

science. Food and agricultural sciences make extensive use of the biological and physical sciences. Your interest in science is an excellent match for career opportunities in the food and agricultural sciences." We are planning additional brochures relating to Business, Plants, Animals, etc. Copies of the brochure "If You Like Science" are available from our College Office.

I haven't dedicated much of my presentation to "retention"; however, it begins the day the student indicates he or she is interested in an agricultural career. The actions we take after receiving information that the student is interested will have a profound effect on whether or not that student enrolls in the College. Therefore, retention deals with the environment and atmosphere of the campus, the personal attention the student receives, the challenging opportunities for Honors Students, early contacts with faculty advisors, the availability of scholarships and other financial aids, the presence of outstanding teachers, and the many things we do to make the student feel welcome and comfortable.

Basic — Human Capital

I believe the future is very bright for our colleges. Human capital is the basic resource necessary for the future of agriculture. The only deterrent to the success of our enrollment development programs will be our own inability to adapt to change and to learn from others who recognize the importance of marketing. We never stop learning and I always remember the statement of one of my professors which indicates the importance of lifelong learning. "So long as you think you're green, you'll grow. But as soon as you feel you're ripe, you may begin to get rotten."

It is up to us to create a new awareness among young people and their parents of the opportunities in agriculture, to stimulate their interest so they'll seek more information, to get them involved in our programs and to eventually close the sale (enrollment). Obviously, we are facing many problems in enrollment development; however, these equate to challenges and ultimately opportunities for us to bring about change and to make our programs as appealing as possible to the potential future leaders in agriculture.

I'm optimistic about the future since the world is getting smaller, and the importance of the U.S. Food and Agricultural Industry will not diminish. As mentioned earlier, we in our colleges of agriculture are interested in more than attracting or recruiting new students. Our mission is to meet the future expertise needs for our agricultural enterprise by developing our enrollments with highly capable students and retaining as many as possible through challenging and dynamic programs. There is a new generation being born every day, and we have the obligation of ensuring a bright and prosperous future for them.

IDEA SHARING SESSION

NACTA Conference

Use of Poster Presentations in NACTA Idea Sharing Sessions

John A. Forseth

At the 1984 NACTA Conference, posters were used in the Idea Sharing sessions for the first time. Eight attractive and very effective posters were presented. There was also an oral Idea Sharing session with nine 15-minute papers which was held concurrently with the poster session. Attendees had their choice of poster and oral sessions and most were able to view all of the posters and to hear several of the oral presentations.

