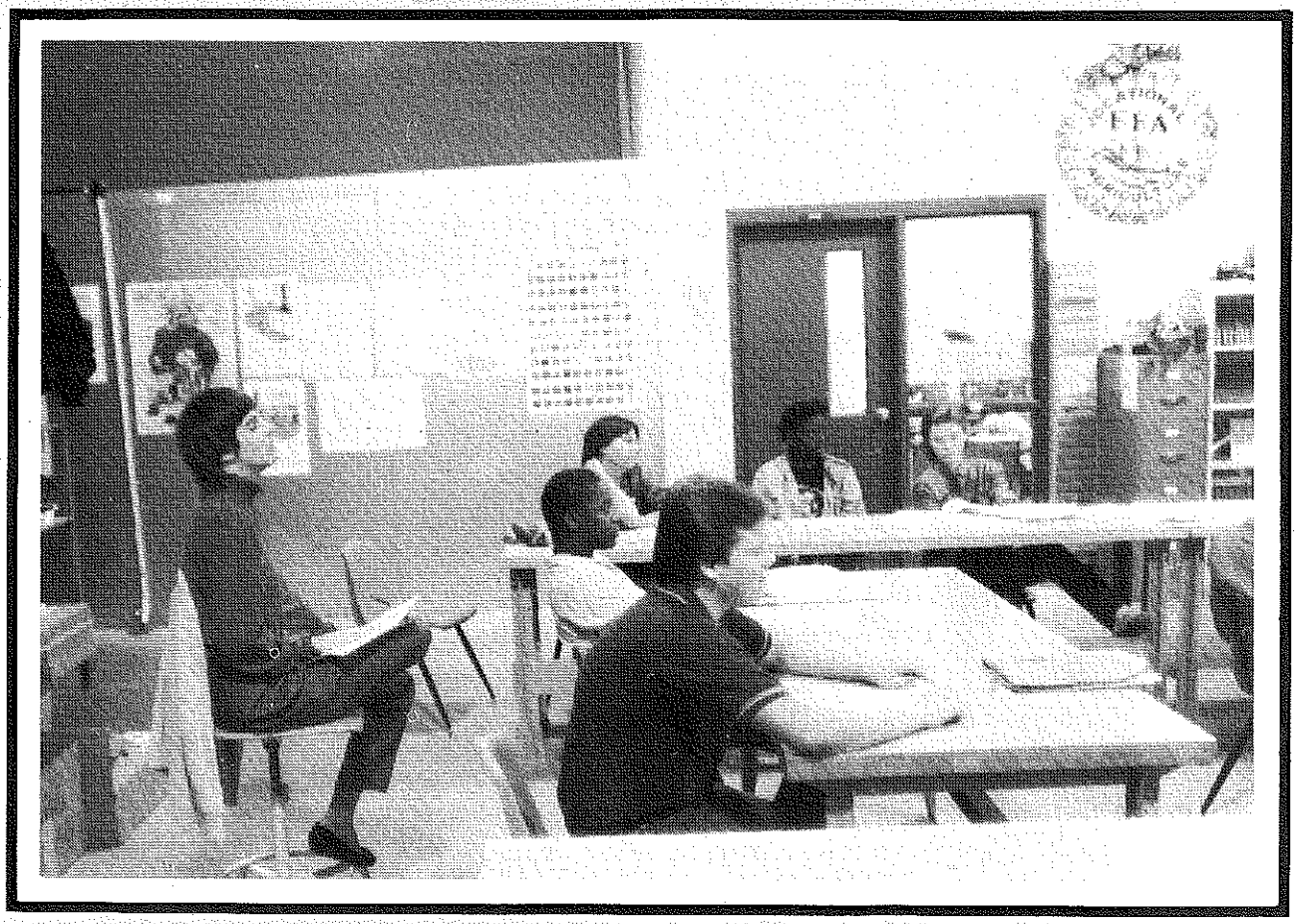
The Agricultural Education Magazine

March, 1985
Volume 57
Number 9



THEME: Innovative Student Management Strategies

THE
AGRICULTURAL EDUCATION
MAGAZINE

March, 1985 Volume 57 Number 9

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ARTICLE SUBMISSION

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

PUBLICATION INFORMATION

THE AGRICULTURAL EDUCATION MAGAZINE (ISSN 0002-144x) 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 Co., 616 Second Street, Henry, IL 61537.

Second-class postage paid at Henry, IL 61537.

POSTMASTERS: Send Form 3579 to Glenn A. Anderson, Business Manager, 1803 Rural Point Road, Mechanicsville, Virginia 23111.

SUBSCRIPTIONS

Subscription prices for THE AGRICULTURAL EDUCATION MAGAZINE are $7 per year. Foreign subscriptions are $10 (U.S. Currency) per year for surface mail, and $20 (U.S. Currency) airmail (except Canada). Student subscriptions in groups (one address) are $4 for eight issues. Single copies and back issues less than ten years old are available at $1 each. All back issues are available on microfilm from Xerox University Microfilms, 300 North Zeeb Road, Ann Arbor, MI 48106. In submitting subscriptions, 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, 1803 Rural Point Road, Mechanicsville, VA 23111. Publication No. 07324677.

EDITOR'S PAGE

Keep the Faith

BY LARRY E. MILLER, EDITOR

(Dr. Miller is a Professor in the Department of Agricultural Education at The Ohio State University.)

Discipline, student management, or whatever you wish to call it, it boils down to maintaining an environment for learning by all students. Students should be in school to learn. This is an assumption which, unfortunately, does not describe each student encountered by a teacher of vocational agriculture.

We ponder the reasons that cause us to spend valuable instructional time in controlling a minority so that the majority may have the opportunity to learn. Authors in this issue note that student teachers and first year teachers are particularly troubled by disruptive students. Experienced teachers are also frustrated by occurrences which disrupt their class. Neophytes should not feel alone. Rest assured, every teacher experiences unpleasant situations which they would prefer not to interfere with the decorum of the learning environment. No teacher should feel all alone.

Disruption

Disruption is not a dichotomy of being disrupted or not disrupted, but a matter of a degree, a continuum within which all teachers operate. The level of tolerance of teachers for disruptive activities varies greatly. What bothers some teachers does not bother others.

Silence is golden to some teachers, but to others it illustrates total student dissatisfaction. Noise and idle chatter do not significantly affect some teachers, but may highly irritate others. The point of the matter is that each teacher must define the acceptable and the unacceptable. Students must be carefully apprized of the parameters of what constitutes acceptable behavior.

Once students are aware of what is and is not permissable, they should be expected to adhere to these guidelines. Teachers should be sure that students are informed. Teachers must place the perimeter of acceptability. If they do not, then, like an amoeba, students will persistently attempt to push out the boundary which constitutes the cell wall of acceptable behavior.

Societal Expectations

Several authors in this issue cite the Gallup poll to document the public's concern with discipline in the schools. They note its high ranking among concerns.

Let us examine the underlying tenets evolving from society which might precipitate such a notation from the public. The first fact is that the public expects schools, vis-a-vis teachers, to remediate the ills brought about by changes in society. One need not go far to document the increased divorce rate, increased number of single parent homes, increased number of dual-employed parents, increased frequency of drug use, etc. One could go on and on.

When too many pregnancies occur in the junior and senior high schools, we add sex education to the curriculum. When substance abuse becomes a problem, appropriate courses are added. When some note that students are unaware of the free enterprise system, a course is added. When concern is expressed about computer literacy, a course is added. Whenever deficiencies are identified in society, it is the duty of the schools to remediate the situation.

Schools and teachers should not be expected to undo the wrongs of society. Vocational agriculture teachers should not place undue pressure upon themselves to provide a panacea which will develop each individual to their utmost potential. There are limits to what one individual teacher can do.

Given that vocational agriculture teachers are often the recipients of those students which no one else in the school can adequately manage, they should not feel depressed if they cannot turn around every student.

Parental Responsibility

Parents must assume a role in the education of their children. They should not expect teachers to be the sole determiner of the development of their children. Teachers cannot be expected to produce a silk purse from a sow's ear. Parents must realize that they are often a part of the problem. They must be prepared to support the educational process.

Teachers of vocational agriculture should realistically confront discipline situations. The situations are often brought about by fluctuating societal demands. Modern teachers face expectations not a part of the professional responsibilities of teachers from the past. Do not use them as a standard against which to measure yourself. Establish personal standards and maintain them.

With all the expectations of society to use the educational system to cure its ills, where is there time for the so called basics? We must not allow vocational education in agriculture to be pushed aside as alarmists attempt to intervene in an excellent educational system to perpetuate their interests. We must keep the faith in the efficacy of our program.

THEME

Solutions To Discipline Problems

By William G. Camp, Theme Editor

(Editor's Note: Dr. Camp is an Assistant Professor in the Agricultural Education Program at Virginia Polytechnic Institute and State University in Blacksburg, Virginia 24061.)

If you ask a group of prospective teachers about their concerns before they enter the classroom, discipline is almost certain to come up as a concern. If you ask a group of beginning teachers about their concerns, discipline may still be prominent, but difficulty in motivating students will also be a concern. If you ask the same thing of a group of experienced teachers, discipline is less likely to be mentioned, but student motivation will be a major concern.

Motivation Versus Discipline

What is the difference? Do experienced teachers magically find a cure for student discipline problems but lose the ability to motivate students? I do not think so. I believe two things happen.

The first is that prospective and beginning teachers are so swamped by the exaggerations from the media about the severity of the student discipline problem, that they are overly concerned about something that may or may not be a problem to them. In almost all cases, discipline turns out to be much less of a problem for agriculture teachers than these newcomers fear.

The second thing that happens is that, with experience, the teacher begins to recognize that students do all sorts of things that you do not expect, or want them to do, but not all of those things are discipline problems. In fact, most of the things that beginning teachers see as discipline problems, are not discipline problems at all.

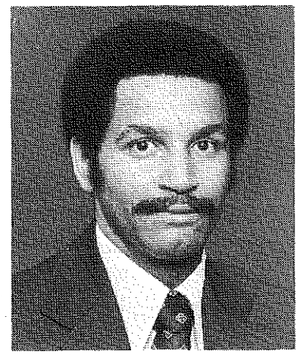
Research indicates that the most serious student behavior problem for agriculture teachers is in the area of attitude. Attitude is primarily a problem in motivation, not in discipline. In an article in this magazine several years ago, I discussed the difference between REAL and PERCEIVED discipline problems. With experience, teachers realize the difference. They may not call it the same thing, but they learn that even though student discipline may be a problem, better student motivation is the answer most of the time.

Summary

As you read the articles in this issue, you will see that the best way to solve discipline problems is not to correct them once they occur. Rather, the key is to prevent them from occurring and the way to do that is through good classroom management and good motivational techniques. On the other hand, it would be foolish for anyone to believe that all student discipline problems can be avoided, even with the best teaching and motivational techniques. Thus, a couple of the articles deal with the question of student discipline from the standpoint that problems will occur and they offer some helpful suggestions.

