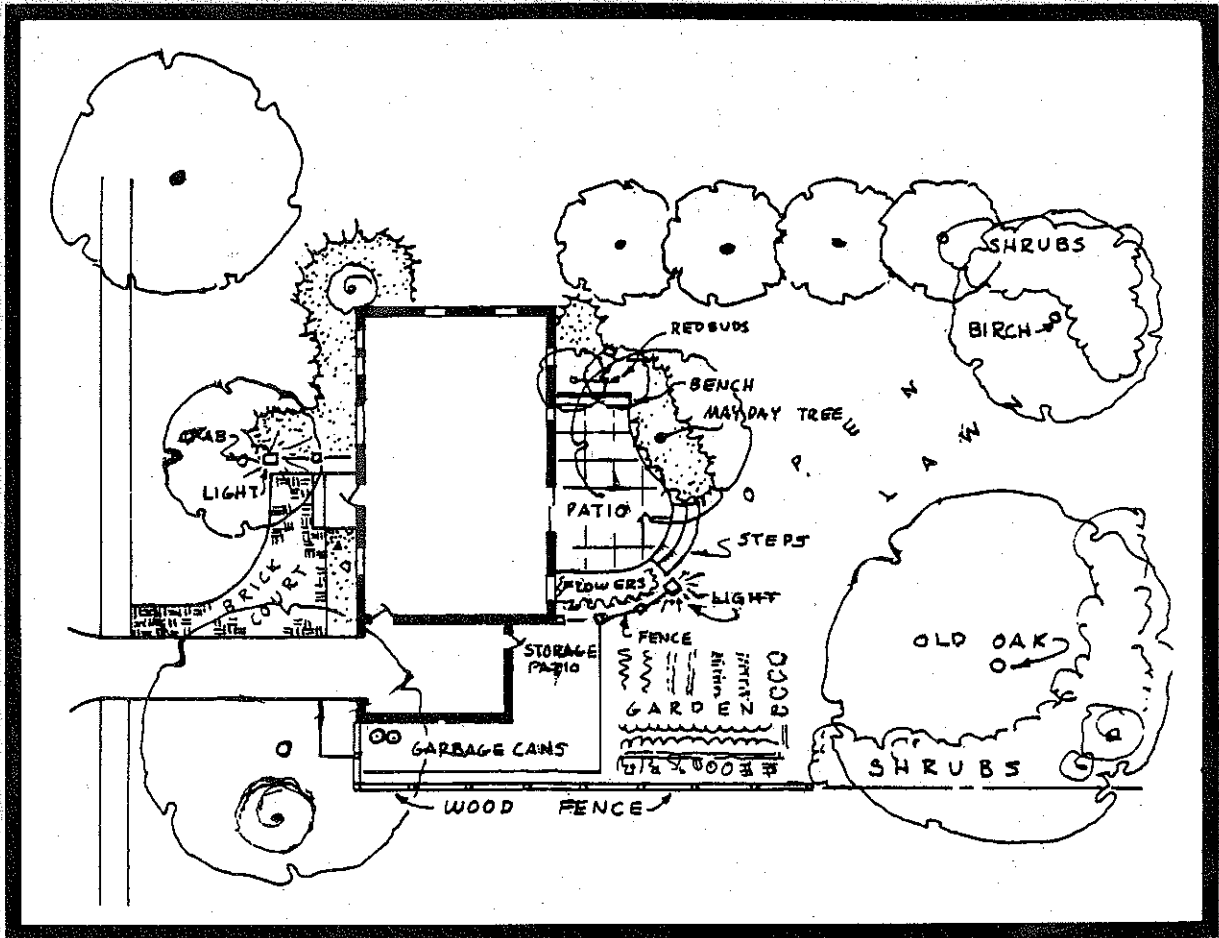


The

Agricultural Education

August, 1984
Volume 57
Number 2

Magazine



THEME

SOEP: Horticulture

007653 1284
DR. FLOYD G. MCCORMICK
UNIV. OF ARIZ.
6933 PASEO SAN ANDRES
TUCSON AZ 85710



Looking For Leadership



By LARRY E. MILLER, EDITOR
(Dr. Miller is a Professor in the Department of Agricultural Education at The Ohio State University.)

The appointment of Larry E. Case as Executive Program Specialist for Agriculture, Agribusiness and Natural Resources Occupations sparks renewed hope for the quest for excellence in the profession. The profession is in need of leadership at the national, state and local levels.

Few would envy Dr. Case in his new role. His role will be, undoubtedly, more administrative and bureaucratic than one of pioneering new thrusts and bold directions for the profession. Those that look for innovation to be forthcoming through a "top-down" scenario are likely to be disappointed. This should in no way reflect upon the abilities of Dr. Case, but upon the nature of the current profession.

Shifting Structure

The federal role in the profession has become minimal. The legislation which has been enacted really just provides some direction to the profession. The federal level perceives that program determination has been turned over to the states, the states profess giving greater autonomy to the local level, and the local administration looks to the teacher.

Where, then, is the local teacher to look for leadership? The teacher must look to himself or herself. One person is likely to have little impact at the federal level. At the state level, the staff in many states has been eroded to the extent that they are either in no position to exert leadership or the number of positions has diminished until little more can be done than administer the program.

Shanker (1984) pointed out that little leadership is likely to evolve at the local level. He notes:

The majority of teachers are better trained in their individual subjects than are the principals they serve under, and most of them have just as much training in areas like child psychology and educational theory. In fact, the principals of many schools, far from being intellectual leaders with superior training, are often just former football coaches who landed a job in administration or are average teachers who may have gotten a boost through political connections. It no longer makes sense for principals with no particular expertise to run schools in an autocratic manner.

He calls for a reorganized management structure.

Self-direction

Leadership has been defined as the ability to move a group toward mutually acceptable goals. We know what constitutes an effective program of vocational agriculture; we have the training to conduct effective programs. When in doubt, we can look to the work on standards proposed by Crawford and others.

We can exert ourselves to evaluate our efforts and programs and provide our own leadership. We can accomplish this through "bottom-up" decision making.

AUGUST, 1984

Providing Support

The position to which Larry Case comes is likely to be a frustrating one. Your Editor has known Dr. Case for 22 years, and knows him to be a democratic person with conviction and commitment to vocational education in agriculture. To exert an impact upon the profession, however, he will need the support of each member of the profession. He cannot manifest change overnight. Each member of the profession can aid in improving our programs with his support. Larry will do all that strong advocacy, sound philosophy and hard work can accomplish.

Reference

Shanker, Albert. "The Teaching-Force Problem," NATIONAL FORUM, LXIV, No. 2, Spring, 1984, p. 18.

Case Named National FFA Advisor



Dr. Larry D. Case, 40, state FFA advisor for Missouri, has been named Education Program Specialist for Agriculture, Agribusiness and Natural Resources Occupations in the U.S. Department of Education and National Advisor of the Future Farmers of America.

In twenty-four years Dr. Larry D. Case has gone from an FFA chapter president to the Future Farmers of America's highest, non-member office — National Advisor.

Case, 40, accepted the position to fill the office left by the August 31, 1983 retirement of Byron F. Rawls. Thaine D. McCormick, of the United States Department of Education, served as Acting Senior Program Officer of Vocational Agriculture Education and National FFA Advisor during the interim.

(Continued on Page 4)

Table of Contents

	Page
Editor's Page	
Looking for Leadership Larry E. Miller	3
Case Named National FFA Advisor	3
Theme, SOEP: Horticulture	
Quality Beckons Chris Townsend	4
Horticulture SOEP: Hawaiian Style Dale E. Thompson	5
Keeping Students on Task Jan Henderson	7
1985 Themes	9
Success Story: Montgomery County Joint Vocational School, Clayton, Ohio	
In School Flower Shop Karen Pricer	10
Projects for Urban Students Dennis Parrish	11
Teaching Tips	14
Mechanical Competencies in Horticulture Philip Buriak	15
Education for Employment in Horticulture Jim Ethridge and David Catron	17
Horticulture in a Production Agriculture Area Jim Craft	19
Book Review	21
Educational Opportunities Belong to All Students . . . Clarence J. Hemming	22
Stories in Pictures	24

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.

MANAGING EDITORS

Editor
LARRY E. MILLER, Ohio State University, 2120 Fyffe Road, 204 Ag. Adm. Bldg., Columbus, Ohio 43210

Business Manager
GLENN A. ANDERSON, 1803 Rural Point Road, Mechanicsville, VA 23111

Consulting Editor
JASPER S. LEE, P.O. Drawer AV, Mississippi State, MS 39762

REGIONAL EDITORS

North Atlantic Region
ELMER COOPER, Department of Ag. & Ext. Education, University of Maryland, College Park, MD 20742

Southern Region
LARRY R. ARRINGTON, Dept. of Ag. & Ext. Education, 305 Rolfs Hall, University of Florida, Gainesville, FL 32601

Central Region
JOE D. TOWNSEND, Dept. of Ag., Illinois State University, Normal, IL 61761

Pacific Region
JOHN MUNDT, State Supervisor, Agri. Educ., Len B. Jordan Bldg., Rm. 325, 650 West State Street, Boise, ID 83720

SPECIAL EDITORS

Book Review Editor
LONELL MOELLER, Agri. Ed., Division of Educ., Box 2220, South Dakota State University, Brookings, SD 57007

Teaching Tips Editor
LOWELL E. HEDGES, Dept. of Ag. Educ., 204 Ag. Adm. Bldg., 2120 Fyffe Road, Ohio State University, Columbus, OH 43210

Picture Editor
ROGER D. ROEDIGER, Curriculum Materials Service, 254 Ag. Adm. Bldg., 2120 Fyffe Road, Ohio State University, Columbus, OH 43210

EDITING-MANAGING BOARD

Chairman
Curtis Corbin, Jr., Georgia Department of Education

Vice Chairman
Don McCreight, Teacher Education, Kingston, RI

Secretary
Jasper S. Lee, Mississippi State University

Editor
Larry E. Miller, The Ohio State University

Members
Glenn A. Anderson, Virginia Department of Education
Larry Case, U.S. Department of Education
Sam Stenzel, NVATA, Alexandria, VA
Dale Butcher, West Lafayette, IN
Duane L. Watkins, NVATA, Thermopolis, WY
E. Craig Wiget, Mt. Blanchard, OH
Jim Cummins, Columbus, OH
Douglas Pals, Moscow, ID

Case Named National FFA Advisor

(Continued from Page 3)

Case will assume the responsibilities of Senior Education Program Specialist for Agriculture, Agribusiness and Natural Resources Occupations in the U.S. Department of Education and National FFA Advisor on May 29. "I'm excited about the opportunity to serve young people in this capacity," said Case. Case cites vocational agriculture enrollment trends and the need to show the public how well programs are preparing students for agricultural careers as areas he plans to study and act upon. "I would like to lead the profession in the examination of education and agricultural issues in order to improve vocational agriculture — a program well-recognized for the quality education it provides," said Case.