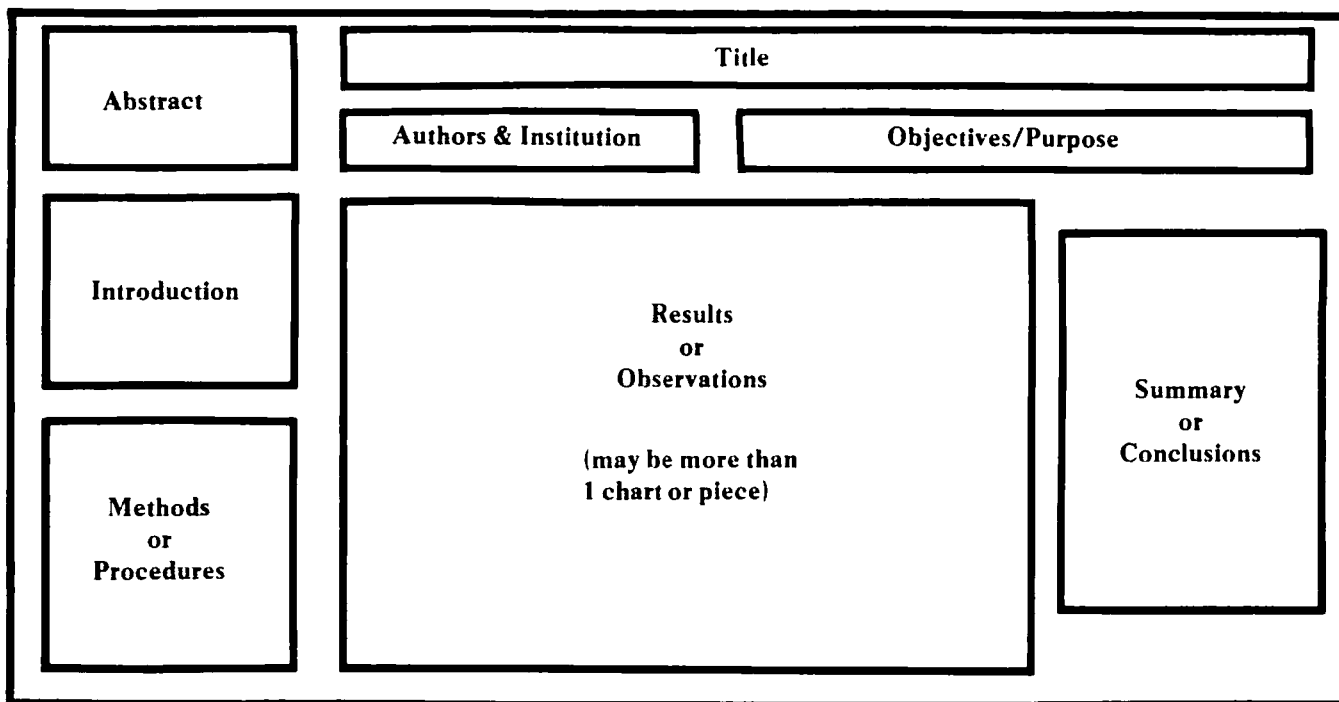
Definition

A poster consists of a series of illustrations or separate pieces of varying sizes mounted on a poster board using push pins or thumb tacks. At the NACTA conference, each poster was scheduled for public viewing for a period of approximately 3 hours. At least one author of each paper tended his poster for 1½ hours to explain his "ideas" and answer questions. This period was designated by the conference organizing committee.

In many ways, a poster is a more effective way to share your ideas and techniques with fellow NACTA members than is an oral presentation. It facilitates more small group and one-on-one interaction and true "sharing." It allows an opportunity for more people to view your presentation than does a single 15-minute talk, especially when 3 or 4 concurrent oral sessions are held and attendees have to make a choice. It also lends itself to subject matter that may involve demonstration of a technique, a piece of equipment or of written materials.

Posters have been used at numerous scientific meetings for many years. They have become the most common and preferred method of presentation at the annual meetings of the Federation of American Societies for Experimental Biology. They are becoming increasingly popular at national and sectional meetings of the American Society of Animal Science. However, very few NACTA members had made poster presentations previously or were familiar with them. Therefore, participants in the 1984 NACTA Idea Sharing sessions were provided the following instructions and production guidelines for the preparation of an effective poster.

Forseth is Professor of Animal Sciences at Washington State University, Pullman, WA 99164-6320. He was Co-Chairman of the 1984 NACTA Conference Organizing Committee and Chairman of the Idea Sharing sessions for the program.



Instructions

The poster board surface is usually 4' high and 8' wide and is provided by the host institution. All illustrations or charts should be made beforehand by the authors of each paper. Posters should be clear, attractive, and easy to understand. Your information is being presented to your audience through its eyes, rather than through its ears (as in an oral presentation), and your poster should convey immediate visual comprehension.

The top of the poster space should include the title, authors and affiliate organization for your paper. The lettering for this section should be at least 1" high. Individual illustrations (separate pieces) may be as small as 4" x 6" or as large as 16" x 24". Keep in mind that illustrations must be read by attendees from dis-

tances of about 4' or more and therefore normal typed material is not adequate unless it is enlarged. Illustrations may include charts, drawings, graphs, tables and photographs or a simple listing of major and minor points. These illustrations might well be similar to those you would otherwise use in making slides but should be simpler and more heavily drawn. They need not be "artsy." Illustrations may be mounted on light-weight poster board or colored matte board. Hand-lettered material should be heavy and individual letters should be at least 3/8" high. Typed material should be typed on a bulletin typewriter (large type) or be enlarged 200-300% on a Xerox or similar copy machine. Headlines or titles of individual charts or pieces should be prominent. The use of single, self-adhesive letters is effective for these.