EDITOR-ELECT

Bowen Named Editor-Elect



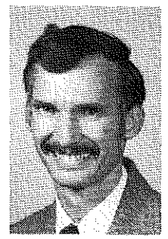
Blannie E. Bowen, Associate Professor of Agricultural and Extension Education at Mississippi State University, was recently selected to be the next editor of The Agricultural Education Magazine. He will serve as Editor-elect during 1985 and start a three year term as Editor in January, 1986. Dr. Bowen's work in agricultural education/journalism started 15 years ago when he was a copy editor for the high school yearbook. Since that time, he has acquired numerous experiences with the print medium. As a student in agricultural education at North Carolina A&T State University, he wrote over 350 articles as a reporter and sports editor for the campus newspaper, *The A&T Register*. During the summer of 1974, he was a reporter for the Wilmington, North Carolina, Star-News Newspapers, Inc. where he completed an internship through the Newspaper Fund program sponsored by the Wall Street Journal.

While completing his master's at North Carolina A&T, he edited the *Ag Ed Flash*, a newsletter for the Department of Agricultural Education. He now edits *The Ag Ed Leadership* newsletter for his Department at Mississippi State University. He also advises students who produce *Agspressions*, the College of Agriculture and Home Economic publication for students and alumni. He referees research articles and has published in several of these professional publications. In November, 1981, he was Theme Editor for the "Using Research" issue of The Agricultural Education Magazine. He is also Theme Editor for the April, 1985, issue about "Using Microcomputers in Agricultural Education."

A North Carolina native who is a former State FFA officer, Dr. Bowen received the American Farmer Degree, and has taught vocational agriculture in both North Carolina and Virginia. He finished the Ph.D. at The Ohio State University in 1980 before moving to Mississippi State University where he teaches courses about microcomputers, communications, and youth organizations. His goal as Editor will be to get more secondary and post secondary teachers to prepare articles about their programs. The Theme Editor concept will continue and more emphasis will be placed on contemporary issues, the evolving mission for agricultural education, and the business side of agriculture.

THEME

Legal Concerns and Classroom Control



By Lee Cole and Forrest Gathercoal

(Editor's Note: Dr. Cole is an Associate Professor of Agricultural Education and Dr. Gathercoal is an Associate Professor in the School of Education at Oregon State University, Corvallis, Oregon 97331.)

You were supervising students in the hall, outside your classroom door, as directed by the school administration. A freshman vocational agriculture class was entering your classroom. A student inside the classroom was pushed and fell backward over a desk hitting his head on the floor. You heard the commotion, entered the room and found a student laying unconscious on the floor.

Can you be held negligent?

The School Attorney

If a lawsuit for negligence against the school district was brought, the complaint would probably name you, the principal, the superintendent, and the school board as well as others who may have had some direct responsibility toward the injured student (i.e., other students involved). Upon receipt of the complaint, the attorney for the school district would be called in and would assume whatever leadership and direction was needed until the case was closed.

Because you were the person directly responsible for the supervision of the classroom at the time of the accident, the school attorney would probably direct most of his or her attention to you and the incidents leading up to and immediately following the accident. You must focus your attention on the job at hand and help the school attorney present the best defense possible.

As a practical tip, it is helpful after a serious accident to document the events surrounding the incident. Memory tends to diminish with time; therefore, courts place great credibility on statements of fact written near the time of their occurrence.

It is very important at this stage in the lawsuit that you be very open and honest with the school attorney. Something you feel may not be important could have great legal significance and be crucial to a good defense. Do not try to hide facts to get off the hook or make yourself look good. Complete and accurate information from you could lead to an early settlement out of court. Suppressing facts often leads to surprises at the trial for your attorney where the suppressed facts are brought out by the other side and the school attorney is caught unprepared to meet the legal issues raised by their introduction. Be accurate and honest with information for your attorney. Attorneys do not like surprises.

The Other Attorney

While on the subject of attorneys, it is equally important to remember that the attorney for the other side is also interested in knowing what your testimony will be. As with the school attorney, the focus will be on you because of your proximity and participation in the events surrounding the incident.

It is advisable to consult the school attorney as to what you should say about these events to the attorney or investigators representing the injured student. Many attorneys recommend to their clients they talk to the other attorney only in their presence.

In an effort to gather information about the case, the other attorney may request a deposition from you. In case of a deposition, you will be called to the court house or an attorney's office and asked questions about the case by the other attorney. Your answers will be given under oath and usually recorded by a court reporter. This will be done in the presence of the school attorney who is available to advise and assist you in your responses. The testimony you

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Legal Concerns and Classroom Control

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give under oath at a deposition must be the same as the testimony you will give if the case goes to trial.

As the school's attorney prepares the defense, he or she must present to the jury evidence which shows you did everything before and after the accident that a reasonable, prudent teacher would have done under the same or similar circumstances. There are four basic legal issues courts will expect a reasonable and prudent teacher to account for before and after the injury. The four legal issues are as follows: (1) Have a plan, (2) Follow the plan, (3) Provide for health and safety, and (4) Give proper instructions.

Have a Plan

The first question the court will ask is whether or not you had a plan for supervision. The plan should be founded upon your past experience with, and your professional knowledge of, freshman students. If you were following a plan of supervision designed by the administration at the school, plus trying to observe particular individuals that were traditionally causing problems, the school attorney will argue that you had foreseen potential problems and that supervision was provided. Most courts would agree that teachers cannot be everywhere; the decision would hinge on the appropriateness of the location of supervision.

If the boy who did the pushing was a known bully and had injured other students in the past, your standard of care might be to not leave the boy unsupervised, even for a short period of time, therefore, you should be in the classroom when that student was present. A plan promulgated by you and approved by the administration and followed by you may or may not relieve you from being found negligent. You must have a plan as well to meet the foreseeable dangers unique in each classroom or laboratory situation.

Follow the Plan

Most teachers are found negligent, not because they did not have a plan or did not foresee potential danger, but were found negligent because they did not follow the plan designed to prevent the possibility of injury. It is important that you follow your plan and are constantly aware of dangers which may exist. If you are following a plan designed to supervise in a specific situation, and are conscientiously working at the task, the court will decide whether you are negligent by looking at what you were doing at the time of the accident. In many cases, there is not just one thing a teacher leaves out or does wrong, but a series of small negligent acts that lead to liability for an injury.

Provide for Health and Safety

Society through its court system places a high priority on the health and safety of its citizenry. There is little hope for a teacher responsible for an injury to a student who has not foreseen and accounted for a health or safety problem relating directly to the injury. For example, to foresee the requirement of a medical release may be the standard of care required in agricultural activities such as greenhouse application of pesticides. For classes or activities where a medical release is not required, a letter sent to students and parents explaining the hazards and dangers of activities which could result in injuries may be wise.

The safety of buildings and equipment is of constant concern to most teachers and administrators. As a rule, schools are held responsible for the dangers known and dangers they should have known after periodic and reasonable equipment checks and adjustments. Equipment must be kept in safe operating condition and with appropriate safety devices intact. Inspection must be on a regular basis and unsafe equipment should be made inoperable. Whenever students are under the direction of the school, whether on or off school property, the school has the duty to provide safe facilities and search out and warn of any dangers. In land laboratory and field trip situations, the teacher must identify potential hazards and warn students appropriately.

The attractive nuisance doctrine applies to one who maintains instruments or appliances on his or her premises of a character likely to attract children in play, or permits dangerous conditions to remain thereon with the knowledge that children are in the habit of resorting thereto for amusement. It is important to protect students from equipment and dangerous places to which they are attracted. Teachers will be held strictly liable for all resulting injuries in cases of attractive nuisances.

Give Proper Instructions

Every activity or class should begin with proper instructions. As a reasonably prudent professional, you are expected to foresee the possibility of injuries which may result from the improper use of equipment or facilities and which, if used or performed improperly, could lead to injuries. Instruction should be given on the proper, safe use of all equipment the students have access to in the vocational agriculture facility. Industrial quality eye protection must be required of all persons who are in the laboratory area, working or not. Classroom rules of behavior are as important as laboratory rules.

Written instructions are very helpful for classes and activities where severe injuries may occur. Handouts to students and posted instructions in addition to verbal warnings and instructions may show a jury you made every effort to emphasize the importance of the instructions and to insure that necessary instructions were given to students. Verbal instructions only can lead to misunderstandings and misinterpretations.

Conclusion

The demands on a teacher during class leave little time to think through all the legal problems that could develop as each situation arises. It is possible, however, to remember these four legal issues to which you will be answerable should an injury take place. Having accounted for these four issues, the remainder of your efforts can be focused on the educational task at hand. This article was written to give you confidence that you have done everything possible, professionally and legally, to avoid the accident in the first place, and secondly, to be helpful in the legal process leading to a fair and equitable disposition of the matter.

THEME

Student Management on Field Trips

By George Wheeler

(Editor's Note: Mr. Wheeler is a Vocational Agriculture Instructor at Housatonic Valley Regional Vocational High School, Falls Village, Connecticut 06031.)

"I'll never take another field trip with this group of kids again. Those immature, disrespectful, inconsiderate . . . kids." Have you ever said this to yourself after experiencing what you might consider a horror show?

As teachers, we believe that field trips are an important part of instruction in vocational agriculture. They are laboratories for some teachers, the incentives, the hands-on experiences, the summation of a unit, the enrichment application of classroom theory, visual support, and provide motivation for students. If field trips are so wonderful for the class, what makes so many teachers say that this teaching tool just does not work for them? Could it be that some of those teachers fail to plan adequately for their field trip?

Defining Behavior

Field trips are no place to "wait and see" what happens regarding student behavior. The well stated behavioral expectations must be as much a part of your lesson as the subject material. The vocational agriculture department has too much at stake regarding the success or failure of that field trip.

Professors and the older and wiser teachers tell us that students need clearly defined expectations of behavior. Prevention is the best approach to any discipline problem. The objectives of training for self-control, character, orderliness, and efficiency cannot be forgotten in our daily lesson plans.

Every teacher should known that field trips require twice the planning and twice the teacher expertise to execute as a daily classroom activity. The novelty and potential student freedom results in considerably more potential discipline problems.

Preliminary Planning

1. Evaluate your present classroom management prior to making plans for a trip. If you are having problems within your class, you should concentrate on correcting those before taking the group into the community.

Students should know the purposes of their field trips in advance and should be encouraged to ask questions and take notes.

2. Plan your trip so that everyone is actively involved. Students must have appropriate activities to do all the time.

3. Select the location carefully. You must be familiar with the people, the organization and the situations into which you are going. For example, when looking for a site for your students to learn to milk cows, try to select a farm with as many milking stalls as you have students.