The nationwide search that ended in the selection of Case was made with the advice and counsel of representatives of teachers, state supervisors of agricultural education, teacher educators and the Agricultural Division of the American Vocational Association (AVA).

As National FFA Advisor, Case will serve as chairman of the National FFA Board of Directors; president of the National FFA Foundation Board of Trustees and will provide leadership to vocational agriculture students and professionals in the United States and its territories.

Raised on a farm in Stet, Missouri, Case graduated in

1961 from Stet High School, where he was an FFA member. He received a B.S. in Agricultural Education in 1966 and a Master's Degree in Vocational Education in 1972 from the University of Missouri-Columbia, where he completed his doctorate work in education in 1983.

After serving as a vocational agriculture instructor for eight years at Northwestern, Orrick and Lexington High Schools in Missouri, Case was named Director, Vocational Education at Lexington La-Ray Area Vocational School in 1974. In 1977, he was named Executive Treasurer of the Missouri FFA Association before promotion to State FFA Advisor and Director of Agricultural Education in July of 1978.

Although he admits having mixed emotions about leaving his native Missouri, Case says he's looking forward to the move and will get a chance to visit family and friends each year at the National FFA Convention held in Kansas City, Missouri.

The Cover

Designing a landscape is but one facet of the types of SOE programs conducted in horticulture. (Drawing courtesy of the Iowa Cooperative Extension Service.)

THEME

Quality Bekons

The educational community is in an uproar at this point in its evolution. The *Nation at Risk* and other similar documents are charging educators of not doing their job — "our children are under-educated," they demand. We are being accused that graduating seniors do not have the math, reading, and science skills to compete in the world market.

What are these educational committees saying to vocational agriculture? Specifically, not much . . . but generally we can read between the lines and see the words, "accountability and quality." Formerly, vocational agriculture was accountable as we served farm boys in the community. They were educated to return to the farm and continue the agricultural tradition of the family. Today, among the educational hysteria, vocational agriculture accountability may be challenged for two reasons. First, the number of students is on the decline; and second, the number of family farms is decreasing.

Scrambling for job security, agriculture teachers are searching for ways to increase their enrollment and student job placement. The inclusion of vocational horticulture into the agriculture curriculum or the initiation of new horticulture programs seem to be possible answers to reinforce the accountability of vocational agriculture. Enrollment can be sustained as horticulture reaches out to urban and suburban students with no family farm and it appeals to



By CHRIS TOWNSEND, THEME EDITOR

(Editor's Note: Dr. Townsend is President of Agricultural Education Research Unlimited, Inc., 317 South Bone Drive, Normal, Illinois 61761. She is a former Vocational Horticulture Teacher and Professor of Horticulture and Agricultural Education at Illinois State University.)

females who are interested in agriculture but are afraid to enroll in a traditional agriculture class. The horticulture industry also provides plenty of entry level jobs for the graduates of such programs and classes.

Accountability is satisfied only if quality is an equal partner in the program. Students seem to be attracted to classes taught by good teachers. Whether it be band, Spanish, home economics, or agriculture, a teacher who cares and does a great job has no trouble filling the seats in the classroom. Horticulture, too, must radiate quality for students to be attracted to the class.

Concerns are voiced about students with a horticulture SOEP that consists of one house plant or designing one corsage for the homecoming dance. Obviously, those

activities do not compare with a student with an SOEP comprised of raising a calf or growing 5 acres of corn. But appraising the type of student enrolled in vocational horticulture, it is not an easy task for the student or the teacher to devise meaningful projects which provide technical skill development, recordkeeping practice, and development of human resource management techniques. Horticulture students may not be able to construct a greenhouse in the backyard for they have no backyard, they cannot initiate a lawn maintenance operation as their business skills are not mature, or they cannot open a retail flower shop as they have no financial resources.

The articles by Karen Pricer and Dennis Parrish explain how students gain expertise in their early SOE projects. Using the school's resources, the students develop their basic skills and benefit from some of the same boosts of self-esteem that traditional on-farm SOE's provide. From his experience at Bluffs High School, vocational agriculture teacher, Jim Craft, gives the readers some ideas concerning how to develop a meaningful horticulture class without additional funding and within a classroom of four walls and no greenhouse. Beyond high school, the junior college student can commence or continue a horticulture SOEP in a program resembling that of Joliet Junior College. Jim Ethridge and David Catron have outlined a comprehensive program which prepares students for job entry or movement to higher education in horticulture. These and other articles contained within the issue show how students can achieve quality SOEP in horticulture.



On-the-job training experiences are not limited to commercial businesses. This student is working at a botanical garden.

No doubt exists that the development of quality horticulture SOEP's can be an uphill battle. The outcomes are worth it, however, if students are given another option within vocational agriculture and can realize the beneficial goals of the vocational agriculture plan. Quality SOE programs and vocational horticulture can stand alone and be examined by any educational committee as long as we continue to provide skill development, recordkeeping exercise, and personal development enhancement as a part of the program.

THEME

Horticulture SOEP: Hawaiian Style

Traditional Supervised Occupational Experience Programs (SOEP) are limited in many vocational agriculture departments throughout the State of Hawaii. This is due primarily to the limited availability and high cost of land for small family agricultural pursuits. However, these problems are overcome by the existence of land laboratories located on the school grounds. Even though most land laboratories are small, the year around growing season lends itself to the development of excellent horticulture programs. These horticulture programs provide the majority of the SOEP activities for vocational agriculture students in Hawaii.

SOEP Sections

To increase SOEP opportunities on the limited available space, many schools organize their programs into three SOEP sections. The first and often the largest section is vegetable crop production. Each student is assigned a portion of land for which he or she has total responsibility. The student is involved from seedbed preparation to sales of the final product. Through this type of SOEP, each stu-

By DALE E. THOMPSON

(Editor's Note: Dr. Thompson is Coordinator of Agricultural Education in the College of Education at the University of Hawaii, Honolulu, Hawaii 66822.)

dent has the opportunity to keep records on plant growth media preparation, planting procedure, fertilization, moisture control (irrigation procedure), cultivation, plant care, harvesting techniques, vegetable grading procedures and marketing methods.

The long growing season allows for the production and comparison of long and short term crops. Crops range from common vegetables like sweet corn, tomatoes, green beans, cucumbers, and squash, to local vegetables such as Chinese peas, Waimanalo eggplant, bittermelon, long beans, Maui onions, macadamia nuts, soybeans, and citrus fruits.

The second SOEP section is ornamental horticulture. This section focuses on production of plants in a facility

(Continued on Page 6)



Vegetable crop production constitutes a SOEP provided through land laboratories available at the school such as at Leilehua High School in Wahiawa, Hawaii.



Horticulture SOEP: Hawaiian Style

(Continued from Page 5)

such as a lath house, shade house or environment house. Most plants are grown under an irrigation system in a shade house since no heating or cooling is required. Student projects include the production of house plants, cut flowers and lei flowers. Carnations, marigolds, poinsettias, orchids, hibiscus, roses, bird-of-paradise, anthuriums, cigar flowers, ilimas, pikake, gomphrena, tuberose, ginger, and many others are grown. SOEP involvement in ornamental horticulture, as in vegetable crop production, includes student participation in all phases of plant production from propagation to sales of the final product. Ornamental horticulture is tied to the tourist industry through the sale of cut flowers for lei making and flower arrangements for hotels.

The final SOEP section is agricultural mechanics. This section is designed to supplement instruction in crop and ornamental plant production through construction, care and maintenance of equipment and facilities. Examples of student involvement include construction of a metal pipe shade house for anthuriums, a metal roll bar for the departmental tractor, wooden and cement plant containers, and the operation, maintenance, and repair of crop production equipment such as sprayers and tillers.

Land Laboratory

The potential for learning is greatly increased since all phases of plant production can be covered in class. Students have the opportunity to see and become involved with plant production from seedbed preparation to sales of the product. The never ending growing season also allows students to participate in the production of crops with different lengths of growing seasons. This enables them to gain experience in an increased variety of learning situations.

The horticulture SOEP activities results in the production of a final crop or product. This allows students to become involved in the sales of the product; thus, enabling them to see the true value of their efforts. The public relations value of the program is tremendous. The vocational agriculture department shares vegetable items with others in the school and community and flowers are shared with

the school administration, churches, or other civic organizations.

The positive benefits of the horticulture land laboratory greatly outweigh the negative aspects; however, there are some problems. There is a severe shortage of land, and when it is available it is very expensive. As schools increase and expand, new buildings usually use up those lands that are designated for agriculture crop production. Another problem lies in the ever increasing cost of production. Most crops require irrigation and large amounts of pesticide; thus, forcing costs higher each year. This is an added burden on already stretched school budgets.

The final problem is in the area of vandalism. The location of the land laboratory on the school ground makes it a likely target for vandals. Crops are often harvested by vandals since a tomato or corn crop is difficult to protect.

Conclusion

The characteristics of a successful local horticulture SOE program includes activities and projects in which students can take pride, projects which are realistic, and products that fit into the local agricultural community. The final major contributing factor to the success of the program lies in the selection of projects that require student involvement from the planning stage to the sale of the final product.



SOEP projects also provide involvement in ornamental horticulture.

THEME

Keeping Students On Task

As a beginning vocational agriculture instructor, I was occasionally overwhelmed with the large blocks of time that required planning for student activity. My daily schedule consisted of four and one-half hours of specialized instruction for one group of horticulture students: three hours of laboratory time and one and one-half hours of classroom time. With 23 students enrolled in the class, I found myself planning approximately 75 hours of laboratory activity per day. I soon realized that my students were not always involved in meaningful, job-related activities during that three-hour laboratory period.

Planning and supervising quality laboratory instruction were major challenges as I continued in the teaching profession. I knew that my students needed the opportunity to practice horticultural skills such as pruning shrubs, designing floral arrangements, and fertilizing greenhouse crops. However, I did not always know the most effective methods for keeping my students on these types of tasks.