Production tips

- Inexpensive procedure. Enlarge typed copy using Xerox (200-300%) starting with an image area of 3" x 5" or smaller. Mount enlarged copy including photos on colored poster board.
- Professional method. Use LeRoy lettering, Kroy-type lettering or professional type setting. Make photographic versions (PMT's) of lettered charts and mount PMT's on colored poster board.

Arrangement

A suggested format or arrangement for a poster is illustrated below. Other arrangements are possible, of course, if your subject does not conform to this scheme. Regardless of subject matter, all arrangements should be straight forward and read from top to bottom and from left to right in a logical sequence.

Suggestions from poster participants

- A short and legible "introduction" chart and a "summary or conclusions" chart are helpful to the attendee.
- A copy of your abstract (typed in large type or enlarged) should be posted for the information of those who study your display when you are not in attendance.
- Keep text and figure legends short, but **do not** omit them.
- Simple use of color can add emphasis effectively.
- Above all, **use large print**. Use solid rather than outline letters.
- Allow several weeks for production of your poster, especially if enlargement of photographs is involved.
- Preparation of an effective poster is no easier, cheaper, or less time consuming than preparation of an effective oral presentation but posters can be used more extensively for other purposes after the meeting. Use them in classes, in meetings with farmers, parents or others interested in your institutions programs or post them in the halls of your campus buildings for viewing by students and visitors.
- Consider using a video tape in conjunction with your poster to demonstrate "action." This was very effective for three NACTA participants this year (see photos).
- Provide hand-out material for those persons who are especially interested in or want to implement your "idea."

IDEA SHARING SESSION

Poster Presentation

Training Non-Farm Agricultural Production Students To Operate Modern Farm Equipment Safely and Productively

Robert Cobb

Assistant Professor

University of Minnesota Technical College, Waseca

Fifty percent of the students in the University of Minnesota Technical College, Waseca Agricultural Production Division come from a non-farm background. Some of these students have farm equipment operation skills gained due to jobs or to visits with relatives on farms. Other students, however, lack basic skills in operating farm equipment.

Students lacking skills were identified and enrolled in a tractor and equipment safety class. By using reinforcement media produced by Robert Krumwiede through Harland Hasslen's FIPSE Grant, safety films, and operator's manuals, students received basic safety and operating procedures prior to hands-on operation of the equipment.

The need for this course became apparent to the machinery class instructors when some students who were required to operate equipment as a part of the class could not operate a tractor and watch the equipment at the same time. In addition to the machinery class, students are required to complete a 12-week, on-the-farm or related work experience program as part of their curriculum. Basic Farm-operator skills would be needed for that training program as well.

About the same time the instructors observed inexperienced operators, Harland Hasslen received a grant to produce reinforcement media for students with a lack of basic skills in agriculture and horticulture. Since two of the slide sets developed included tractor operations, the decision was made to use them as training material for these students. Robert Cobb applied for and received an E.D.P. Grant to train students during a one-year pilot study. Funds were available to hire low-income retired farmers to help the students with the field operations of machinery. The farmers supervised prestart checks and maintenance of the equipment, basic hook up procedures for 3-point hitch and PTO equipment, and supervised the students during the field work on the college farm. The farmers reported the progress of the students to the instructor.

In conclusion, it was found that students with a wide diversity in farm equipment operation skills make instruction more difficult. Without any skills, the students are unsafe and unlikely to learn during out-

door lab exercises and, consequently, will not be properly prepared for a work experience training program.

With a basic course in farm equipment safety, students become prepared to be safe operators through the use of reinforcement media and basic safety instruction, combined with hands-on experience. Students appear much more relaxed and observe the functions of the machines they are operating after they have had a few hours of instruction. As confidence builds and experience increases with each round, the students' concerns become "How do I make straighter rows?" instead of "Which lever do I move next?"

Teaching Computer Literacy - A User Oriented Approach

Howard L. Olien, Asst. Prof.
Ag Business Division
University of Minnesota
Technical College

A "user oriented" approach has been developed for introducing two-year agricultural technical college students to microcomputers at the University of Minnesota Technical College, Waseca (UMW).