4. Confirm where you will meet, the day and time of arrival and the time of departure. You should also confirm who you are going to be speaking with, along with the purposes and special arrangements regarding the trip.

Preparing the Students

1. The importance of this trip must be emphasized for the students to see the value of the learning from the trip in relationship to the entire unit.

2. Prepare the students for their responsibilities. Some trips require special equipment, clothes, paper and clipboards, and a list of questions.

3. Set your behavior expectations high and clearly define them. Do this in a positive manner. If you talk about consequences about behavior which is not up to your standards, discuss them in terms of the impact the problems will have on the agricultural program, and the class regarding public relations, along with depriving individuals of learning opportunities.

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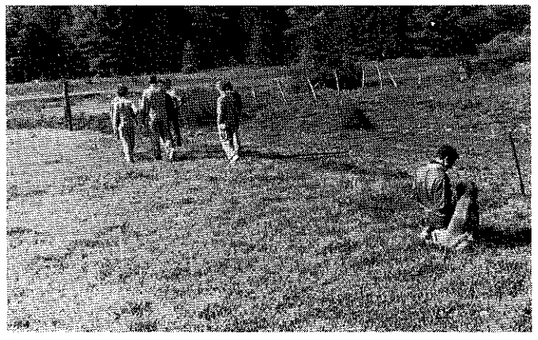

Distractions abound on tours. The teacher must constantly remind students to stay with the group.

Student Management on Field Trips

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Before Leaving School

When the class comes in at the beginning of the period they should be reminded, if needed, to prepare themselves for the trip and meet in a designated area. Take a minute or two to make comments to the total class. Review where you are going and the purposes of the trip. Check to see that the students are prepared. Assist students who need help but do not lose more than a minute or two because it is most important that you get to your destination on time. Leave names of students who did not show up with the office.

At the Site

1. Before unloading the bus or the van, take another minute to remind the class of the importance of correct behavior. Comments such as "Be sure to stay together, listen carefully and ask questions" may be all you need to say. At this time, remind them of their individual responsibilities and the importance of utilizing the time efficiently.

2. Remember to be in control at all times. Even though you have a host, you must take charge in seeing that the class is conducted the way you want it. You not only must guide the host but control the students' behavior. It is best when you have prepared both the host and the students well, then you can spend your time monitoring and adjusting both learning and behavior.

3. Make the introductions and begin the questions. Have other students continue the questions while you begin to quietly move around to encourage and check the students' participation. When two students are talking, your approach is very important to bring them back on track. You could easily create animosity against you and your objectives by being harsh. If you said to them quietly "do you have a problem hearing back here" rather than "shut up and pay attention" your results could be more effective.

4. Correct minor behavior problems early. Whether it is talking, elbowing or just not paying attention; it is best to remind the students early what they should be doing.

Horseplay on field trips may be fun, but it can quickly get out of hand and cause problems.

5. Be positive with your approach to the problem. A personal confrontation could be a disaster on a trip.

6. Individuals need to be approached one at a time. Be reasonable yet firm.

Be Prepared for Distractions

Distractions are common on field trips and too many of them can cause you to lose the attention of many of your students. You must accept these distractions as normal occurrences and it is up to your creative talents to bring the students back to the theme of the lesson. Examples of distractions may include a dog jumping on the students, employees working on some equipment nearby, or a good looking calendar on the wall.

Tours

Many times students may not stay together on a tour because of their individual interests. Some want to stay at one demonstration area and another would like to investigate some piece of new equipment in more detail. You cannot blame them, but at the same time you must control this. They must be reminded to stay with the group. If they have a desire to see or learn more of some part of the tour they must be encouraged to ask questions to the host. Again, during a tour you must be moving among your students to keep them attentive and to help spark more interest.

Behavior Evaluation

On a test, not all students will get a score of 100 percent. By the same token, not all students will remember all your behavior expectations when they are distracted. You need to reinforce the behavior which will result in maximizing the learning. It is important that you review with the class the effectiveness of the field trip. If behavior problems interfered with the learning process then the students should be aware of that. If, on the other hand, your objectives were met and you want to reinforce the behavior, a comment such as "because this trip was so successfull and you all got so much from paying close attention and showing your interest, I will plan another trip in the near future." If the host comments with a reaction to the trip, be sure to share those comments with your class.

Even though you have two or three successful trips, do not assume all will be perfect the next time. A few reminders of behavior are always needed, perhaps not emphasized as much as the first few times.

If you have thought about not using field trips because of the extra planning, the potential student problems, plus the red tape, you should reconsider. They are too valuable to eliminate because of two or three students. You cannot get discouraged or stop using field trips, because if you do, it is the students who will lose.

The Cover

A very effective way to maintain control of a classroom environment is to observe the activities from the back of the room. Miss Crow looks on as a student practices what he has learned in conducting an FFA meeting. (Photograph courtesy of Jim Garrison.)

THEME

Special Needs Students: A Management Challenge

By George C. Hill and Ginny A. Knowles

(Editor's Note: Dr. Hill is an Assistant Professor and Chairman of the Agricultural Education and Communications Department, University of Nevada-Reno; and Ms. Knowles is a Vocational Home Economics Instructor at Washoe High School, an alternative high school, in Reno, Nevada 89502.)

Discipline in our public schools is perceived by the American people as being one of the biggest problems facing educators today. In fact, the Annual Gallup Poll of the Public's Attitudes Toward the Public Schools has cited discipline as a major problem for a majority of the past sixteen years (Gallup, 1984). While citizens are concerned about discipline in the schools, they are not alone. Teachers and administrators also view lack of discipline as a major problem in schools.

Discipline is one part of a system that is called student management. Student management is a process whereby teachers preserve order and maintain control of their classrooms (Orlich, et al., 1980). While effective student management is often viewed as effective discipline, it involves more. It refers to the control of the educational environment in the classroom and laboratory. This article focuses on management techniques for special needs students in vocational settings.

Few instructional programs are in greater need of an effective student management system than are vocational agriculture classrooms and laboratories. The inherent safety and health concerns are seldom greater in any other vocational program. Vocational agriculture instructors have not had to be as concerned in the past about behavioral problems because students have traditionally entered the programs with a high level of motivation. Since the passage and implementation of Public Law 94-142 (Education for all Handicapped Children Act) in 1976, a more diverse group of students has been entering vocational agriculture classrooms. The wider variety of current vocational agriculture students offers instructors a unique opportunity to explore alternative student management techniques.

Who are Special Needs Students?

Several terms have been used to describe students who have entered vocational programs in the last several years due to the passage of PL 94-142. These students are now described as having special needs. L. Allen Phelps describes special needs students as including those who may be disadvantaged, handicapped, having limited language proficiency or other special needs (1984).

With approximately twenty percent of all vocational students classified as having special needs, the challenge for vocational agriculture instructors is clear. The development of effective student management techniques is essential if students are to be provided the best possible learning environment.

Management of Traditional Students

When vocational agriculture instructors are preparing for special needs students, it is imperative that they realize that these students may have experienced some degree of failure in other areas of education. Many of the traditional principles of student management will continue to be effective. Some common student management techniques are discussed below.

Be prepared for instruction. Being unprepared is one of the surest ways to lose control of the classroom. Students will quickly sense your unpreparedness. Take the time to plan for effective instruction.

Establish and enforce guidelines for classroom behavior. Students will function at a higher level when they understand the parameters of the classroom. Teachers will have fewer problems to deal with because most students feel more comfortable with clearly established guidelines.

Be consistent in behavior and actions. When instructors treat all students in a fair and even-handed manner, students will exhibit more respect and consideration for others.

Reinforce positive behavior in students. Students like to receive recognition for good behavior. It is more effective to reinforce a student who is behaving in a positive way than to punish one who is negative.

Maintain a high level of enthusiasm for the task. When instructors are enthusiastic about what they are doing, the effect spreads. It is hard for the student to be disinterested when the teacher is enthusiastic.

Initiate and maintain contact with parents. A major strength of the vocational agriculture program is the contact that teachers traditionally have had with parents. This contact allows the development of respect for the teacher in the student's home. Teachers in other subject areas do not have the same opportunity to interact with parents.

Maintain composure when you are challenged. Most students challenge the system at some point. If an instruc-

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Special Needs Students: A Management Challenge

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tor loses composure when challenged, a signal is sent to all students that the teacher can be "had."

Seek outside help when needed. When all other approaches have failed, seek the assistance of other school personnel in solving a problem with the student. It is important to recognize that there may be a very small percentage of students who will not be able to function within your classroom.

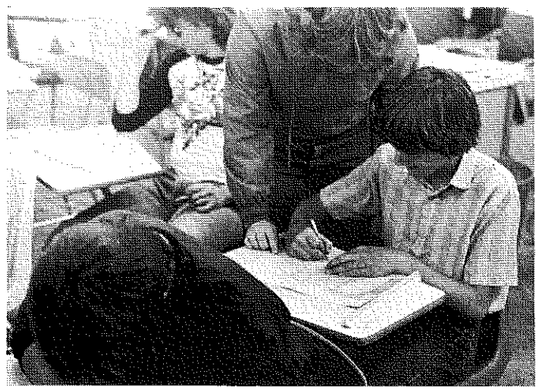
Management of Special Needs Students

While traditional approaches to student management are important to consider, they do not guarantee success with special needs students. In order to develop an effective student management system for special needs students, instructors must accept the fact that many of these students have experienced a high degree of failure in the educational system.

Special needs students may enter a vocational agriculture classroom with negative attitudes or mannerisms due to physical or psychological handicaps. The most certain avenue to failure is for the instructor to react in a negative manner. If instructors can remain positive but firm, special needs students gradually are able to let down their fronts, reducing the stigmas they have perceived for so long. Instructors must send the message that they view special needs students as unique and valuable individuals, who are capable of learning in the vocational agriculture classroom.

Abandon reliance on traditional teaching methods. The instructor of special needs students must be very creative. An expectation that students can indeed learn must be coupled with a dedication to find an effective teaching method. Most often methods need to be individualized since the success of one method with a particular student in no way assures the same level of success with another student.

Provide a highly structured environment. Students require a structured environment. The special needs student requires a much higher level of structure. Paying attention to the smallest detail in providing a structured environment is time effective for the instructor.



The need for frequent feedback and reinforcement is critical, especially for special needs students.

Develop a high degree of rapport with each student. It is critical that the instructor establish procedures that will allow time to be spent with each student on an individual basis. Most of the time this contact will be related to instructional assistance. Use this time to touch base with the student on other concerns if the time is not needed for instruction.

Do not emulate the way you were taught. Most teachers tend to teach the way they were taught. Special needs students often will not respond in the same manner as more typical students. The successful teacher of special needs students has few role models to emulate.