Your teaching situation may have different time parameters; perhaps you only have one hour of horticulture instruction per day. Yet, as teachers, we are all faced with the challenge of organizing and managing student activity during the time scheduled for our vocational agriculture classes.

Supervision

In a recent study of five horticulture programs, teacher supervision was a significant factor affecting the amount of laboratory time students were actively engaged in horticultural tasks. In this observational study, three levels of teacher supervision were identified. Direct supervision was when the teacher was directly working with or speaking to an individual student or small group of students. Indirect supervision was when the teacher had visual contact, but was not directly involved with the students. No supervision was when the teacher was present in the laboratory



Students learn what they practice.



BY JAN HENDERSON

(Editor's Note: Dr. Henderson is in the Division of Agricultural Education, Department of Vocational and Technical Education at the University of Illinois, Champaign, Illinois 61820.)

area, but did not have visual contact with all the students (e.g., the teacher working in the greenhouse, while several students are outside in the land laboratory).

Among the five programs, less than 10 percent of the observational time involved direct teacher supervision, 45 percent involved indirect teacher supervision, and almost half of the observational time involved no teacher supervision. In one program, the teacher and at least one or more students had no visual contact for three-fourths of the observational time. The percent of direct teacher supervision ranged from less than 1 to 14 percent among the five vocational programs. Findings from the study indicated a positive relationship between direct/indirect teacher supervision and the amount of time students practiced horticultural tasks. Directly working with students and maintaining visual contact with the class can provide more frequent opportunities for students to engage in horticultural tasks.

Other Factors

As I continued to teach, I found that, in addition to adequate supervision, several other factors helped to keep my students on task. Reviewing horticultural terms and concepts allowed my students to become familiar with a particular activity prior to laboratory practice. Classroom discussions on task procedures reduced confusion and mistakes when the students began to practice specific skills.

Outlining and assigning daily laboratory activities enabled my students to focus on specific tasks. Wandering around and leaving the laboratory area were minimized when the students had a clear understanding of what tasks were to be practiced during the allocated time. Student supervisors, who were responsible for group laboratory activities, helped to direct and maintain on-task behavior.

Establishing routine entrance/exit procedures reduced lost laboratory time. Upon entering the laboratory area, students were expected to go to their assigned group, wait for specific assignments, and to contact the student supervisor or myself when tasks were completed. Clean-up assignments rotated among the groups. I also eliminated

(Continued on Page 8)

Keeping Students on Task

(Continued from Page 7)

breaks during laboratory time to allow more opportunities for my students to practice horticultural skills.

I developed task sheets that outlined the proper procedures to follow for task completion. The correct steps for performing a specific skill were summarized for student use during laboratory time.

Offering feedback at appropriate times during task performance encouraged continued practice. Periodic evaluation of student activity allowed me to determine if skills were being practiced correctly. Students may have been on task, but practicing incorrect techniques.

I found that certain tasks could not be practiced unless an adequate amount and variety of supplies were available. Floral design activities were interrupted when materials, such as wire, tape, and ribbon were lacking. Maintaining equipment in proper working condition also was essential if my students were to engage in certain lab activities.

Assessment

By systematically observing student behavior during laboratory time, we can identify in what types of activities our students are engaged. We can focus on certain laboratory management problems and take positive action to help keep our students on task. The form is an example of an observational form that teachers can use to code stu-



Students need to know what specific tasks are to be practiced during lab time.

dent behavior during laboratory time. The form is designed to record eight observations for 16 students during a specified time period.

As teachers we play a significant role during laboratory instruction. Although we may have minimum control over the amount of time scheduled for our vocational horticulture class, we have direct control over what activities occur during that allocated time period. Students learn what they practice and by organizing and supervising laboratory time we should be able to positively effect learning outcomes.

Recording Observations

Start Time _____
Stop Time _____
Total _____

Class _____ Date _____

LABORATORY OBSERVATION FORM

Pupil Activity

✓ - On Task
X - Off Task

Student Name	Assigned Task(s)	Obser. #1	Obser. #2	Obser. #3	Obser. #4	Obser. #5	Obser. #6	Obser. #7	Obser. #8	Comments
Example: Joe W.	Transplanting seedlings	✓	✓	✓	X	X	✓	✓	X	left assigned task; talking with friend
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
11.										
12.										
13.										
14.										
15.										
16.										

1985 Themes

The 1985 themes provide a variety of topics which focus upon some of the problems and issues facing the agricultural education profession. Share your ideas and thoughts by preparing an article. The themes, deadline dates and Theme Editors for 1985 are:

Issue and Theme	Date Due	Theme Editor
JANUARY International Agricultural Education	September 15, 1984	Dr. Burton W. Swanson 357 Education Building 1310 S. Sixth Street University of Illinois Champaign, IL 61820
FEBRUARY Vocational Agriculture and the Handicapped Student	October 15, 1984	Dr. Dennis Scanlon and Dr. Connie D. Baggett Dept. of Ag. & Extension Education The Pennsylvania State University University Park, PA 16802
MARCH Innovative Student Management Strategies	November 15, 1984	William Camp Agricultural Education Program Lane Hall VPI & SU Blacksburg, VA 24061
APRIL Using Microcomputers in Agricultural Education	December 15, 1984	Blannie Bowen Dept. of Ag. & Extension Education P.O. Drawer AV Mississippi State, MS 39762
MAY FFA Conventions and Contests	January 15, 1985	Dr. Stacy Gartin Dept. of Agricultural Education Agricultural Sciences Bldg. West Virginia University Morgantown, WV 26506
JUNE The Supervisor: Local, State and National	February 15, 1985	Dr. R. Kirby Barrick Dept. of Agricultural Education 208 Ag. Adm. Bldg., 2120 Fyffe Rd. The Ohio State University Columbus, OH 43210-1099
JULY Planning, Organization and Time Management	March 15, 1985	Dr. Roy Dillon Agricultural Education Dept. 302 Agricultural Hall University of Nebraska Lincoln, NE 68583
AUGUST Evaluation of Vocational Agriculture	April 15, 1985	J. David McCracken Dept. of Agricultural Education 203 Ag. Adm. Bldg., 2120 Fyffe Rd. The Ohio State University Columbus, OH 43210-1099
SEPTEMBER The Teacher of Vocational Agriculture	May 15, 1985	Dr. Donald R. Herring Dept. of Agricultural Education Texas A&M University College Station, TX 77843-2116
OCTOBER Elementary and Pre-vocational Programs	June 15, 1985	Dr. Jimmy Cheek Agriculture & Extension Education 305 Rolfs Hall University of Florida Gainesville, FL 32601
NOVEMBER Teaching Tips	July 15, 1985	Dr. Lowell E. Hedges Dept. of Agricultural Education 204 Ag. Adm. Bldg., 2120 Fyffe Rd. The Ohio State University Columbus, OH 43210-1099
DECEMBER Future Programs in Agricultural Education	August 15, 1985	Dr. Jasper S. Lee Dept. of Ag. & Extension Education P.O. Drawer AV Mississippi State, MS 39762

Success Story: Montgomery County Joint In School Flower Shop

Greenhouse management, retail flower shop experience, and floral design opportunities are just a few assets gained by urban horticulture students enrolled in the horticulture program at Montgomery County Joint Vocational School. These students have the opportunity to operate a retail "in-school flower shop" which could not be done without community and industry involvement. The community is highly involved in the success of the operation. Our school includes five counties and 27 different feeder schools, so we need much cooperation from adjoining communities and their horticulture businesses.

As instructors, we concentrate on all facets of marketing floral products that are being used today and we work to achieve a good rapport with the industry. We continue to be flexible, personal, and above all provide well-trained students. Our commitment to these objectives has helped industry become eager to accommodate a student in their establishment. Our school training eliminates a total employee basic training program for them. Our students have some basic knowledge and skills to use and saves the employer training dollars and time. One very important factor, when promoting your program to industry, is to be honest and remind the employer that the students need



Floral design instruction is given by the teacher during horticulture laboratory. (Photograph courtesy of the MCJVS commercial art class)



BY KAREN PRICER

(Editor's Note: Mrs. Pricer is the senior Floriculture Instructor at the Montgomery County Joint Vocational School, 6800 Hoke Road, Clayton, Ohio 45315.)

polishing. The students are young, have only basic skills, and are not qualified to be considered top-notch designers or salespersons.

The Program

Students have to be given good training. Our students are given floral design, landscape, greenhouse management and retail floral shop management skills. This diversification enables students to begin work at an entry level position in industry and to have some knowledge of several different phases. These skills, along with good

(Continued on Page 12)



The annual wedding show is an excellent public relations tool. (Photograph courtesy of Joliet Jr. College)

Vocational School, Clayton, Ohio Projects For Urban Students

Projects, projects, projects . . . is the development of supervised occupational experiences difficult for the urban horticulture student? Compared to the "traditional" production agriculture class of the 60's, today's horticulture class does not fit the mold of young men living on farms with many resources for projects available. The landscape class at Montgomery County Joint Vocational School exemplifies the qualities found in many students enrolled in vocational horticulture.

The Students

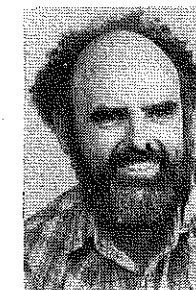
A typical student who signs up for the horticulture program comes from an urban background. Generally, 75 percent are female and all the students live on about one-quarter acre, have little work experience, and have parents who both work outside the home. The students' main desire is to learn a saleable skill and be able to work outdoors. Their plans after graduation include work in the horticulture industry, but not necessarily in a full-time position. The students like to have the option of, after marriage, a back-up job or extra work during holidays.

A few, however, enroll with the expectation of becoming a full-time worker in horticulture and earning a living working in the industry. Many of these students desire to own and operate their own business. Academically, the students in horticulture span many abilities. Some are of outstanding academic background while others have special needs and enroll with an Individual Education Plan (IEP).

Related Instruction

The landscape class is made up of senior students. It consists of a related class for one and one-half hours and a laboratory class for three hours each day. During the related class, the students are taught how to own and operate a business. Although many students do not think they want to own their business, it is essential they understand the operation and organization in order to be a quality employee. This business instruction has also helped the students develop ownership supervised occupational experience projects during the year. Since most come from families where the parents work for someone else, it is their first exposure of how to run a business. The instruction helps them overcome some of their initial fears about ownership SOEP's.