In the past, the traditional computer programming units were used for the laboratory portion of the course. This new approach involves exposing the students to examples of commonly used general-purpose software after they have had only a few weeks of programming in the BASIC language. With this method, the student is viewed as a future user of commercial software rather than as a programmer.

Presently, three examples of commercial software are used. These are File Management, Word Processing, and Recordkeeping. Other examples that could be used would include Spreadsheets and Communications software.

File Management systems (often referred to as Database Management systems) are commonly used

with microcomputers to organize and store routine information such as livestock records, maintenance records, and mailing lists. UMW students work with a very simple "public domain" software package that allows them to become competent using it in only two laboratory sessions.

Word Processing on microcomputers is more than a secretarial tool. It can be used by owners and managers of small businesses and farms to organize information in textual form for reports, memos, letters, etc. The Apple II Apple Writer program, although limited in function to newer and more powerful software, allows students to experience the ease of text generation and editing available in Word Processing systems.

Finally, a simple personal cash accounting system is used to introduce the students to using microcomputers in keeping financial records. Most of these students will later use a more sophisticated system as part of their Accounting courses.

The purpose of using these laboratory modules is to acquaint students with "types" of software that they will find useful in the future, rather than train them in the use of the latest commercial software which may be obsolete by the time they have the opportunity to use it on the job.

WASS: An Extra-Curricular Route to the Development of an International Perspective

James H. Mortensen
Associate Professor of Agricultural Education
The Pennsylvania State University

The fate of America and American agriculture is closely tied to the fate of the rest of the world. One of every three acres on American farms produces grain for export. One of every five jobs now depends on foreign trade. America's defenses are linked to Central and South America by OAS; to Southeast Asia by





SEATO; and to Europe by NATO. Nearly all of our economic, political and social problems are internationally connected yet colleges are not keeping up with this global perspective.

Developing a student's international view of agriculture need not be limited to the curriculum. The World Agriculture Service Society (WASS) at The Pennsylvania State University provides a laboratory for college students to internationalize their perspectives. Purposes of the Society are to: examine global agricultural problems and concerns, promote and encourage interest in world agricultural service, and develop an appreciation for the diversity of cultural backgrounds of persons in other parts of the world.

Society activities have included: an agricultural and science book drive and the dissemination of these books to colleges in developing nations; an international craft sale which benefited international craftsmen while serving as a fund raiser for the Society; and a farm tour for international students and their families. Faculty, graduate students and international organization representatives are invited to share their international agricultural development activities at the Society's bimonthly meetings.

International education must permeate our colleges of agriculture. Developing an international perspective in agriculture is not just a curriculum problem, it is also a non-curricular problem and it can be solved in and out of the classroom. An international student organization such as the World Agriculture Service Society is one viable alternative.

For information about organizing a society on your campus, write: World Agriculture Service Society,

College of Agriculture, The Pennsylvania State University, 102 Armsby Building, University Park 16802.

Preparing a Video Tape of the Sugarcane Breeding Program for Class Use

Russ Miller
Professor of Agronomy
Louisiana State University

The video tape was developed and prepared primarily for a course in Agronomy, "Sugar Cane and Its Production", Agronomy 4008. This course is taught on a graduate and undergraduate level and carries three credit hours on a semester basis. It is taught each fall semester.

A two-day field trip throughout the sugar cane area of Louisiana is a requirement in the course. The idea of taping the field trip was first shared with the office of IRC, Instructional Resource Center, now Instructional Support and Development. They furnished the man-power and the camera. The Department of Agronomy paid only for the cost of each tape. After the field trip was filmed we had about six tapes of unedited raw footage. Most of the raw footage consisted of steps on the various phases of varietal development.

At this time, it was decided to develop a video tape on, "The Sugar Cane Variety Improvement Program in Louisiana." This would involve more expense than just the cost of the tapes. Added cost included editing and adding the audio to the tape. A small grant was obtained from the Head of the Sugar Station at LSU, Dr.

Mike Giamalva. Filming could now be continued on phases of the sugar cane variety improvement program that was missed on the field trip.

Each phase of the breeding program was taped as the actual process was being conducted. No role playing was necessary.

The two-node pieces of the sugar cane stalk of the varieties chosen as parents were planted in metal greenhouse flats. After germination and sufficient growth these vegetative seedlings were planted into ten gallon garbage cans. When the seedlings to be used as parent plants were about six or seven months old the photoperiod treatments began.