Provide frequent positive reinforcement and feedback. The special needs student has typically experienced failure. This student often seeks instant gratification because educational goals have been unattainable. Short-term goals will initially give students positive feedback and enable them to feel good about accomplishing an educational task. Structuring tasks in increasing increments allows students to attain course objectives and skills. Small methods of recognition can pay dividends. Issuing certificates for completion of tasks or establishing student of the month programs gives special needs students goals to strive for. One of the authors has used scratch and sniff stickers as positive feedback for successful completion of daily assignments. The need for frequent formal feedback is crucial. Remembering that some special needs students cannot function with long-term goals dictates the need for frequent, structured, formal feedback or progress reports.

Provide tutorial assistance in basic educational skills. Some of the traditional vocational agriculture students have problems with reading, writing, and basic computation skills. Many of the special needs students will also lack these skills. While the vocational agriculture instructor needs to incorporate a high degree of basic skill training into formal instructional efforts, there are always opportunities for training on an informal basis. The authors are familiar with a vocational instructor who quizzes students on multiplication tables while they are involved in other laboratory activities. Working to help strengthen students' overall basic skills will assist them in other academic areas and will make them stronger students.

Use a broader range of motivational techniques. It is not a matter of developing a better act, but rather making the instruction highly relevant. Convince students that the skills you offer will be of benefit to them. A field trip might be a better way to introduce a topic than some sort of classroom activity, in attempting to motivate students.

Possess a strong ego and powerful self-concept. Challenges to the instructor's authority will occur in traditional environments. Some special needs students have made a career of playing the system. Expect to be challenged. The mark of professionals is how they respond when challenged. Allowing oneself to be personally affronted by student challenges greatly reduces the professional and psychological distance that is so important to maintaining effective control.

Retain the option of ultimate control. Occasionally, the vocational agriculture instructor of special needs students will find that nothing seems to be effective. At that point permanent removal of the student is the only viable option. Courts have upheld the decision for special needs students to be removed from classes (Flygare, 1981).

Summary

The vocational agriculture instructor faces a unique challenge in providing a quality learning environment for special needs students. Many instructors do not have the formal training to be effective. Preservice and inservice methodology related to special needs students must be developed and implemented. Appropriate evaluation procedures are needed to measure the effectiveness of existing special needs programs.

The previous suggestions will assist instructors of special needs students in developing effective student management techniques. They are not a panacea for all special needs problems. These ideas represent methods that some successful special needs instructors have found to be effective.

Agricultural educators face a challenge in developing effective programs for special needs students. Central to that challenge is the need to develop effective student management procedures. One of the leaders of special needs in vocational education, L. Allen Phelps, believes that a critical area of federal policy through the end of this century will be in providing special needs populations with responsive vocational programs (1984). We, as teachers of vocational agriculture, can and must meet the challenge of that need.

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THEME

Classroom Management: Understand, Anticipate and Plan

BY RAY HERREN

(Editor's Note: Dr. Herren is an Assistant Professor of Agricultural Education at Oregon State University, Corvallis, Oregon 97331.)

Research has indicated that one of the leading causes of beginning teacher dropout is problems with student control in the classroom. Discipline problems cause stress and anxiety not only for the teacher but for the class as a whole. Such stress can result in very rapid burnout and/or a disillusionment with the profession that could have been avoided through the use of a carefully planned and executed classroom management.

Most beginning teachers start their first year with everything planned and organized. Weeks have been spent preparing lesson plans, organizing curriculum materials, planning SOEP visits and FFA activities. Everything is all planned and ready to go — or is it.

Many beginning teachers lack the one segment of planning that will make the other plans work — a plan for student classroom control. Student control problems are at best an unpleasant task that no one likes to deal with until absolutely necessary. It would be nice to think that all students will enter the classroom enthusiastic and eager to learn. Many students do, but there is invariably a segment of the class that causes problems for the teacher.

Teachers who begin a career with the idea that discipline problems are dealt with when and if they come up are in for a tough time in the classroom. Proper student control necessitates a systematic plan for dealing with problems. Before a student control plan can be formulated and initiated, it is essential that the teacher understands the causes of student misbehavior problems: 1) boredom, 2) immaturity, or 3) personal problems.

Boredom

It has often been said that a misbehaving student is a bored student. While this axiom is not all inclusive, it contains a large element of truth. Students can not sit still very long without some sort of activity. Teenagers are by their nature very energetic. If this energy is not channeled in the proper direction, disruptions are bound to occur.

The very best tool that can be used to prevent misbehavior in the classroom is a well developed, interesting lesson plan. The plan should include activities designed to keep the students constructively occupied for the entire period. As the lesson progresses, be sensitive to signs of boredom such as fidgeting, idleness and disruptions. Students work at different speeds so it is always advisable to have several backup activities planned for those who finish early.

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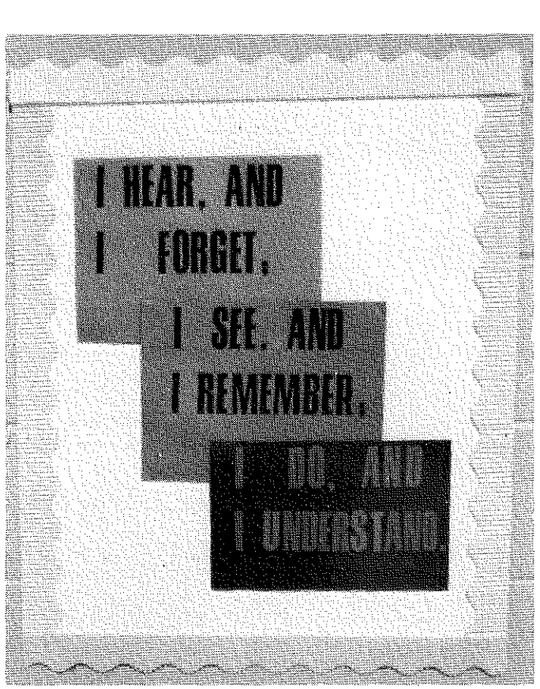
Immaturity

It is important to always keep in mind that high school students are not adults. Occasionally, students come through the program who are mature and act very much like adults, but these students are the exception rather than the rule. Generally students in high school are in the process of developing and maturing. While they may have taken on the physical characteristics of adults, they still retain much of the attitudes and thought processes of children. This makes it doubly difficult to deal with this age group because they are often torn between acting as an adult or as a child. Though the students may want to be considered adults, their actions may be closer to those of children and need the closer supervision and attention that such actions demand. Do not assume that your students are mature and responsible, but work with the intention of assisting the students in becoming mature and responsible.

For example, many students see disruptive behavior in the classroom as being fun or as being a game in which the student is pitted against the teacher. Clever remarks are made, small practical jokes are pulled, and ridiculous questions are asked for the purpose of irritating the teacher. These little annoyances probably cause more problems with beginning teachers than anything else. The teacher often feels that the behavior is not really bad enough to merit stern disciplinary measures, but the problem still causes the teacher to feel stress.



Attractive bulletin boards and classrooms contribute to more effective instruction and better classroom management.

These little annoyances build up to the point to where the teacher reaches the boiling point and explodes in anger. When this occurs, the student has achieved his or her objective. It is absolutely essential that the teacher never lose his or her temper. A loss of temper is equated with a loss of control. An even, cool head is infinitely more effective in managing students than outbursts of temper. This problem can be solved if the teacher recognizes that the student is immature and that he/she is making a game of the situation. Too often, the beginning teacher takes the student's games personally and views them as an attack "because the student doesn't like" the teacher. It is important to remember that these activities are aimed at a teacher and not at a person. It is actually the position and not the person who is being attacked.

To solve the problem, the teacher must be aggressive in solving such minor behavioral problems before they become real problems. Too often, a teacher thinks of herself/himself as being in a defensive position and tries to ward off the previously mentioned attacks. The teacher should become offensively minded and not wait until the problem becomes full-blown. The time to deal with the problem is before the problem can get started. When it first becomes apparent that the student wishes to begin a game, deal with the problem decisively and promptly.

One of the essential concepts in dealing with student immaturity is that of creating an atmosphere of control. A commonly occurring mistake is making a long list of very specific rules for classroom behavior. Those immature students who want to give the teacher a hard time will make an attempt to see how close they can come without actually breaking a rule.

The students feel they should keep the letter of the law rather than the spirit of the law. The solution is a clear understanding that any behavior that is disruptive in any manner will not be tolerated. When students are not allowed to begin their games, the activity is quickly dropped. Care should be exercised not to cause too much stifling of classroom activity. With a little experience on the part of the teacher, he/she can determine almost immediately the difference between good activity and bad activity.

Student Personal Problems

Perhaps the most difficult of all causes of student misbehavior to deal with is that of student personal problems. Many of these problems stem from the home environment. It is very difficult for the teacher to overcome problems with the home life of the student. Often the misbehavior is the result of the student seeking attention through making a spectacle in the classroom.

The teacher can work this situation to an advantage. Why not give the student attention? Choose a very conspicuous job and give that job to the student wanting attention. The student is wanting to be accepted and respected not only by his peers, but is also looking for self-respect. When given a job that is perceived as being important, that respect is achieved. Examples of important jobs might be checking out tools, heading a committee, calling roll, etc.

Personal problems can best be understood by becoming acquainted with the student's home situation. A perfect way to accomplish this is through the SOEP visit. It has always been a rule that no home visitation is complete without a visit with the parents. Through discussions with the parents, the instructor can gain insight into the home environment. In addition, the teacher has the opportunity to become better acquainted with the student.

Students respond differently to those teachers who get to know them personally. The teacher should make it a point to know the student's interests, hobbies, etc., and then talk about these things with the student. An occasional inquiry about the student's hobby or interest, although it might be totally unrelated to school, will go a long way in establishing a better relationship with the student. One should, however, be cautious of trying to develop a peer relationship with a student. Remember that you should never try to become just one of the students. There always will be and should be that gap between teacher and student that your position demands.

Plan of Action

As mentioned earlier, good classroom control can come about only as a result of careful planning. The first step in planning should be a visit with the administration about the school's policy in handling behavior problems. Every school has a different process for handling student problems and you should be thoroughly familiar with your school's procedures. Using these guidelines, your own plan should then by developed.

An excellent reference is a publication entitled "The LEAST Approach to Classroom Discipline" by Robert R. Carkhuff[1], published through the National Education Association. Basically Carkhuff's approach is to use the least amount of enforcement that will solve the problem. One of his main points is that problems are to be dealt with — never ignored.

As the plan is developed, anticipate those problems that might evolve and give thought to the possible steps in enforcing discipline. Problems that can be dealt with simply by calling a student's name, a disapproving glance, or a mild reprimand are simple to deal with, but the more severe problems are more difficult and take closer planning. Options might include a one-to-one talk with the student in your office, a conference with the parents or as a last resort, expulsion from school.

Be aware of your options and, above all, never make a threat or an ultimatum that you can not enforce. Let your students know that you mean what you say.