In the last semester of the class, a major project is assigned where students set-up their own business. They research the necessary requirements such as, incorporation possibilities, taxes, licenses, real estate availability, employee formalities, and legal considerations. The students are encouraged to make actual contacts for the report and should visit the county and city agencies that have infor-

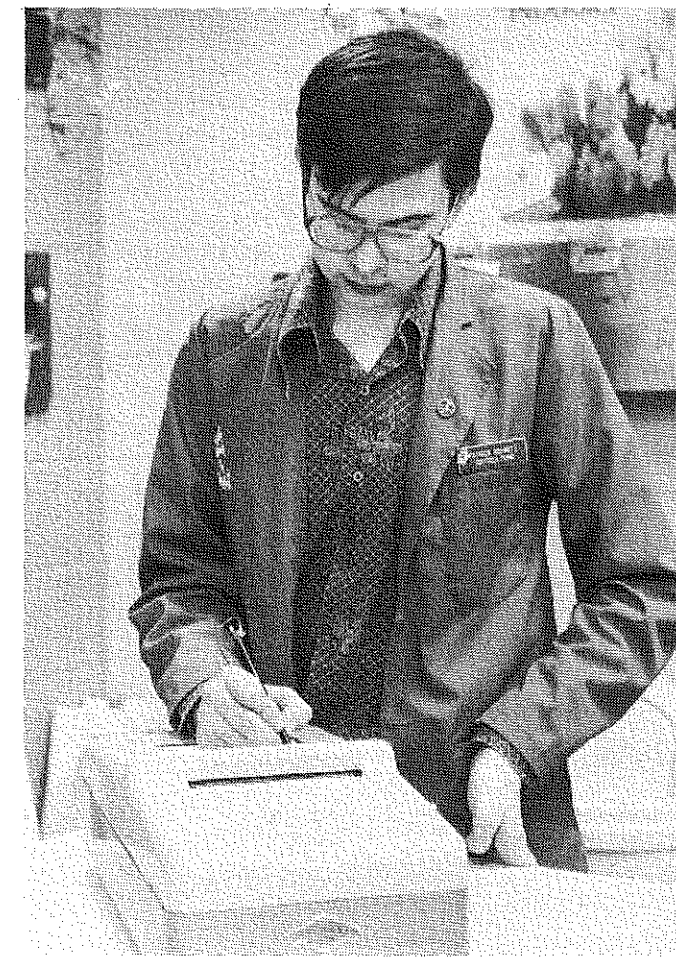


BY DENNIS PARRISH

(Editor's Note: Mr. Parrish is the Instructor of the senior Landscape class at the Montgomery County Joint Vocational School, 6800 Hoke Road, Clayton, Ohio 45315.)

mation for small businesses. Some class trips are planned to agencies that have information applicable for all students. At the conclusion of the project, each student orally presents his/her "company" to the class.

(Continued on Page 13)



Writing invoices is an important component of business instruction. (Photograph courtesy of the MCJVS commercial art class)

In-School Flower Shop

(Continued from Page 10)

basic work ethics, are most often what industry people are looking for and consider most important.

The opportunities for students skilled in the horticulture area are endless, if properly trained, particularly at busy seasonal times. Many of my students work for local florists in their hometown, for garden centers, nurseries, and local grocery and craft outlets that are promoting the sale of flowers.

While training the students in the in-school flower shop, many responsibilities have to be taught. The number one concern is teaching goal setting. If students do not know why and how goals should be set, they will always be struggling for something they cannot achieve. They must set goals that are within reach so they have a feeling of accomplishment. They are asked, in class, to set goals for one week, one month, the nine week grading period, and long term graduation goal. They are encouraged to strive for goals that increase their self-worth as a working individual. These goals may be: strengthen a floral design ability, get along with a co-worker that may have been a problem, make employment contacts, become employed by a certain date, weekly perfect attendance. By setting these types of goals, it increases the knowledge and desire to become a better employee.

Students are taught various job responsibilities during the laboratory in the school flower shop. We use a job rotation wheel so the students may rotate among jobs. Each job station lasts for a period of two weeks. The various job stations are defined in a job description sheet given to the students at the beginning of the school year. By being explicit and defining responsibilities on paper eliminates potential problems. We also encourage employers to use this procedure when hiring a new student.

Utilizing this job rotation schedule, the students are responsible for operating and maintaining the flower shop. They care for all fresh flowers and green plants. They write orders, wait on customers, prepare all the orders, plan shop displays using creative marketing techniques, keep the inventory up-to-date and plan in-school sales promotions.



Sales techniques are practiced with customers from the student body who come into the in-school flower shop. (Photograph courtesy of the MCJVS commercial art class)

Community Relations

Promoting good public relations with our surrounding communities is an important job of the instructor. My students, at various times, host outside community groups for an hour at a time. The groups consist of garden clubs, senior citizens, church organizations, Mother's clubs, etc. The public relations that is developed in our community by this project is tremendous. Each student is assigned to a group member and they teach the member how to make a corsage, discuss our program, and lead a tour of the facilities. A comment, recently, from a senior citizen, "This is great! I'm excited to see how wisely my tax dollar is being used."

This project creates customer relationships for our program. Many of the groups purchase flowers from us. We never publicly advertise our in-school flower shop as that activity could have a negative effect on our relationship with the industry. Other customers emerge from the student body.

The horticulture students make in-school television commercials to promote the shop or a particular sales campaign. They also design sales flyers and distribute these in staff mailboxes. At least once a month and at holidays we sell fresh flowers in the school cafeteria. This procedure works very well since many students' schedules prohibit them from having time to patronize the shop. Each year, in the spring, we hold a Bridal Show for the student body. This event has become an annual occurrence. Due to this show, we design many weddings throughout the year for past graduates. Our wedding show and jobs give the students good experience in another phase of the industry.

This year, for the first time, we held a mock wedding and style show on a Sunday afternoon. Past and present employers were invited along with parents of the students. We hosted 150 guests that afternoon. The style show was another way to build rapport with our important community industry and to promote the quality of our student's work.

Communications

How does one keep the local florist happy? It is through much contact and communication. Communication is the key ingredient to any relationship and industry/community/school is no exception. Discussing their wants and needs, taking constructive criticism about your program, and commending them for their interest and help are very important ingredients for the relationship. Whenever possible, one should invite them to visit your facilities.

A job-shadowing technique has helped communications and has assisted in placing many students in early placement. I permitted my students to choose a horticulture business in or around their home area at which they thought they would like to work. I then chose one day that all my students would spend observing at the job site. I contacted, by telephone, each employer explained the program and asked if the student could observe for one day. I received positive replies. The students were instructed how to conduct themselves and what procedures to observe. Following the telephone contact, a letter was sent to in-

form them of who would be observing and when to expect their arrival. Our cooperative placement program was outlined in a letter hand carried to the business by the student. To complete the procedure, a thank you letter and a certificate of appreciation were mailed to the participating employer following the visitation. Each student also wrote and mailed a thank you letter. The job shadowing program has yielded increased rapport with the industry and we have received many positive comments about the operation.

We have also implemented an industry contact program. Each instructor visits two places of potential employment per student during the school year. Along with a calling card, we take a sample work agreement form. During the visit, the program is explained as well as the importance that the employer and industry play in the success of the education of our students. This contact has become a great way to promote public relations with the horticulture industry.

Another technique to aid communications is to invite an industry person into the class. You may ask them to give a demonstration or speak on a business topic. They can also tour the facilities and observe the students and their capabilities. The industry person feels needed and comfortable with the school situation. Many times, they become more open after this visit and are better able to express their views about the program.

Employer Breakfast

At the end of each school year, we thank our employers with an employer breakfast. The breakfast is held at school prior to business hours at 7:00 a.m. The students present their employer with a certificate of appreciation.

This year, we presented an exciting new program. Slides were viewed at the breakfast showing our students at job site with their employer. An outside photograph of each business was also shown. The employers felt honored, and, again, the communication was strengthened. To create a good rapport with the industry people, you constantly have to be innovative and creative with new ideas.

Projects For Urban Students

(Continued from Page 11)

Laboratory Instruction

The laboratory segment of the landscape class offers supervised occupational experience to each of the students enrolled in the course. Community persons contact the class concerning landscaping their property. Some of these people are teachers, some are parents, and some are friends of the school. After contact, the whole class goes to the site to measure the property and interview the customer. During subsequent laboratory classes, landscape plans are drawn. Estimates are figured for plant material and labor costs of the best plan. Then the students try to sell the plan to the individual. If accepted, the class returns to the site and plants the job just as a landscape company would.

In order to help the students understand the total concept of the landscape laboratory, four or five landscape jobs are planned each year. The class is broken into com-

SOE Opportunities

The in-school flower shop yields an SOE project for each student enrolled in the horticulture program. We are constantly challenged with the development of new SOE ideas and have suggested the implementation of the following:

1. A coordinated farm market operation with all of the agriculture programs of the school participating would give another outlet for students' products. By growing and marketing fruits, vegetables, dried flowers, Christmas trees and pine wreaths; producing our own honey and popcorn, flowering hanging baskets, and bedding plants; we could operate and maintain a farm market almost the whole year. This market could promote more interest in enrollment and would allow a summer school program to be more enticing to many students and would create earlier placement possibilities. It may be possible to create a wholesale market to industry if the scale was large enough.

2. For seniors who have accumulated the credits for graduation, create an additional skills course. Although ready to go to college, they possibly would like to gain a basic skill in a one year horticulture course.

3. A year round program could be implemented to permit students to be placed within the industry for a specific number of weeks and to go to school a specific number of weeks. The advantages of such a format would be use of school facilities during the summer, employment of students during peak seasons within the horticulture industry, and an opportunity to develop more outdoor horticulture skills during the summer.

Summary

An in-school flower shop offers many opportunities for students enrolled in a horticulture class. Being organized is important to the structure and success for the class. Not only should the students be involved in skill and human relations development, but the public relations program must be planned to maintain community and industry support. Keeping the lines of communications open to industry and community persons is of the utmost importance to any successful program.

mittees of four students each. Each committee, then, is responsible for drawing up their particular project. They develop the estimate sheets, sell the plan to the customer, and purchase the necessary plant material for the job. The committee sets up the schedule so that the purchased material will arrive at a time when the whole class can go out to the site and plant the job. The committee is also responsible for scheduling all the necessary equipment and seeing that all materials and students are on the bus before departure. The committee members are actually the landscape supervisors of the job, and although they do not get involved in the physical labor, they direct the class on the actual installation of their job. The other committees repeat these tasks when they sell their landscape plans.