The parent canes in the garbage cans were placed on a flat car that rolled in and out of the photoperiod house on a narrow gage rails. Photoperiod houses constructed to contain three flat cars per section and which could be made completely dark on the inside were used for the photoperiod treatments. Sugar cane is a shortday plant and is induced to flower by shortening the light period each day beginning at 12'30". The period of exposure is shortened about one or two minutes each day. Initiation of flowering occurs in about thirty days.

With each phase of the breeding program, prior scheduling of manpower, camera and other equipment with the office of IRC was imperative. If you missed taping a phase, it was very difficult to schedule a retake.

Following flower initiation and elongation is the emergence of the tassel. Prior to tasseling, the cane stalks are marcotted with black plastic and peat moss to provide a separate root system for each stalk that is cut and moved into the crossing greenhouse. The male and female canes previously determined are placed in cubicles that prevent any uncontrolled pollination. After the crosses have been made, the tassels of the female plants are bagged to prevent the loss of any seed by shedding. The seed, referred to as fuzz, is harvested and stored until the time for planting the seed, which is done in January and February each year. Three or four weeks after germination the seedlings are transferred to speedling trays. The Speedling Tray is 13½" x 26½" and contains 128 individual compartments. The compartments are about 1½" square at the top and taper from all sides to a point 3" below the top. This makes for easy removal during transplanting. Under normal conditions the "Speedling Transplanter" can transplant about 10,000 seedlings in eight hours. Here again timing and scheduling were critical because filming had to coincide with weather conditions and the transplanting operation.

Since clonal selection is the method used in sugar cane, each seedling is a potential new variety. The seedlings are not selected the first fall of the year they are transplanted but are selected the next fall and each selected seedling is planted into a six-foot plot from

which the first clone arises. Continued clonal selection and testing is conducted for the next seven or eight years at which time only superior clones that have received a permanent variety number are recommended for increase and release.

The testing and selection of advanced lines involves:

Line increase (vegetative increase for planting material)

Replicated yield trials for two years (Infield Testing)

Replicated yield trials for two years (Outfield Testing at 7 locations)

Primary Increase Station for one or two years

Secondary Increase Stations for one or two years

Recommended for release (Must have 3000 tons or more before a variety is released)

This video tape has become a very valuable teaching in the above course. A second tape has been completed on the Rice Variety Improvement Program in Louisiana.

What Makes A Teacher Successful?

Paul E. Sanford,

Department of Animal Sciences and Industry
Kansas State University

Be prepared. I feel one must be prepared when entering the classroom. Students will soon detect if you are not.

Be enthusiastic. This will capture and retain the student's attention. Show excitement about the topic at hand.

Be fair to all students. Do not show partiality to any student with your grading or classroom participation.

Be honest. I am sure we have all heard, "Honesty is the best policy." Demand honesty with your students and do not tolerate cheating.

Be punctual. If you arrive late for class, students will think you are putting other interests above them.

Be patient. One must count to 10 sometimes, but it is very detrimental to the teacher to lose his or her temper and embarrass a student.

Be current. In these days of changes, we have to be well read and up to date. We need to attend professional meetings annually to do this.

Have a pleasing personality. It is just as easy to smile as to frown, or to appear happy as unhappy. Personality in the classroom is meaningful to students.

Speak clearly. Students complain when they cannot follow or understand their professors.

Use visuals wisely and efficiently. Visuals are and can be a wonderful teaching tool, but they should be good, clear visuals, and be used wisely and efficiently.

Be a good listener. When students ask questions, there is a tendency to feel you will not have time to cover what you had planned to cover during the 50-minute lecture period, but one should listen as it helps the student to know you are concerned about his question.

Dress neatly and appropriately. I feel the way one dresses and appears in the classroom sort of sets the tone for the classroom. When I am teaching poultry classes, I always wear one of my 20 chicken ties. It gets students' attention, and they comment on my chicken ties when they write their comments on the course evaluation sheets.