Keep in mind that the students have an image to maintain among their peers, so constantly guard against embarassing or humiliating a student in front of the class. If this occurs, you will very likely have a difficult time regaining the student's respect. Also in this situation, a crisis can quickly build between teacher and student. These crises are better avoided so when the potential exists for a crisis situation, give the student a way to back down gracefully. Very often humor can quickly defuse a tense situation. Try making a joke of the situation or try to make light of the problem — at least try to keep students from feeling they are backed into a corner and must openly challenge you to retain respect among their peers.

A thorough plan will contain steps for handling most situations, but the most important part is knowing your options and alternatives and being familiar with the procedures for carrying out these options. The teacher who understands the causes of student behavior problems, anticipates potential problems, and puts together a well planned course of action will find that problems arise less frequently and are more easily solved when they do arise. Not only will the teacher feel less stress, but a better learning climate will be achieved in the classroom.

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[1]Carkhuff, Robert R., "The LEAST Approach to Classroom Discipline," National Education Association, 1978.

THEME

A Step In Time Saves Nine: Handling Discipline Situations

Dale was having a bad day. Not only did Dale miss last evening's deadline for turning in a Master's degree assignment, the students in class today just did not seem interested in the lesson. In fact, Dale had seen Susan and Robert, usually two of the better behaved students in class, whispering to each other several times. Finally, Dale could stand it no more. Dale turned from the chalk board and hollered, "If you two like to talk so darned much, why don't you go to the principal's office and talk." The students dutifully left for the principal's office. After the incident had blown over, Dale was not certain that this was the best way to handle the situation.

Do you believe that this teacher's actions were appropriate? Was there a more effective way Dale could have handled this discipline problem? Dale could have avoided

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By Mark A. Lelle and Gary E. Moore

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over-reacting to this situation if he had developed a plan for handling discipline problems prior to entering the classroom. Just as a good athletic coach develops a game plan for neutralizing the opposing team's offense, a vocational agriculture teacher needs to develop a game plan to handle discipline problems.

Using an Escalation Plan

Wolfgang and Glickman (1980) advocate using a Teacher Behavior Continuum or escalation system when developing a teacher's discipline game plan. An escalation plan is simply a lesson plan for handling discipline problems. The teacher develops (either mentally or on paper) a series of steps for handling discipline problems. The steps in the plan become progressively more severe. When a typical problem occurs the teacher starts with step one. If this does not stop the problem, the teacher progresses to each following step until the problem is resolved. If a severe problem occurs, the teacher would start at a higher step in handling the situation. By pre-establishing which disciplinary actions are to be taken at which time, teachers can avoid several common mistakes.

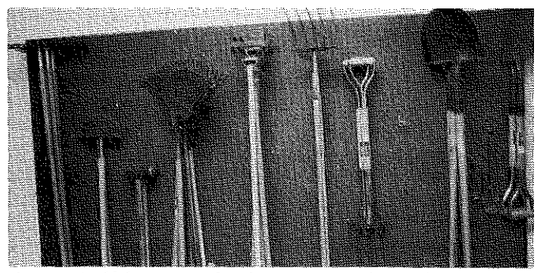
First, escalation plans reduce uncertainty. Many teachers still recall the discomfort associated with inadequate planning for certain lessons during student teaching. This discomfort also strikes experienced teachers when they believe they might be faced with a disciplinary situation for which they are not prepared.

Second, escalation plans, if properly used, prevent teachers from over-reacting to harmless student behavior. Dale, in the introduction, could have used lower steps on the escalation plan to alter student behavior instead of sending the students to the principal's office.

Third, escalation plans result in increased learning. Valuable instructional time is not spent continually reacting to student behavioral problems with the same disciplinary methods. By escalating the disciplinary response, teachers can more quickly return students to instruction.

A Sample Escalation Plan

The following escalation plan is only a sample of what a teacher might use. Different teachers have different disciplinary philosophies, and therefore will have different plans. The important point is that teachers should have some kind of plan developed.



An organized laboratory and tool room assist students in finding the right tools and supplies. They set the tone for a businesslike class.

Referring to Dale's example, the first reaction to the whispering incident might have been a prolonged stare. A prolonged stare lets students know that the behavior is unacceptable.

If the offending behavior persisted after the stare, Dale's second action might have been to stand next to the two students. People maintain a "comfort zone" around them, and this is often evident in large classrooms with few students. Rarely will students sit immediately next to other students unless they are good friends. A teacher can often bring about behavior modification by violating a student's comfort zone.

A third step which is related to the student's comfort zone, is physical contact with the student. If standing close to the student does not end the undesirable behavior, try placing your hand on the student's shoulder.

If this is unsuccessful, the next step in the escalation plan might be to verbally confront the student about the undesirable behavior. Emphasize that the behavior is undesirable, not the student.

Step four is to isolate the student away from the rest of the class. Be sure to remove all stimuli from the isolation area, and keep the area away from any location where instruction takes place. This prevents the teacher negatively reinforcing instruction.

Step five could be a private conference with the student. Ask the student to explain why he or she has been asked to attend this conference, and what is wrong with the behavior exhibited. Explain to the student what the consequences of the next rule violation will be.

Calling in the parents for a conference with the student is step six. Again, emphasize to the parents that you are concerned with the student's behavior, not the student.

If the parent-teacher conference fails, the seventh and final step might be to refer the problem student to the principal. Although most educators agree that teachers should handle their own discipline problems, there comes a time when students must be turned over to someone else, especially if there is a threat of violence.

Conclusion

Regardless of what steps are used on each teacher's personal escalation plan, there are several important points to remember. First, it is important to let students know which behaviors are acceptable and which are not, and to be uniform in administering punishment. In addition, teachers should enter the escalation plan at a step which matches the severity of the discipline problem. For example, if two students are fighting in the laboratory, a simple stare would probably not be the most appropriate teacher reaction. Finally, some teachers recommend documenting discipline problems and resulting punishments for counseling and legal purposes.

Every teacher is going to be faced with days where nothing goes right. At times, we may be tempted to strike back at students in the same manner as the fictitious Dale in our introduction. An escalation plan is the "step in time" which ensures that teachers are as prepared for handling discipline problems as they are for teaching lessons.

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THEME

The 4 "F's" That Equal An "A" in Classroom Management

By James M. Garrison and Edward Holz

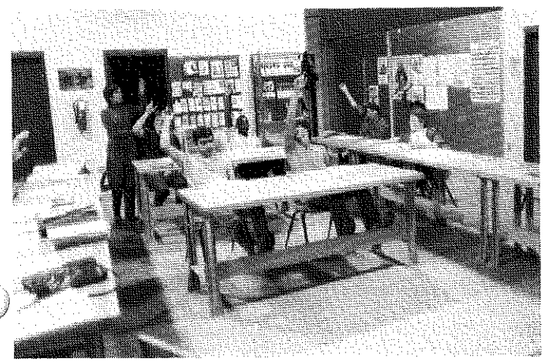
(Editor's Note: Dr. Garrison is the Vocational Director and Mr. Holz is the Assistant Vocational Director for the Carroll County Schools, Carrollton, Georgia 30117.)

When someone mentions student discipline, student management, or student misbehavior; what are the first thoughts that enter your mind? That trouble maker in the fourth period class or that kid in sixth period that just ruins my day. Perhaps, today, this very minute, while you are reading this article, you have had a good day and you seem to have forgotten about those problems you dealt with yesterday or two weeks ago. Whatever your thoughts, we are all concerned about student discipline problems.

According to the late George Gallup, in his annual surveys of the public's opinion toward the schools, the public sees the lack of discipline continuing to be the top problem for schools to contend with, as reported by 27 percent of the respondents (Gallup, 1984, p. 36). On the other hand, Mr. Gallup conducted a similar survey in 1984 with educators, specifically teachers (Gallup, 1984, p. 98). In contrast, teachers see the lack of parental support as the most pressing problem. Only 19 percent of the teachers surveyed rank discipline as the number one problem.

According to a recent study conducted by the author, vocational agriculture teachers do not see student misbehavior as a serious problem (Garrison, 1982). As a matter of fact, the most serious problems, according to vocational agriculture teachers, are those related to poor attitude.

Therefore, what are our discipline problems? Who can determine what they really are? How serious are they? How are we to deal with the gigantic problems that everyone (except us) says we have? As administrators, we would offer a few simple, but perhaps useful thoughts on classroom management, and suggestions on how to handle discipline problems when they do occur.



Classroom participation by every student is important in maintaining classroom control. A student who participates usually will become active in all phases of the instructional process.

The Four F's

I recall my first year of teaching in a rural high school in Alabama. That year was not only frustrating for me, but was an excellent learning experience in many ways. My high school vocational agriculture teacher, Mr. D.M. Eddleman, told me one thing that has been a rule I have tried and found to be a strong basis for a successful classroom environment. It is what he called the 4-F principle. Always be FIRM, FAIR, FUNCTIONAL, and FUN. I think Mr. Eddleman had a lot to say in those four words.

Two of these steps are easy to understand, but it is important to note the arrangement of the terms. Notice that fun comes last. Classroom teachers that are firm, consistent, fair, and functional can naturally create a fun learning environment for students. It is a by-product of a well planned and professional teacher's work.

An instructor that is fair does not have to demand the respect of students, because they see that the teacher will be fair to all parties. Students quickly realize which instructors are fair, and they react likewise. However, we would emphasize the firm and functional portion of these principle. Being firm simply means being consistent.

It is important for the instructor to set the stage for appropriate behavior within the laboratory and classroom. An instructor that is firm will identify what is expected of the students both daily and throughout the year. A firm in-

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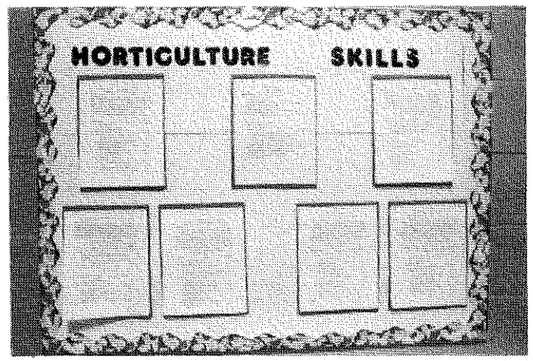

Posting competencies to be learned helps organize the curriculum for both teacher and students. Students who know what they are supposed to be doing are less likely to cause problems.

The 4 "F's" That Equal An "A" in Classroom Management

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structor has positive, well developed plans for behavior along with realistic, logical consequences for inappropriate behaviors. To be solid in your everyday dealings with students and parents alike is of utmost importance. Firm, fair rules and procedures make your classroom fun.