In the development of the landscape installation activities, forms similar to those in industry are used. A typical "Proposal" form is used which gives the customer an idea of what the committee is developing for their property. An "Estimate Sheet" shows the names of plants, quantity, materials, miscellaneous expenses, and labor necessary for

the job. One copy of the forms is given to the customer, one is kept by the teacher, and one is kept by the committee.

FFA/JA

Sometimes, it is hard to motivate students to work hard for a laboratory SOE project like the landscape installations. They often question the value of the work as they do not see the immediate reward of the experience. In order to help by-pass this block, the landscape class has become a part of the Junior Achievement association. The class is still a part of the FFA and benefits from the leadership development and other functions of the organization.

Junior Achievement allows the student to be paid for their landscape services. The students are paid a low wage of 50 to 75 cents per hour for the landscape jobs they complete. Junior Achievement also provides outside sponsors who come into the class from the business community and advise the group. This unique combination of FFA and JA gives the class leadership development and some actual experiences in managing money and working.

Other Activities

During the winter when the ground is frozen and landscape planting is not possible, the landscape class turns to indoor projects. At Christmas time, greens are purchased to make live Christmas wreaths. The wreaths are sold to garden centers, flower shops, and individuals. Most of the wreaths are sold wholesale in large lots to businesses for resale and only a few are retailed through the school. This wholesale operation allows the students to study that aspect of the horticulture industry.

The landscape students are also exposed to basic wood working skills during the winter months. This past winter they built redwood bird feeders. These were sold at garden shows, at a mall on weekends, and by individual students to their personal customers. With this project, the students learn the management of production, marketing, and the potential profit of a project. Each student purchases his or her own materials — wood, nails, and supplies; and in essence, pays for the labor of construction. Although a simple concept, the bird feeders provide an occupational experience urban students have not had. Unlike the typical farm student who has a calf or hog to raise, the urban

students have had no occupational experience. The laboratory projects provide the opportunity for students to learn responsibility, management, and the profit motive.

Other winter activities include working in garden centers. The class as a whole travels to the garden centers to pot bare root trees, roses and shrubs. The class is paid a minimal amount per pot which is given to the students for their labor.

Because of the structure of the school day, students in the senior landscape class are encouraged at this point to find a job in a garden center or landscape firm. When employed, the students are released during the laboratory time to work on-the-job. Sometimes, these jobs become permanent following graduation; sometimes they serve as beginning experience for future job hunting.

Summary

The landscape program has grown and changed in the past ten years. The students are benefitting from the organization of the laboratory and the possibility of in-school supervised occupational experiences. Many times, they have no other opportunity to learn the attributes of SOE. Not only do they get a sound background in landscape skills and product production, but they also understand business operations. They develop work ethics, learn how to manage money, and realize they have to make money on a project in order to show a profit.

The landscape planning and installations, Christmas wreaths, bird feeders, bare root potting, and placement in the industry provide a full year of supervised occupational experiences for the urban horticulture student. Obviously, this system requires organization and industry contact by the instructor. But it is beneficial to let the students handle the bulk of the work so that they learn organizational skills. The teacher is a silent key to the operations and the students are the recipients of the rewards.

Is the development of supervised occupational experience programs difficult for the urban horticulture student? Yes, it is if compared to the student from a farm background. But the implementation of school-organized projects provide the opportunity for the same lessons found in the traditional on-farm projects. And the urban students may benefit greatly since it is through these school SOE projects that they develop their work ethic.

TEACHING TIPS

Activity for Vegetable Production

Brad Maley of Colfax, Illinois has found a way to liven up his horticultural instruction. You may want to adapt this activity for your own class. Brad suggests the following steps:

- I. This activity would be for a horticulture class with ten students.
- II. Have students divided into five groups of two.
- III. Have each group grow one vegetable (something that grows quickly, like radishes or lettuce) in a common flat with each group using a different soil type. For example, three different soil textures (1. sandy, 2. silt

loam, 3. clay) and maybe one with a high pH level and the other one with a low pH level, could be used.

- IV. All vegetables could be planted on the same day so that comparisons can be made from emergence to maturity.

This activity could be used to illustrate to the students a number of different aspects of vegetable production. Among these could include the proper pH level for that certain plant, the type of soil that plant grows best in, the germination rate in different soils, and many others.

THEME

Mechanical Competencies in Horticulture

By PHILIP BURIAK

(Editor's Note: Dr. Buriak is an Assistant Professor of Agricultural Mechanics at Illinois State University, Normal, Illinois 61761.)

Incorporating Competencies

Hundreds of examples demonstrating the need for agricultural mechanics competencies in horticulture could be forwarned. Yet, few horticulture instructors incorporate little, if any, agricultural mechanics knowledge and skills into their curriculum. In 1980, a survey was conducted to determine the agricultural mechanics knowledge and skills needed in programs of horticulture in Pennsylvania. The majority of horticulture instructors responded that less than 25 percent of their total instruction was in the area of agricultural mechanics. Further, many responded that no mechanics instruction was given at all. These same instructors, however, felt that the mechanics knowledge and skills instructed were significantly less than what was needed.

The American Society of Agricultural Engineers (ASEA) and Agricultural Mechanization have defined five areas of study within the profession: construction and maintenance, electric power and processing, power and machinery, soils and water, and structures and environment. The following outline has been divided into these same five categories. Topics within the outline are presented to provoke thought. How do these topics relate to your specific instructional area of agriculture? Can they be applied to greenhouse production studies, or landscape design and maintenance, or floriculture? What additional topics may be included?

- A. Construction and Maintenance
 1. Sketching, drawing, and plan reading
 2. Tool maintenance
 - a. Hand tools
 - b. Hand operated power tools
 3. Paints, painting and preservatives
 4. Woodworking
 5. Plumbing
 - a. Plastic pipe
 - b. Soldering
 6. Concrete and masonry
- B. Electric Power and Processing
 1. Electrical theory
 2. Wiring
 3. Electric motors
 4. Electric motor controls
 - a. Humidistats
 - b. Timers
 - c. Thermostats

(Continued on Page 16)

Another cold November; time to cover the poinsettias. Upon entering the greenhouse you notice that the temperature is far too cold. What is wrong? What do you do? By the time help arrives, water heating pipes have frozen and burst, 1500 poinsettias are dead, you are tired, wet and disgusted, and your instructional budget has been depleted considerably.

A large shipment of plant materials has arrived and potting soil must be ground and sterilized. The PTO driven grinder cannot be used because your utility tractor is not running properly, and the mechanic cannot fix it until next week.

An important landscape design project requires detailed topographic maps having contour intervals of one foot. Further, it is necessary to determine grades and plot profiles to aid design and to insure proper drainage.

Each of these situations could arise in horticulture programs. Each involves some phase of agricultural mechanics instruction. In the first situation, a solenoid controlling the flow of hot water through the greenhouse heating pipes had stuck closed. By simply tapping the control or by bypassing it when the temperature drop was first noticed, flow could have been restored and all of the problems could have been prevented. The tractor in the second situation may have required something as simple as removing a blockage in the fuel line or a minor ignition tune-up. Knowledge of basic troubleshooting procedures and diagnostics, accompanied with a few skills relating to tune-up and maintenance could prevent such untimely breakdowns. In the third situation, knowledge of survey and mapping techniques would provide greater flexibility in site selection for design problems. Any designs, be they landscape, field drainage, or irrigation, all begin with good, comprehensive maps and field survey notes.



Proper maintenance and handling procedures of lawn equipment is an integral part of horticulture instruction. (Photograph courtesy of Joliet Jr. College)

Mechanical Competencies in Horticulture

(Continued from Page 15)

- C. Power and Machinery
 1. Selection of horticulture equipment
 2. Operation of horticulture equipment
 3. Set-up of horticulture equipment
 4. Service and maintenance
 5. Calibration and adjustment
 6. Small engines
 - a. Operation
 - b. Troubleshooting and diagnostics
 - c. Service and maintenance
- D. Soils and Water
 1. Measurement
 - a. Distances
 - b. Areas
 - c. Elevations
 - d. Equipment (care and handling)
 2. Levels and leveling
 - a. Differential leveling
 - b. Profile leveling
 - c. Topographic surveying (grid construction)
 - d. Land surveys and mapping
 3. Drainage
 - a. Surface
 - b. Sub-surface
 4. Irrigation
- E. Structures and Environment
 1. Planning, materials, building design
 - a. Design characteristics
 - b. Economic feasibility
 - c. Materials
 2. Heat transfer and solar energy
 3. Air, moisture, and temperature relationships
 4. Ventilation
 5. Greenhouses

Planning Instruction

Identifying knowledge and skill areas is an important first step in preparing for the instruction of agricultural mechanics. The instructor must also analyze what materials, facilities, and equipment are available to carry out said instruction. Many horticulture programs have greenhouses, landscape and turf equipment, and other "tools of the trade." Many horticulture students, urban or rural, do not live in homes or on farms having similar facilities and equipment. Practical applications, a vital part of all instruction in agriculture, may be difficult to achieve outside of the school. How then might this application of mechanics knowledge and skills be included in the mechanics phase of instruction in horticulture? In-school Supervised Occupational Experience Programs (SOEP)?

Instructors could effectively utilize their facilities by entering into on-site project agreements with their students. Horticulture mechanics knowledge would be provided in the classroom phase of instruction while the related

occupational experiences and skills would be provided in the laboratory. Project planning, advice, and student evaluation could be immediate. Teaching would take place at the teachable moment. Additional benefits would be realized when student's in-school experience programs involved improvements to the facilities and equipment. A student improved facility builds pride; pride in the individual, pride in the program, and pride in the school.

A sample in-school horticulture/mechanics project has been developed by Dean Adams, the Agriculture Mechanics teachers at Clinton High School, Clinton, Illinois. The idea can be taken by the horticulture class, expanded, and refined to become a meaningful activity which introduces mechanical skills.

Starting Bedding Plants at Home

Part I: Building a plant growing stand.

