months with their SAE programs. 3.66
6. gear agricultural mechanics projects toward student SAE programs. 3.63
7. use SAE programs as examples for class lessons. 3.57
8. give extra credit to students with good SAE records. 3.52
9. include parents in the SAE visit. 3.48
10. just visit with students, not review record book. 3.28
11. publicize SAE programs through newspaper, radio, television, or other publications. 3.23

Summary

The results of this study revealed that the students were in at least slight agreement with all the characteristics and activities presented. Therefore, vocational agriculture teachers should pay more attention to all the characteristics and activities listed. As we can see by the list, students agreed that personal characteristics contributed most extensively to the effectiveness of agricultural education teachers, while characteristics and activities related to supervised agricultural experience programs contributed the least.

If secondary agriculture teachers are concerned about what their student feel make them effective teacher, the results of this study should be considered. Students appreciate excellence in teaching, and will continue to seek out teachers who they feel are effective.

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