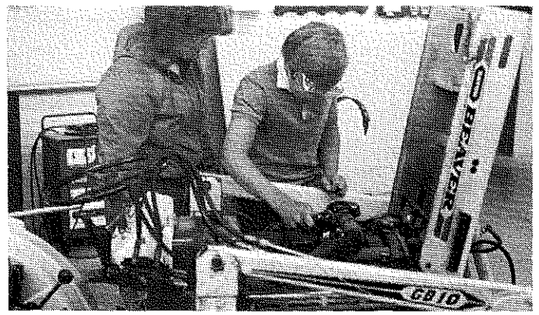
Functional, in our opinion, is the most important aspect of classroom management. There are some teachers whose instructions are simply not functional in the classroom. What happens in those classrooms? Usually misbehavior results from not having planned, learning tasks for the students. There is a lot to be said for a teacher who has lesson plans ready every day and follows those plans.

It not only means sound (firm and functional) teaching, but also means that, most likely, student misbehavior will be at a minimum. It allows students to guide their behaviors in the appropriate direction. After all, when behaviors are properly directed learning can take place and classroom management will be much simpler.

We also believe that good planning will promote proper attitudes. According to the study conducted by the author, the most serious problems that face an agriculture teacher are attitudinal in nature. Therefore, if proper planning occurs and a teacher is ready for the day, proper teacher attitudes and student attitudes are enhanced. Yes, we said teacher attitudes. If the teacher's attitude is not positive and motivated, how is it possible for student's attitudes to be positive and motivated? We do not believe they can. We believe that a teacher should display the positive behaviors and attitudes that are expected from the students. One other characteristic of functional teachers is the ability to be flexible within their framework. Different activities from day to day will require flexible procedures that need to be planned to allow learning to function at its maximum.

Good Planning

What are the signs of good planning? There are many. We will mention a few: (1) all students are on task — time on task is crucial — much of the learning that we might do in our lives may be incidental, but educators are charged with the responsibility to help students participate in specific tasks; (2) bulletin boards are attractive and up-to-date with the current lessons being taught; (3) tool rooms are neat and orderly; (4) the teacher is obviously in charge and is busy teaching or observing students' work; and (5) students are involved with their work and what is taking place in the instructional sequence.



One-on-one drills and repeated instruction are practiced by a vocational agriculture teacher to enchance individual learning and performance.

Dealing with Problems

The Carroll County Board of Education has passed certain policies to which we as employees must adhere. Your local Board probably has similar policies. For example, our Board lists several student offenses that might occur, and their disposition when these occur. Disciplinary actions range from deprivation of break time to expulsion from school. One of the options within that range is in-school suspension. The following is an excerpt from the policy manual of the Carroll County Board of Education.

> Each school is encouraged to have an in-school suspension program in which students will be expected to complete school work. The student will be assigned to a supervised work area and will complete all work sheets . . . the student will have no contact with other students . . . and can receive up to 70% credit for work while suspended in-school.

This program has its merits and works in some instances to make student's aware of the severity of the offense and hopefully will enable them to return to regular classes without causing further disruptions. This is also a nonpunitive measure. It says, in effect, if you can not cooperate, you can not participate. This type of action also allows the student to keep up with the work in the class without seriously hampering a good grade. When students are isolated from their peers and have absolutely no contact except with a teacher or an administrator, it becomes a very long and lonesome day. This allows the student to take a second look at what he/she has done and try to make retribution for the offense. It also provides students with an opportunity to recognize that they are responsible for their behavior, and that they are in control of where they are. Many systems permit corporal punishment. If your system permits this action, it is best to review the local guidelines, and follow them accurately. We have known of some students who preferred to go home for a few days or take a paddling instead of in-school suspension.

In conclusion, we believe that the single most important deterrent to student misbehavior problems is a well planned, organized sequence of study for every student. This should occur every day. Something that is meaningful and has practical value is always important to the students we teach. This can and should be done through an organized curriculum approach. If we practice the FFA motto in our teaching, then our gigantic problems will become minimal and our attitudes toward students and our job will be improved. We need to first learn to do, then do to learn, earn in order to live, and finally, but most importantly, live to serve others.

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ARTICLE

Looking Beyond Agricultural Education For Microcomputer Software

BY DEAN SUTPHIN AND MARGARET RICHARDSON

(Editor's Note: Dr. Sutphin is an Assistant Professor and Ms. Richardson is a doctoral student in Agricultural and Occupational Education at Cornell University, Ithaca, New York 14853.)

Software provides the key to unlock the potential uses of the microcomputer. It has been suggested that the lack of high quality software is the single most limiting factor in using microcomputers. The underlying assumption is that agriculture teachers are primarily users of programs rather than programmers themselves.

A scan of agricultural curriculum supply catalogues, indicates a short supply of agricultural software; although the number has increased with each passing year. The number of programs compatible with any one type of microcomputer will certainly be significantly fewer than the total number advertised. Other limiting factors which determine usable programs include program content, age level, reading level, and program quality. To the very discriminating eye, the number of agricultural programs judged appropriate for classroom/laboratory use may be severely limited.

Software From Other Disciplines

Software from disciplines outside agricultural education should be considered for use in agricultural education programs. Programs from areas such as science, math, language arts, administration, geology, and other vocational subjects can frequently be integrated into the agricultural education curriculum with little if any adaptation.

In the management of instruction (CMI), for example, administrative management software for school inventory of equipment and supplies, printing mailing labels, class management and a financial manager can be used in the management of an agricultural program. It may be possible in some situations to borrow these programs from the administrative office if the software has a site license.

Instructional software (CAI) used for teaching genetics in science has direct transfer to agriculture. Language arts programs which create crossword puzzles for vocabulary building become agricultural software when all the vocabulary words relate to an agricultural content area. Drill and practice mathematics programs that teach fractions, conversion of units of measurement, or metric may be used when teaching units of measurements for agricultural products. Hence, consultation with the respective subject matter teachers could identify appropriate software already in the school or catalogues where suitable software could be purchased. Administrators are more likely to support the purchase of software which has multiple use potential among subject areas.

Establish Realistic Expectations

Vocational agriculture teachers must recognize that no one program from any discipline will do everything, nor will any given program necessarily include all the features a particular teacher might need. There is a temptation to expect more from software than from other curricular materials because of the current mystique associated with microcomputer and high technology.

Films, textbooks, and overheads are not expected to "do it all" in terms of teaching; neither should software. The uses of most software on the market today can be expanded/enhanced by using appropriate strategies. Likewise, adaptative strategies can help agriculture teachers modify software from other disciplines for use in agriculture education.

Using Non-Agricultural Software

Computer programs from areas other than agricultural education may be useful to vocational agriculture teachers. However, these programs may present difficulties for the teacher/student for reason including (1) programs are often written for specific student ability and interest levels; (2) they often lack content background material; (3) they have not been designed to fit into the specific course being taught; (4) and they may not provide much useful feedback or evaluation to students and teachers. Although these limitations may apply to all software, vocational agriculture teachers who want to benefit from software used in other disciplines will need to address these concerns.

In all cases except tutorials, software is not intended to stand alone, but to be used in conjunction with other strategies and techniques. Very often the documentation (instruction in hard copy) gives little background material or ideas for classroom use. This is a particular difficulty with complicated programs that are difficult for teachers and students to understand.

Good software, and even if it's not so good, can be greatly enhanced by good documentation and supplemental instruction. If documentation does not come with the software; you can do it. Worksheets, handouts and other support materials for the software allow the teacher to directly relate/adapt software to their program and perhaps personalize it to their students.

Another way in which you can adapt software from other disciplines; and, yes, even improve agricultural software; is by providing students with a printed instruction sheet of the ways they can control the program. Sometimes this information appears on the screen only once, not at all, or is hidden in the written material. This kind of information might include how to (1) return to the Main Menu, (2) retrieve "help" function, and (3) obtain instructions or perform special functions such as backing up or deleting an unrelated section by skipping around.

Having this information handy can

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Looking Beyond Agricultural Education

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increase a student's confidence, readiness to learn, and reduce the anxiety of "What do I do now?"

Specific rules/directions that make the software relevant to agriculture should explain the program and orient students on the nature of the learning activity. This prevents the mindless game-playing attitude or the frozen "I'm not sure what this is all about" attitude. Both of these tend to reduce the educational effectiveness of software.

In a few cases, you may be able to change the software program to suit your needs. A number of programs have sections of the program for teachers or students to personalize the program to a situation by responding to questions on the screen. With this procedure, you may be able to change such diverse things as the degree of student independence and specific problems in drill and practice.

Programs may be made more useful if teachers specify the level of review and record progress. Few programs keep track except to score answers which may or may not be helpful to a student trying to figure out why things did not work. Perhaps sheets could be provided for students to copy frames where they had difficulty. Unfortunately, most programs have little follow-up; the student just knows that "it was wrong." If handouts related to the software are provided for further study; the student can be in charge of the next step and prepared to find out why it did not work. In this way, programs like drill and practice becomes an active part of the educational process and not just a time filler.

Summary

Few, if any, software programs will accomplish all the objectives a vocational agriculture teacher may have for any given unit. Hence, teachers must establish realistic expectation of software. Software from disciplines outside agriculture can be used to supplement the limited number of agricultural software programs when appropriate strategies are used. Some of these strategies include providing an appropriate class introduction, providing additional documentation, supplementing the software with other instructional materials, providing specific instruction/learning activity sheets, and by taking advantage of interactive student/teacher options within the program.

ARTICLE

An Evaluation System For Microcomputer Courseware

By Richard C. Makin, Shirley A. Chase and Michael Wonacott

(Editor's Note: Mr. Makin is a Graduate Associate, Dr. Chase a Research Specialist and Mr. Wonacott a Program Associate at the National Center for Research in Vocational Education, The Ohio State University, Columbus, Ohio 43210.)

The microcomputer is changing the nature of agriculture. A proliferation of microcomputer programs deals with machinery management, floriculture crop scheduling, commodity charting, livestock performance testing, fertilization, farm management and record-keeping. The microcomputer's potential is nearly unlimited in modern day agriculture. Obviously, the microcomputer breakthrough poses many implications for vocational agriculture teachers.

As expected, teachers are accepting the challenge of this new technology. The integration of the microcomputer into the vocational agriculture curriculum is progressing rapidly. Microcomputers have been bought and training in computer literacy completed. However, it soon becomes evident that developing courseware (software designed for instructional use) is a time-consuming process — too much so for the typical teacher. This necessitates a decision on what courseware to acquire for classroom instruction.

An Evaluation System

Can students access the program menu? Are "help" options available when needed? Does the documentation provide sufficient information to run the program? Are trial data supplied for learning to run the program? Teachers need assistance in answering these questions and evaluating other aspects of courseware quality.

Although evaluation systems are available for courseware in general, none has focused specifically on the unique instructional needs and features of vocational education. To fill this gap, the National Center for Research in Vocational Education recently conducted a project to develop a system for evaluating microcomputer courseware.

Development of the system began with a comprehensive review of the literature in microcomputer courseware evaluation. Staff identified and obtained copies of existing evaluation forms and guides and developed from these a preliminary version of an evaluation system specifically suited to vocational and technical courseware. Two technical panels assisted in refinement of the evaluation system, which was then pilot tested and further modified.