- A. Purpose

During the winter months when the light period is short or for people who do not have a south-facing window, some type of supplemental lighting is needed for starting seedlings for the garden. The plant stand which you will build is designed to be used as a seasonal tool to raise bedding plants.
- B. Design

The specific design of this plant stand is up to you. The only restrictions which must be followed are dimensions of the lumber which will be used, the size of the light fixture, and the stand must be a knockdown model. The light fixture must have provisions for adjusting the height of the light tubes from the plants. You may use the example provided as a guide, use your imagination and try to improve this design.
- C. Bill of Materials

1" x 12" x 48", 1" x 12" x 60", 12" x 48" piece of 3/4" plywood, 4' fluorescent 2 tube light, 24 hr. timer, polyurethane varnish, wood glue, 3/4" brad nails, 2 small screw eyes.
- D. Make a design of your plant stand which will allow the 48" light fixture to hang freely above the 12" x 48" plywood tray.
- E. Draw a cutting plan of your lumber. Be sure to get the most out of your supply of lumber.

Summary

In closing, ask yourself these questions: should students of horticulture possess selected agricultural mechanics knowledge and skills? Would employers more readily hire students possessing agricultural mechanics knowledge and skills? If your answer is yes to either questions, then ask, how can I incorporate the instruction of agricultural mechanics into my horticultural program? In-school Supervised Occupational Experience Programs may be the answer.

THEME

Education For Employment In Horticulture

By JIM ETHRIDGE AND DAVID CATTRON

(Editor's Note: Dr. Ethridge is Chairman of the Agriculture Department and Mr. Cattron is Horticulture Mechanics Instructor and Summer On-Job-Training Supervisor at Joliet Junior College, 1216 Houbolt Avenue, Joliet, Illinois 60436.)

In order for one to discuss Supervised Occupational Experience (SOE) in a program, the program must have a vocational purpose. Our plan at Joliet Junior College includes occupational skills, learning to work with employers and co-workers, and the development of good attitudes and work habits. The occupational training must include skills, knowledges, judgments, understandings, and attitudes.

It becomes absolutely essential that before one discusses SOE at the community college level, one must know the philosophy of that particular program. That philosophy can and does change as the staff changes. We can see this difference in philosophy in the community colleges of Illinois. Our philosophy is only one of many.

Local Philosophy

The function of the two-year vocational program in horticulture at Joliet Junior College is to make students employable. The more experiences a student can gain, the more activities they can participate in, the more employable the student can become.

The supervision of a student's experience program begins as soon as an application for enrollment is received. Each student is assigned an advisor in the student's interest area (landscape, turf, greenhouse, floriculture, or nursery). This assignment allows the student immediate access to an instructor, their advisor, and a supervisor. This person will assist the student in making career choices. Their supervised occupational experience has begun at Joliet Junior College. The needs of the student become our focus, and their goals become the staff's goals.

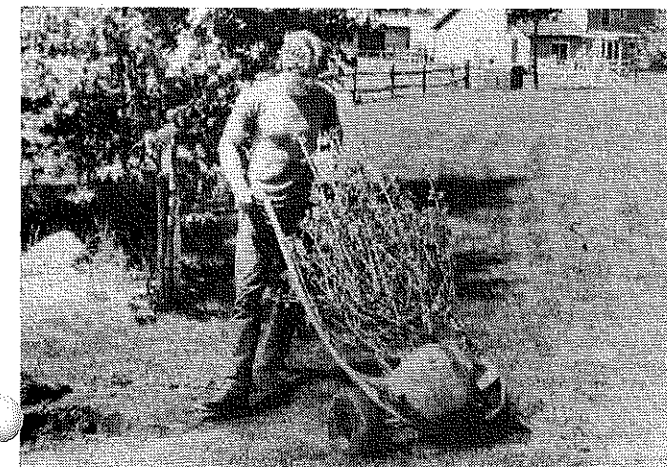
Students of the 1980's need supervision in the selection of a vocation. The students have a need to try out their in-

terests, to analyze themselves, and to discover their talents. Today, we see a number of students entering our program with a "hobbyist" interest in horticulture. The students like to work with plants, but are not aware of the vocational commitment that is necessary for success. Their first supervised experience is one of identifying what they want to do as a vocation. They explore and discover the skills and knowledges that are required to achieve their goals. The simple supervised activity of writing down goals and objectives is a major task for students who have never had these experiences.

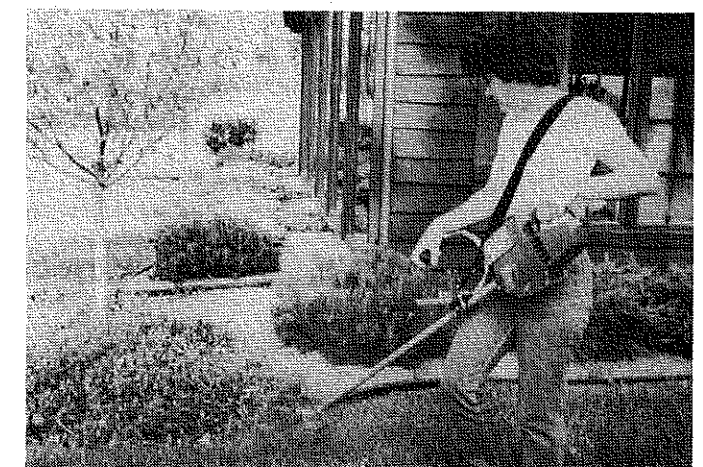
The preparation of the student for the professional course of summer SOE begins with the student filling out an application for on-job training. The summer experience program is required for graduation in the horticulture program at Joliet Junior College. One instructor is responsible for placement of horticulture students for the summer. The application provides the placement instructor with the student's personal data and their occupational goals. This information insures a closer match of employer's training capabilities and a student's interests. The summer experience program combines career exploration with skill development.

The second step for the placement instructor is to locate suitable on-the-job training sites. Potential training sites

(Continued on Page 18)



The detailed training agreement outlines specifically the skills and knowledge the trainee will learn during the training experience.



The function of the two year vocational program is to make the student employable. Women can assume an equal role in landscape maintenance.

Education for Employment in Horticulture

(Continued from Page 17)

are different from employers. The training stations are selected from a list of potential employers. A training station evaluation is completed on all new stations. It is essential that the employer provides not only a wealth of work experiences, but that the trainee gets a thorough education in all aspects of the business. This principle necessitates that time be set aside for training of the student.

The previous two steps must be completed before potential trainees are provided with a listing of suitable training sites. The potential training stations are provided with a set of resumes from these students, and the matching process begins. Trainees and training station employers begin making requests for interviews and selections are made, based on successful interviews.

After selections are made, a memorandum of understanding is completed. This agreement includes the names of the student and the employer, the terms of the training period, and the wages to be paid. The dates of the training period are clearly spelled out to provide for a clear ending to the experience program. (However, by mutual agreement the student may be employed beyond the end of the training period.) At the beginning of the training period a more complete training agreement is completed. This agreement outlines the student's responsibility for conduct, the employer's responsibility for training, and the responsibilities of the college supervisor. The supervisor will make a minimum of three visits to the training site during the training period. Safety, compensation, and the rights of the parties involved to break the agreement are outlined



Social development of the individual must be an integral part of the student's SOEP. Maintaining a "park" on the top of a 4-story building in downtown Chicago seems an unlikely place to acquire horticulture job skills, but with a shortage of recreational space, it also becomes a necessity.

in the agreement. This agreement is signed by the student, the trainer, and the college supervisor.

The staff of the Agriculture Department at JJC has established guidelines for conducting supervised occupational experience programs. To be eligible, a student must have completed at least one course in horticulture prior to enrollment in the summer SOE program. The on-the-job supervision is also covered under these guidelines. Each supervisor must assist the employer and the student in developing a detailed training agreement. The detailed training agreement will outline specifically the skills and knowledges that will be learned during the training period.

Developing a list of employment experiences for the student is the most important part of completing the training agreement. It becomes the responsibility of the community college supervisor, the student trainee, and the employer-trainer to share in developing this list of experiences. These experiences become a practical educational guide which should lead to establishment in the occupational choice of the trainee. Skills to be developed by all trainees are communications skills, advertising, marketing, and other business operations. Other areas to be included will depend on the trainee's area of specialization.

Students in the area of greenhouse and floral crops production will need skill training in soils, fertilizers, bedding plant operations, plant propagation, and pest control. Landscape, turfgrass, and nursery trainees will need additional training in mechanics, garden center operations, maintenance, design, and management.

Other activities include learning how an inventory is taken, how ordering is completed, and how business records are kept. The trainee also identifies suppliers to the horticulture business and completes an inventory of the business.

The business study is completed by having the trainee write an evaluation of the business which includes recommendations for change and improvement. This evaluation may be discussed and shared with the employer.

The detailed training agreement will be completed during the first two weeks of the on-the-job training period. During subsequent visits, the college supervisor can check the student's progress in completing the activities outlined in the agreement and their progress on the written report. A written record is made following each visit by the supervisor and placed in the student's permanent files.

Student-Centered

Important in the summer supervision are the supervisor's and the employer's concerns about the student, the student's weekly reports, and the student's potential for success in their chosen field. It is also important to work with the student in getting along with other employees and their supervisors, as well as adjusting to living away from home.

Also important to the junior college faculty is the planning for the student's future success at the college. How are the student's plans being developed? Are their long range goals and short range goals changing? Has the student begun to think about the second SOE placement during the next spring semester?

The student's responsibility for written records begins

during the weeks prior to their on-the-job training experience. They have completed and signed the memorandum of understanding. They have identified the skills and knowledges they wish to acquire during the training period. They have had a meeting with their community college supervisor about the required SOE.

Emphasis

On-the-job training experiences in horticulture are meant to emphasize learning, skill development, and career exploration. Developing good work habits, solving problems by applying horticultural principles, and developing skill in performing specific tasks are all products of SOEP.

The student has three primary written reports during the on-the-job training period. These include (1) weekly written reports sent to the college supervisor, (2) a study of the horticultural business in which they are being trained and (3) written evaluations of the employer, the training station, the SOE program, and the college supervisor. The weekly report includes a listing of activities performed each day and the time required to complete those jobs. New skills and knowledges learned, mistakes made, and problems encountered while on the job are included.

The horticulture business study provides a look at the inside of the business. This includes company policies, licenses, professional association affiliations, and an orga-

nizational chart of the business. Employment benefits, sales, billings, credit policies, and business records are all part of the business study.

With the written reports and evaluations complete, the freshman student can begin planning for their second and final formal supervised experience at Joliet Junior College. This second SOE begins the same as the first experience. Application is made, resumes are written, interviews are arranged, but the end result will be different. The student will often be given more responsibility than during the first SOE. The end result will hopefully be permanent employment. This necessitates a different philosophy or at least a change in philosophy for the trainees. The employers attempt to select the trainees that can learn their business quickly and apply themselves diligently.