The final version of the microcomputer courseware evaluation system contains two components. These are the evaluation form and an accompanying guide. The microcomputer courseware evaluation form consists of three parts, each with a separate purpose. Part A organizes descriptive information about the courseware being evaluated. Part B lists 74 evaluation criteria organized into eight sections. These are subject matter, technical presentation, student interaction, program interaction, student evaluation, documentation, work behaviors, and application programs. Each criterion within these sections focuses on a specific aspect of courseware quality. Figure 1 shows the documentation section of Part B of the evaluation form. Part C provides for a summarization of the strengths and weaknesses of the courseware, ratings of the evaluation criteria by section, and a final recommendation regarding the use of the courseware.

	Yes	Somewhat	No	N/A	Comments
VI. Documentation ____A ____N/A					
1. Documentation is easy to understand.					
2. Documentation is accurate.					
3. Student objectives are stated.					
4. Underlying concepts are outlined.					
5. Skills to be developed are specified.					
6. Procedures for integrating the program into the curriculum are provided.					
7. Follow-up activities are suggested.					
8. Documentation explains the intended use of support materials.					
9. Sufficient information is provided to operate the program.					

Figure 1. Section VI of the courseware evaluation form.

The second component of the system is the microcomputer courseware evaluation guide. The primary purpose of the guide is to provide assistance in using the form and clarification of each of the items that appears on the form. Other features of the guide are a brief glossary of microcomputer courseware terminology and a suggested evaluation procedure schematically. Also explained in the guide is an optional use of Part A and Part C of the form in conducting a quick evaluation of courseware for initial screening.

Value to the Teacher

The evaluation system is useful to the vocational agriculture teacher for two reasons. First, teachers in the field can use the system to evaluate courseware under consideration for use or purchase. At some point, the individual teacher should evaluate the quality and appropriateness of the piece of courseware to instructional needs. The use or purchase of courseware based solely on the recommendation of another teacher or a review in a microcomputer magazine can result in the selection of poor quality courseware. Courseware descriptions in catalogs can be even less accurate in describing courseware capabilities.

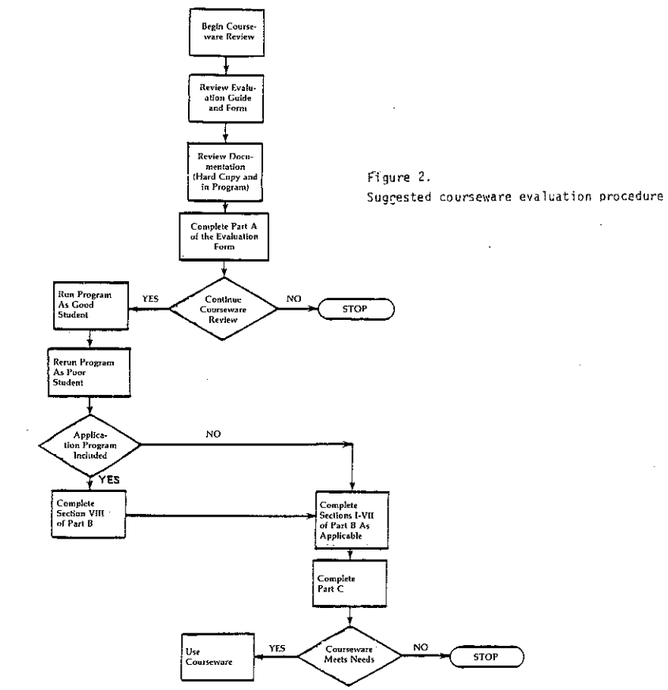


Figure 2.
Suggested courseware evaluation procedure

Second, the evaluation criteria contained in the system can be used as guidelines in continued courseware development. To date, vocational agriculture teachers have relied heavily on applications courseware (meaning programs that perform a job or service, such as spreadsheets). This is acceptable and necessary in that such packages are what students will need and use as they enter agricultural occupations. However, teachers must not overlook the capabilities of the microcomputer in tutorial, drill and practice, games, and simulation types of instruction. The criteria contained in the courseware evaluation system developed at the National Center can be used as a comprehensive set of guidelines in developing these types of courseware. Progress is being made in this respect, with more courseware becoming available on topics such as the FFA and parlimentary procedure.

A Word of Caution

The evaluation system cannot be expected to make a decision (yes, use the courseware; no, do not use the courseware) for the teacher. What the system can and does do is provide a structured mechanism for examining the individual characteristics of courseware that are pertinent to instructional use. It is the judgement of the individual user, based on knowledge of student characteristics, instructional needs, local resources, and other details, that determines whether or not courseware being evaluated can profitably be used in a specific situation.

ARTICLE

Computer Aided Vegetable Crop Production

By Ken Kajihara and Dale Thompson

(Editor's Note: Mr. Kajihara is the Vocational Agriculture Instructor at the Waimea High School of the Kauai District of the Hawaii State Department of Education, Box 339, Waimea, Kauai, Hawaii 96796; and Dr. Thompson is Coordinator of Agricultural Education in the College of Education at the University of Hawaii, Honolulu, Hawaii 96822.)

A major mission of vocational agricultural education is to prepare individuals with entry level job skills for the agriculture work force. These skills should include time-tested agricultural fundamentals as well as more current ones which reflect industrial change. The approach used by the Wainea High School Vocational Agriculture Program to develop entry level skills is based on a "hands on" crop and ornamentals production system. Students sign business agreements with the local Future Farmers of America Chapter to enter the world of entrepreneurship. They may enter as a group or individually. The FFA chapter then leases land and equipment to the students for vegetable or ornamental crop production. Students are also charged for the cost of fertilizer, pesticides, water and other operational expenses. All costs are then deducted from the sales of produce or ornamental plants grown by the students.

In recent years the vocational agriculture program has worked well in the area of basic agricultural skill development. However, income produced by the students on the school's land laboratory has been nominal. The highest gross income earned by an individual has been $150.00. When expenses are deducted, the student is not left with a substantial amount. This fact in conjunction with the high start-up cost of initiating a diversified agriculture venture makes it difficult for students to consider production agriculture as a career option. This is especially true for students who do not come from families with established agribusinesses.

In an attempt to develop a more viable program, it was decided that alterations were needed to compensate for limitations of the land lab area and traditional management practices. A cooperative effort by Thomas Hatakeyama, agriculture curriculum specialist with the department of education; and the vocational agriculture instructor, Ken Kajihara, led to the decision that the microcomputer could offer some of what was needed.

Obtaining Funds

The first step in developing a workable plan was to locate funding for hardware and software. First, the local outlet of a nationally known computer manufacturer was approached for a full or partial donation of a computer system. When this initiative failed, the decision was made to formally pursue federal vocational education grant monies.

The format of the vocational education grant application helped the planning remain sequential. The general objective of making traditional production methods more efficient was stated and procedures for acquiring equipment and software were matched accordingly. Budgeting was established by the applicant at this stage so the planner became accountable for all purchasing decisions.

When funding was received, Waimea High School was designated project site and the agriculture instructor was given the opportunity to execute the program improvement proposal. With the aid of project participant Curtis Ho of the University of Hawaii, Monoa, College of Education, Communications and Technology Department; instructional objectives were developed.

When the project was approved in the spring of 1984, equipment orders were made. The initial hardware purchase included two Apple IIE single disk drive systems with green monitors and an Epson FX-80 Printer. This was supplemented with five resource-sharing Commodore 64 Systems purchased by the Waimea FFA Chapter with support from the Waimea Young Farmers Chapter.

Curriculum

In September of 1984, a computer attitude questionnaire was administered. This instrument was used to gather data to make the transition to using computers as stress-free for students as possible. A follow-up questionnaire will be administered at the end of the school year to determine what kinds of anxieties and attitudes were affected.

An introductory unit on functions of the computer system was then presented. This included the use of programs like "Apple Presents Apple" and various typing tutorials. With seven terminals, students are allowed to schedule their own computer time. Very minimal teacher intervention is required to provide equal access. While programming is not a course objective, students are introduced to the basic computer language. They learn simple programs which compute land areas and volumetric measurements as well as cause and effect programs which show the relationships of numbers of plants versus crop yields.

Word processors will be used by the students to write job applications and business correspondence during the third term of our four quarter year. Students will use spreadsheet and database software to make crop projections and inventories during the fourth quarter.

These operations will be first taught using traditional "pencil and paper" methods, as part of this project's mission is to compare traditional against computer related methods. We anticipate a trade-off between extra time spent on this dual instruction of tasks and valuable information gained on the appropriateness of computer usage in the agriculture classroom.

Remote Controls

A concurrent focus was made in the area of hi-tech product development and evaluation where some of the tools envisioned for student use had to be assembled from off-the-shelf components. The first effort was to develop a unit with the capability of remote farm management. It features a control system which allows the activation and deactivation of solenoids, motors and lights via telephone. It also monitors the opened or closed condition of switched windows and doors and "calls" up to seven predetermined 11-digit telephone numbers upon unauthorized entry.

A Commodore 64 computer is connected by a modem (modulator-demodulator) to an ordinary modular telephone jack. A modem converts computer output to a kind of signal that can be transmitted over phone lines. This computer is kept at the farm and runs 24 hours a day. It is called the "base terminal."

An identical unit is kept at the operator's home and is similarly connected to the phone lines. This computer is called the "remote terminal." Like the "base terminal," it can transmit and receive commands entered via its keyboard.

Connected to the base terminal is a switching device called a relay. On command from the remote terminal, it can control devices on the farm that are connected by direct hard wiring. These devices would include magnetically activated water valves (solenoids), electrically driven motors and lights. This relay can also monitor incoming signals such as those generated by a burglar alarm switch or a soil water saturation sensor.

The software for our total farm instrument control and security management system was custom designed by the instructor's brother, Tom Kajihara. It is menu driven and features four main menu items.

The instrument control and security control subprograms are grids representing time slots in 15 minute or 30 minute increments for an entire week. For instrument control, four channels each able to swith three electrical devices are available for scheduling. These devices can be scheduled by the clock or upon demand under sensor control. For example, a sprinkler system can be turned on every other hour around the clock or only when moisture probes indicate low soil water levels. With the right sensors, this system will respond with corrective measures when greenhouse temperatures fall below a danger level by turning on a heating system or calling the operator's home and delivering a specific audio tone. At the time of this writing, the programmer was not able to secure rights to use a voice synthesizer program for this purpose.

The security program works in the same way. The operator and up to six other people can be called at home right after a break-in occurs. Presently, six different audio tones can indicate six different security conditions. A low tone could indicate that the laboratory was entered while a high screech might indicate entry through a certain window. The program provides for the delivery of a 28 character voice synthesized message, but this feature will not be used until clearance is received for rights to a synthesizer program.