The employer is hopeful that this trainee will want to become a permanent employee. While these ovations are made it should be stated that training agreements and detailed lists of skills to be learned are still vital and that supervision of the experience is essential.

We at Joliet Junior College have attempted to describe our horticulture SOE program. We know this program for the trainee will be successful if the procedures, activities, and guidelines are followed. We also know a SOEP can fail miserably for the trainee if these activities are not maintained.

THEME

Horticulture In A Production Agriculture Area

SITUATION: Declining enrollment at Bluffs High School has forced teacher cutbacks and the closing of the home economics department. A horticulture class is desired to provide an interesting elective area for the former enrollees.

SOLUTION: Let the vocational agriculture instructor teach it!

Farming is important in the west central Illinois community where Bluffs High is located. The area is predominantly rural and agricultural production is the singular industry. Like many rural schools, Bluffs High School is small with a base enrollment of 87 high school students. Eleven teachers conduct all the high school and junior high school classes. The production agriculture program may be considered tradition due to its production orientation. It has been honored with many successful achievements and receives great support from the agriculture community. No one would have guessed a horticulture class would become a successful component of this rural, small town, production agriculture program!

But the Ornamental Horticulture program at Bluffs High School blossomed from this solid production agriculture program. The idea of a horticulture course did not come



By JIM CRAFT

(Editor's Note: Mr. Craft is a Vocational Agriculture Instructor at Bluffs High School, Bluffs, Illinois 62621.)

from me, the agriculture teacher, but rather from the administration. Needless to say, my reaction was, at best, mildly receptive. I was being asked to teach a class in which I had no formal instruction. Certainly, I had experience as a home gardener, and could incorporate some class outlines on pesticides and fertilizers into the program, but I felt it would be "shaky" not to try to polish some of those skills. So the summer prior to the class start, I returned to college for a quick class on how to build a horticulture program. There I learned methods to teaching horticulture and designed an approach to the class.

(Continued on Page 20)

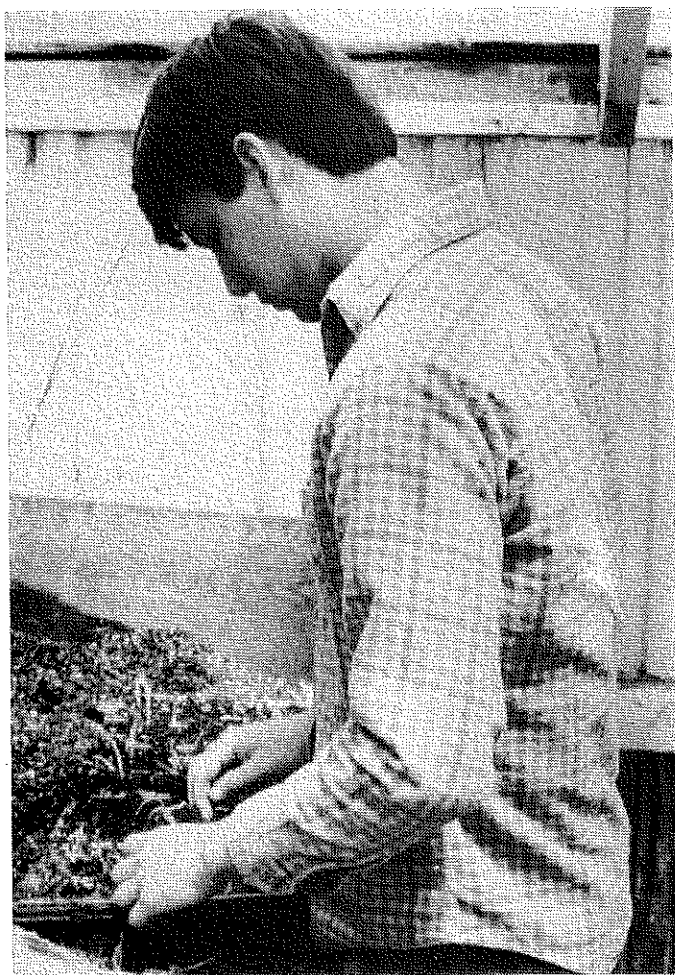
Horticulture In A Production Agriculture Area

(Continued from Page 19)

Local Situation

Prior to the start of the horticulture program at Bluffs, there was absolutely no instruction in the production of flowering plants, garden crops, fruits or any other horticultural crops. The only instruction in a horticulture area was individualized through the existing Supervised Occupational Experience Program. The students had a few horticulture projects on their home farms. Some began gardens and showed their produce at the local fair while others planted a simple landscape as a part of Home Beautification.

Although the administration requested development of a horticulture course, they appropriated no additional funds. Therefore, I designed the class to be taught within our existing classroom. A greenhouse was not possible and no additional land was available for land laboratory development. Regardless of the economic and physical restrictions, the horticulture program at Bluffs was one which gave the students a general background in horticulture and a chance to develop propagation, production, and maintenance skills.



Plant cuttings are exchanged at the "Plant Trading Post." (Photograph courtesy of Joliet Jr. College)

A course outline of the program at Bluffs shows the class contains a great deal of production type information. I blame this to the fact that I am a production agriculture instructor adapting to the demand for the class. Also, most of our area students will use their skills in the production of home-use crops. This course outline has undergone some modification in the last two years as a result of student interests and the experience and skills I have gained as a horticulture instructor.

Horticulture Outline

- I. Horticulture Industry
- II. Plant Growth
 - A. Plant parts and functions
 - B. Environmental requirements
 - C. Growth hormones
- III. Types of Landscape Plants
 - A. Trees and shrubs
 1. evergreen
 2. deciduous
 - B. Ground covers
 - C. Bulbs
 - D. Flowers
 1. perennials
 2. annuals
- IV. Landscape Design
 - A. Use of plants
 - B. Use of construction materials
- V. Holiday Floral Arrangements
- VI. Plant Propagation
 - A. Seeds
 - B. Softwood cuttings
 - C. Hardwood cuttings
 - D. Separation and division
 - E. Grafting
 - F. Budding
 - G. Layering
- VII. Container Plants
 - A. Terrariums
 - B. Houseplants
- VIII. Vegetable Gardening
 - A. Planning and preparation
 - B. Vegetables
 - C. Disease and insect problems
- IX. Pesticide Use
- X. Lawn Care
- XI. Small Fruit Production
 - A. Strawberries
 - B. Bramble fruits
 - C. Grapes

Many students who have taken the horticulture class currently maintain supervised occupational experience programs in numerous areas. A few students who raise houseplants have started a "Plant Trading Post." They take cuttings and root them after which they trade each other for those plants they do not have.

Other students have turned their class experience into SOE's by reseeding lawns, pruning shrubs, and planting trees. Using fruit production techniques, one freshman student planted dwarf apple trees. She was able to develop approved practices in planting, pruning, pesticide application, and hormone use. Another student organized a lawn care and maintenance service. He began with one push

mower and after two summers has increased his assets to include a riding mower and power trimmer.

With all of our small, independent projects, the students have no market for their products. An idea from the group may help develop a system to increase their business experiences. The students are investigating the development of a "Bluffs Horticulture Farmers Market." Under this concept, the students would pool their produce offering variety to the consumer and financial remuneration to the students. None of the horticulture SOE programs at Bluffs are placement situations or in-school laboratory oriented at this time. But the students are required to keep records on all their home enterprises using the record books available in Illinois. Currently, we use one of the following: Floriculture, Fruit or Vegetable Production, Nursery Operations, or Turf and Landscape Management. The application of these production and recordkeeping skills helps bring reality into the horticulture classroom. A business situation is also created giving the students a method useful in determining their interest in that career.

Course of Study

The horticulture class has continued to be a popular elective at the high school. The first year the class had 20 students enrolled, making it my largest class and the most popular elective in the school. During 1983-84, enrollment decreased to 13 students. The drop in enrollment was expected as now it is designed for primarily freshmen students. We believe students can develop a horticulture program for their 4 years by taking the following sequence of classes:

- 9th grade — Ornamental Horticulture
- 10th grade — Crop Production
- 11th grade — Small Engines/Agricultural Management
- 12th grade — Agricultural Construction

BOOK REVIEW

BASIC ANIMAL NUTRITION AND FEEDING, by D.C. Church and W.G. Pond, New York, NY; John Wiley & Sons, Inc., 1982, Second Edition, 403 pages, \$15.95.

The second edition of **BASIC ANIMAL NUTRITION AND FEEDING** is written in three parts with Part I devoted to an Introduction, Part II concerned with Nutrient Metabolism and Part III being Applied Animal Nutrition.

Part I, the Introduction, is a five chapter section that deals with the general aspects of nutrition including the Importance of Nutrition in Modern Agriculture, Common Methods of Analysis for Nutrients and Feedstuffs, Gastro-Intestinal tract and Measurement of Feed and Nutrient Utilization and Requirements by Animals. Part I makes use of charts and pictures that are an aid to the student. Each chapter

is followed by a list of references that could be used for follow-up study.

Part II, Nutrient Metabolism, deals with a chapter on each of the following topics: Water, Proteins and Amino Acids, Carbohydrates, Lipids, Energy Metabolism, Macrominerals, Microminerals, Toxic Minerals, Fat-Soluble Vitamins, Water-Soluble Vitamins, Non-Nutritive Feed Additives, and Growth Stimulators, and a chapter on Miscellaneous Factors Affecting Nutrient Requirements.

Each of the chapters averages 16 pages and are adequately illustrated with pictures and charts. Diagrams are well used. Pictures of animals depicting deficiencies are well used in the mineral chapters. Chapter 13, Toxic Minerals, was an interesting chapter that I believe was a plus to the textbook.

Part III, Applied Animal Nutrition,



Home Landscape Maintenance Service is one type of ownership SOEP developed by the students. (Photograph courtesy of Joliet Jr. College)

This sequence gives the students a broad background in agriculture with an introduction to horticulture. With the continuation of their horticulture SOE projects throughout the program, the students are able to concentrate on a specific area within horticulture. Several possible supervised occupational experiences require low investment and general yield quick turnover of products. For this reason, students enjoy horticulture since they can see results of their work in a short time.

In a review of the horticulture program at Bluffs High School, the students have shown a keen interest in a new subject area; and I, as the instructor, have gained competence and confidence in a dynamic area of agriculture and agribusiness. It is possible for a traditional production agriculture department to build enrollment, add variety, and increase students' options by incorporating horticulture into the program.

contains chapters on the following subjects: Feeding Standards, Factors Affecting Feed Consumption, Feedstuffs for Animals, Feed Preparation and Processing and Ration Formulation.

I believe that Part III was the best portion of the textbook. It is written for use by high school students, whereas Part I and Part II might present problems for the typical high school student. Overall, the textbook could best be used by junior college students and as a reference for an instructor who wanted background material for either high school or junior college classes. The glossary on pages 387 to 396 is excellent and well written.

William L. Love
Powell County High School
Deer Lodge, Montana

Educational Opportunities Belong To All Students

Presently, there are those who would influence the curriculum required of all students in the public schools throughout the nation. Traditionally, the courses of study in the public schools are a basic responsibility of the local boards of education and the administration. This is the democratic process in action.

Historically, educational policy, besides being a basic responsibility of the local schools, is influenced by state and federal governments. It has been a democratic process with each having input and influence pertaining to programs offered and required as well as the financial support provided by each.

Of late, a great deal of criticism has been made of the educational attainments of students in public schools. In an effort to correct the perceived deficiencies, proposals are being made to legislate and/or adopt rules and regulations requiring certain courses of study in school curriculum. The objective is that their adoption is necessary to realize certain achievement standards by all students.

The proposals would include increased emphasis on science, mathematics, communication skills, computer technology, and foreign languages. The basic philosophy is that these study areas constitute the necessary backgrounds for the future working world. The final objective appears to be to prepare all students for college entrance. In addition, colleges are being encouraged and/or required to raise their admission standards.

There appears to be sufficient evidence that all students are not reaching the levels of attainment the American public desires. What is needed now is to carefully evaluate the proposals that are being made.

The basic goal of public education is to provide every student the training needed and desired to be successful in their chosen field of endeavor. A careful evaluation of the proposed education program requirements may



BY CLARENCE J. HEMMING

Editor's Note: Mr. Hemming is a former Vocational Agriculture Instructor and is currently a Consultant to the Farmers Union Grain Terminal Association in St. Paul, Minnesota. His address is R.R. 11, Box 341, Crooks, South Dakota 57020.

only provide a lock-step program that fails to meet the goals of public education.

Individualization

Learning is an individual process. Classes may be taught, but individuals learn. Within the school population who are required to attend, there is a wide range of intellectual abilities. Intelligence ranges from very high levels to low levels. No one would postulate that only the students of average to superior intelligence levels should benefit from public education.

On the other hand, no one would or should believe that all students should not receive the training needed to make them contributors to the nation's successful work force and to be successful themselves. There are far too many variables other than intelligence that affect individual achievement. There are some who would contend that there are some individuals whom they regard as intellectual "idiots."

Individual students differ widely in their desire to learn and to master the subject matter they are required to take. Individuals are affected by many internal and external influences. There are so many examples of people who have achieved outstanding success but who were not high achievers in their schools.

The motivational influences for each individual are many. The home influence weighs heavily. Do the parents

encourage their children to do their best to achieve scholastically? Do they serve as examples of using their abilities to the maximum in their work?

In this era, when both parents in many households are in the work force, special problems arise — adequate supervision of both school and outside activities and the energy needed to motivate the student's maximum achievement. Add to this the increasing number of single parents. Undoubtedly in many cases, these influences place added stress on the individual student and affects his/her motivation to study and learn.

Young people especially vary greatly in their maturation both physically and mentally. Education psychologists have long known that there is a readiness phenomenon. Some students are ready to read or master mathematics at an early age. Some do so later and go on to progress to higher levels of achievement. Surely many know or hear of individuals who mature with chronological age and some who never do mature.

Is it realistic to expect junior high school students to choose their future occupations? Students need to be exposed to the types of work which offer successful occupations for their future. Choices made at this young age may for some be wise choices. For many it is doubtful that they can make wise, firm selections. Who knows what the employment opportunities are six to eight years ahead.

It is not unusual for young people to shift occupational choices even at the junior level of college or beyond. Experiences abound with examples of changes in the choice of a lifetime occupation. Many prove to be successful changes. Economic changes and personal changes make for differing outlooks into the future.

Curricula

Science and mathematics may be an adjunct to a well-rounded curriculum.

If, as is claimed, students graduate from high school and college not having taken science or mathematics courses, the question arises, "why?" It is because these courses are taught in a manner that fails to make the subject matter relevant to the student's environment?

If science and mathematics requirements are stressed heavily, consideration must be given to what pressures the time requirements place on other courses offered. The values and advantages lost by other courses need to be evaluated. For example, if a school offers vocational agriculture for students who wish to enter farming or agribusiness as a life's work, does making enrollment in these courses possibly a negative influence? Other courses, such as industrial arts, machine shop, home economics, and business education may well deprive students of valuable work and life experiences.

Few would disagree that all students should master basic mathematics skills to the best of their ability. The same would be true of an understanding of science. Policy makers might well examine whether employers are willing to give high compensation to students having satisfactorily completed these courses.

Computer experience and training can provide worthwhile backgrounds. It is axiomatic that computer use is common in practically every occupation. There can be little argument that high school students can and should be exposed to the computer. The level of these skills that should be included should receive careful review. There is some concern that neither high schools nor colleges should prepare all students to be computer experts. Computers are tools. They are only capable of doing what they are designed and programmed to do. They do not think. Students using them engage in an educational experience, yet what appears on the screen is not a thinking process.

There are so many work activities that are vital to the nation's success. There are a multitude of competencies that are not adaptable to computerization. The many skills needed in these occupations should be available in the student's training program.

One wonders if the meager budgets of many schools can afford the needed computer equipment and materials. So



Agricultural occupations often require some knowledge of computers. (Photograph courtesy of Lowell Hedges, Ohio State University)

many schools cannot afford to even supply the basic and secondary material needs for students in other classes. Unless local, state, and federal officials can reevaluate their financial priorities, there will be many educationally deprived students.

A careful evaluation must be made of how many future occupations require the limited computer skills that can be learned in a limited time frame. Again, with the wide range of abilities in any student body, is computer expertise a logical expectation of all students?

Foreign language training as a high school and college requirement may be useful to some but not to all. If a survey were taken of all the high school and college graduates asking if they found their study of foreign language(s) useful in their field of work, it is doubtful of the response would justify the foreign language study for all students.

The questions might well be posed, "what language?" To cover all possible and probable differing language needs, the student should include Spanish, Russian, French, German, as well as others. Would it not be worthwhile to delay the training until the specific language need is actually anticipated or needed?

Teacher Certification

Teaching is a profession. It is not similar to the medical, legal, or dental profession. These professions rely heavily on information or skill standards which are more applicable to standardized testing. Teaching is more than an information profession. It is a people-motivated and personal-relationship profession.

Good instructors are dedicated not only to presenting information but in-

clude a deep concern for the well-being of their students. There may be some concern that the teaching profession does not attract the most capable, intellectual persons. Why is this so? In an economy highly motivated by economic, material gains, the salaries offered teachers is not conducive to attract the highest level of students into the profession.

When reviewing local, state, and federal budgets; education seems to offer the best choice for cuts in appropriations. Until those who control these expenditures realize that increasing the income of teachers is one of the surest means of long-term improvement in the quality of professional instructors, quality will not increase. Fortunately, there are persons willing to teach who are dedicated to helping students, and material gains are secondary. It is deplorable that persons performing simple, nonskilled work can earn twice the salary of the best teacher in a school system.

In conclusion, to those who attempt to improve education through a centrally-controlled curriculum, may they reexamine their hypothesis. They should recognize that the student body is not homogenous; rather that it consists of a wide variety of individual differences. It is imperative that each individual receive the best education that his/her abilities can master.

Young people today enter the work force at different stages in their development. Many will go directly into employment after graduation. Will the courses of study that they enroll in qualify them for useful employment and enable them to make a significant contribution to society? Most of them will. Does requiring students to prepare only for college entrance best serve the needs of the American economy?

Stories in Pictures

NEW NATIONAL VO/TECH AG. COUNCIL HOLDS FIRST MEETING



(Front, left to right): Shirley Davis, FFA Alumni; Jim Guilinger, American Vocational Association; Larry Case, USDE; Carl Gerhardt, National FFA Foundation; Bob Warmbrod, American Association of Teacher Educators in Agriculture.

(Back, left to right): Ted Amick, FFA; Les Olsen, National Association of Supervisors of Agricultural Education; Don Hutchens, National Young Farmers Education Association; Duane Watkins and Dennis Jackson, National Vocational Agriculture Teachers Association; Thaine McCormick, USDE; Ken Olcott, National Vocational Agriculture Teachers Association; and Coleman Harris, USDE.

Professionals from agricultural industry and vocational/technical education have joined forces to provide national leadership and direction for the total vocational instruction program at secondary and post secondary schools across America.

The National Council for Vocational and Technical Education in Agriculture held their first meeting April 9-11 to adopt bylaws, elect officers and an executive committee, discuss funding and identify priorities for action in vocational and technical education.

"Today will truly go down as one historic day for vocational agriculture, with establishment of the council and the presence of Dr. Case as head of vocational agriculture programs at the U.S. Department of Education," said Thaine D. McCormick of the U.S. Department of Education. He referred to Dr. Larry D. Case's acceptance of the Senior Education Program Specialist for Agriculture, Agribusiness and Natural Resources Occupations in the U.S. Department of Education and National FFA Advisor position.

During the two-day meeting held at the Farmland Training School in Kansas City, Missouri, the council moved to set priorities for action in: integrating new technology into vocational and technical agricultural curricula; collecting data on the manpower demands for agribusiness occupations and developing a national commission on vocational and technical education in agriculture.

The Executive Committee, elected by the council, consisting of Dr. Larry D. Case (USDE), chairman; Jim Guilinger (AVA), vice chairman; Carl Gerhardt (National FFA Foundation); Les Olsen (NASAE) and Dr. Bob Warmbrod (AATEA). The Executive Committee will carry out the action of the council in the coming months.

The council is the end product of nearly two years of work by the Ad-Hoc Steering Committee for National Leadership, sponsored as a special project of the National FFA Foundation by Farmland Industries, Inc. Financial support for the council will come from Farmland Industries, Inc., the National FFA Foundation and member organizations.