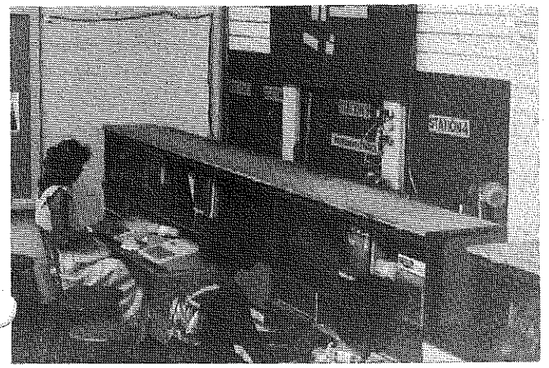
A third item is a clock adjustment which presently must be reset in the event of a power failure. This will be remedied with the development of a battery back-up.

The last feature is a direct analog to digital bar graph that displays the values of analog sensors like thermistors (heat sensitive resistors), photocells or moisture probes. The bar graph has four horizontal zones which represent the conductivities of four sensors. Each zone is made up of two "stripes." One is light colored and immediately below it is a darker one that can be lengthened or shortened at the operator's discretion. The end point of this dark stripe is a reference or switching value. When the conductivity of the sensor increases or decreases to cross this reference, the computer can take appropriate action by activating a valve or motor light system.

This program is designed for a Commodore 64 computer and efforts are now being made to program it onto a game type cartridge. This will eliminate the disk drive and allow simple auto-booting if the system must be turned off. System requirements include a modem, relay unit and various sensors and solenoid units.

A second hi-tech exploration was made in the area of interfacing measuring devices to computers. Of special promise is a product called the Home Atmospheric Weather Station (HAWS). The HAWS is a device that can continuously monitor temperature, relative humidity and atmos-

(Continued on Page 22)



Station 3 is a fan-cooled Commodore 64 computer that runs 24 hours a day while monitoring and controlling irrigation, security and sensor devices.

Students prepare carnation beds for the installation of moisture probes to provide computerized on-demand irrigation.

Computer Aided Vegetable Crop Production

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pheric pressure. These readings can be saved on Vic 20 or Commodore 64 computer systems and used to extrapolate other atmospheric information. As packaged, the HAWS has immediate use as a greenhouse environment monitor as well as a data collecting instrument for research.

For example, students can calculate growing degree days without having to touch a thermometer by adding the daily minimum temperature to the daily maximum temperature, dividing by two and substracting 50 degrees. The HAWS even has a handy calculator display that will perform this operation.

Hobbyists will find a number of books which show how to assemble instruments which will perform some of these functions at a more modest level.

Mainstreaming

An important area of interest related to special needs and disadvantaged students who have traditionally been vigorously mainstreamed into vocational education. The project promised to provide these individuals a unique opportunity for year-long access to computers. Efforts were also made to select appropriate career guidance and basic skills remediation software for all of the agriculture students.

Mid-Project Evaluation

In the short time that transpired since the project's funding was granted, areas of major concern began to arise.

First, the selection of software was found to be an imprecise matter. Unless the buyer has access to a reputable evaluating body he must rely on anecdotal blurbs when buying by mail order. Since most of the project's software was purchased on a "buyer beware" agreement, as is the general rule, the only recourse for dispensing with unacceptable products seemed to be bartering.

Second, the need for service contracts which extended beyond the manufacturer's warranty period for all hardware became clear when malfunctions and breakdowns occured. The buyer must carefully weigh the costs of repair against the costs of extended maintenance contracts when planning for equipment acquisition. Insurance policies for theft and vandalism protection should also be considered.

Finally, the need for adhering to a well defined approach toward testing and developing computer applications in agriculture became apparent as the project evolved. For example, when the computer is considered as a learning tool, the planner must select from one or a combination of many different modes which may include drill and practice, simulations, tutorials or gaming. The teacher must then decide if the content is better delivered by traditional instructional methods.

Plans for the Project

By the fall of 1985, the Waimea project will have 10 or more terminals for at least a 3:1 student to computer ratio. Students will be able to control irrigation solenoids and monitor and interpret atmospheric and soil condition data via computer. They will be computer literate and be able to use spreadsheet, word processing and data base software as part of their supervised occupational experience programs. The literacy aspect means that computer assisted learning will be an integral part of the instructional program.

It is hoped that this exploration into computer applications for vocational agriculture will yield information that will improve our curriculum. We seek to keep vocational agriculture relevant and in a state-of-the-art posture in terms of innovative farm management. Cost effective, the microcomputer is an appropriate agricultural technology and must take its place beside the proverbial plow.

BOOK REVIEW

INTRODUCTION TO INSECT PEST MANAGEMENT, by Robert L. Metcalf and William H. Luckmann, editors. New York, New York: John Wiley & sons, 1982, Second Edition, 577 pp., $32.50.

The book develops a unified program by evaluating and integrating biological, chemical, and natural control through a systems approach. Individual chapters are written by recognized experts in insect pest management. The level of the book is most appropriate at the post secondary level or for advanced secondary students. It could also be used as a reference for any level.

A most impressive aspect of the book is that although the topics (chapters) are complete and self-contained there is a logical flow across chapters. The Pest-Management Concept provides a reason for concern and is presented first. Following this introduction are the interrelated aspects of ecology and economics.

As in any good pesticide management text, the spectrum of sound control methods are presented in detail. Theory is wisely built in order to support recommendations. Five chapters of the book are devoted entirely to specific pest management needs. They include: 1) Cotton; 2) Forage Crops; 3) Apple; 4) Corn; and 5) Man and Domestic Animals. One chapter is devoted to analysis and modeling in pest management. Another chapter concerns the future of pest management and ties the topics together as issues are presented.

The book seems to be very current with the newest technology. In addition, extensive bibliographies at the end of each chapter support text and give the reader additional sources for additional study. This book should be valuable to both those who want general knowledge of the field and to those who want in-depth knowledge of specific issues or topics.

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BOOK REVIEWS

RECENT ADVANCES IN ANIMAL NUTRITION 1983, by W. Haresign, PhD., published by Butterworths, 1983, 242 pp., $59.95.

The general content of the book, Recent Advances in Animal Nutrition, 1983, is based upon the proceedings of the Seventeenth Nutrition Conference for Feed Manufacturers. The book consists of four sections.

Section one deals with the evaluation of data and methods that can be used to determine errors in data.

Section two deals with swine nutrition, section three with calf nutrition and section four with ruminant nutrition.

The book is very well written and is quite technical. To read and understand, the book requires a good background in animal physiology and animal nutrition. An understanding of chemistry and the scientific process would be helpful.

The book contains excellent material and shows the type of research that is currently being conducted in animal nutrition. It makes one appreciate the effort required to probe and inquire into any facet of animal nutrition.

The book would make an excellent text for college students and would be a good reference for junior college and high school students.

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PRINCIPLES OF DAIRY SCIENCE, by G.H. Schmidt and L.D. Van Vleck, San Francisco, California: W.H. Freeman and Company, 1974, 558 pp., $23.75.

PRINCIPLES OF DAIRY SCIENCE is a comprehensive book having twenty-eight chapters organized in six parts as follows: Introduction; Milk Secretion and Harvest; Dairy Cattle Breeding and Selection; Feeding Dairy Cattle; Dairy Cattle Reproduction; and Dairy Cattle Management.

This book is compiled systematically from the role of the dairy industry, to the mammary gland and physiology of milk secretion, to genetics, selection, economics, principles of dairy nutrition, dairy cattle reproduction, A.I., herd records, housing, to milk marketing.

As stated in the preface of this book, "The authors' approach in teaching has been to emphasize basic principles of dairy production and consequently the book reflects this emphasis." With the personal experiences of the instructor and the basic principles changed to meet local conditions and/or unique situations, teaching and learning dairy science can be made easier. This book contains 202 illustrations and 112 tables, (all of which are black and white) many of which can be used to support instruction. The book is easy to read and well organized.

The undergraduate student majoring in dairy science will find PRINCIPLES OF DAIRY SCIENCE an appropriate textbook and valuable reference. Also, vocational agriculture instructors, commercial dairy farmers, any advanced vocational agriculture dairy student can use this book as a source for dairy information.

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FARM PLANNING AND CONTROL by C.S. Barnard and J.S. Nix, Cambridge: Cambridge University Press, Second ed., 1980, 600 pages, $19.95.

This text is a revised edition of the 1973 first printing. This book is based on the notion that profitability of farming is more and more dependent upon farm planning as well as technical operation ability. In order to facilitate understanding of current mathematical applications of farm management, the authors have reduced calculations to a minimum.

Part I of the book is devoted to the organization of farm capital — Machinery, buildings and land. Part II centers on the organization of farm crop and livestock enterprises. Part III continues with procedures for the combination of farm enterprises. Topics treated here include budgeting, uncertainty and methods of combining enterprises to maximize resource allocations. The book's final part, Part IV, discusses farm management, record keeping and record analysis systems.

One author received his education at the University of Cambridge and is a Land Economy Specialist, the second studied at the University of London and is a specialist in British Farm Management.

This book would make an excellent supplemental text for farm management classes. The text would also provide inservice information for farm management teachers who need to understand modern farm management techniques. Instructors of managerial agriculture classes may wish to consider FARM PLANNING AND CONTROL as a supplemental text. Those with a specific interest in teaching farm management at the community college or with adult farmers will find the text interesting and useful reading.

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Stories in Pictures

A Presidential Visit

President Reagan steps off his helicopter to begin his tour of the Wilco Area Career Center.

The President is greeted by Horticulture student Chuck Partak as he enters Wilco through the Horticulture greenhouse.

President Reagan shakes Valerie Singleton's hand as he passes through the Floral Design Room.

President Reagan is presented the FFA Blue and Gold Award by Chapter President Charlotte Smith.

Wilco FFA Chapter Meets President Reagan

On Tuesday, October 16, President Reagan, along with Senator Percy, Governor Thompson, and Congressmen Hyde and O'Brian visited the Wilco Area Career Center in Romeoville, Ill. President Reagan included Wilco in his schedule in order to see a vocational training center.

Student excitement rose dramatically as four helicopters of the Presidental party landed on the Wilco golf course. During his tour of the facilities, President Reagan was escorted by Wilco director Dr. Roger Claar. FFA member Darren Wyss, from Lemont High School, met President Reagan at the door of the Wilco greenhouse and gave the President a Wilco jacket. While passing through the greenhouse, Floral Design, and Horticulture classroom, President Reagan and his associates shook hands with students.

President Reagan paused to tell Floral Design students his wife, Nancy, enjoys arranging flowers and what a worthwhile career a floral designer can be. The President also commended students working on landscapes design on choosing to study a promising vocation.

Charlotte Smith, the Wilco FFA President, was introduced to President Reagan in the Horticulture classroom. Charlotte presented a FFA Blue and Gold Award to President Reagan for his sincere interest in Agriculture Education and in recognition of this visit.