Disease Situations in an Introductory Plant Pathology Course

D.H. MacDonald
Department of Plant Pathology
University of Minnesota

Since 1978, students in the introductory plant pathology course have been graded **primarily** on the basis of their achievements in a four part process leading to the solution of each of four "Disease Situations." The students begin the process near the middle of the 10-week quarter **after** they have been introduced to the characteristics, requirements, and effects of the various causes of plant disease.

Part A is a written response in which the student reacts to the plant disease symptoms observed by a client or other casual observer of plant disease. The student formulates questions that need to be asked about the cultural practices and environmental conditions that may have contributed to the development of the disease.

Part B is a written response in which the student utilizes the additional information to decide on the laboratory techniques that should be used to isolate the pathogen. The emphasis in Part B is on the critical steps of the isolation procedures and why they must be done in a certain way.

Part C is a written response in which the student utilizes appropriate references to identify the causal agent and to determine if that causal agent could cause the observed symptoms under the given environmental conditions.

Part D is a conference in which the student (the expert) tells the client (the instructor) just why the disease developed, what could have been done when the cause was first determined, and, most important, how to avoid, prevent or minimize the disease in the future.

Graduate students have been nearly unanimous in their preference for the "Disease Situation" procedure. Undergraduates have been divided with about 50% preferring the "Disease Situation" approach and the remainder expressing the opinion that the traditional quizzes and examinations would have been the better format for them.

Parents' Support For A Technical College

Robert M. Collins
University of Minnesota Technical College, Waseca

Two years of study went into the development of the Parents' Organization at the University of Minnesota Technical College, Waseca (UMW). From the time the constitution was adopted by the parents in 1972 in the first year of the college, the Parents' Association has played a significant role at UMW.

The constitution provides an opportunity for parents to learn about the educational program, to be informed of college policies, and to have the opportunity for input. These purposes are carried out through meetings and tours during Orientation-Registration Days, Parents' Day in the Fall, and the meetings of the Executive Body (Parents' Council). Attendance at class with their sons and daughters during Parents' Day and visiting with instructors are also important in informing parents about UMW's programs, activities, facilities, faculty and staff.

Although the Association is interested in all phases of the college program, its number one priority is student welfare. This concern encompasses many areas and overlaps with other support groups such as advisory committees.

Among the many areas of Parents' support at the University of Minnesota, Waseca are 1) considered and personal input into means to provide for student welfare, 2) strong support for the college in general, 3) informed support for legislative requests, 4) encouragement for prospective students to enroll at UMW, 5) assistance and support for the internship programs for students, and 6) assistance and support for placement of graduates.

Perhaps the most important contribution of the working relationship between parents and college personnel is a feeling of "family" for both. The parents feel that they are a part of the college. Students, staff, faculty and administrators are more effective because of knowing and relating to parents. The contributions and benefits are two way.

An Evaluation of the Minnesota State Affiliate of NACTA

Peter Fog and Robert M. Collins
Associate Professor and Professor, University of Minnesota
Technical College, Waseca

The Minnesota Association of Colleges and Teachers of Agriculture (MACTA) was the first state affiliate of the National Association of Colleges and Teachers of Agriculture (NACTA). The MACTA Constitution was published in the December, 1975, **NACTA Journal** and the first annual meeting was combined with the Improvement of Instruction Program of the College of Agriculture in St. Paul on December 13, 1976.

Benefits

Positive contributions of MACTA: 1) It has conducted eight state-wide annual meetings and in-

structional workshops, with the first four workshops led by nationally recognized educators from the universities of Michigan State, Tennessee, Arizona, and Missouri; 2) It has helped increase NACTA membership from 49 in 1976 to 110 in 1981; 3) It has provided the opportunity for interaction between faculty members in agriculture throughout the state of Minnesota; 4) It has increased opportunities for leadership through offices, committees, and other responsibilities; 5) It provides for teacher recognition; and 6) It has stimulated participation in NACTA conferences and such professional activities as research, publication, and "Idea Sharing."

Challenges

Challenges for the future: 1) with a high level of memberships in NACTA and MACTA much effort is needed to maintain and increase state memberships; 2) since 1981 there has been a decrease in attendance at annual MACTA meetings and workshops — this may be a result of changing from out-of-state to in-state educators to lead the Improvement of Teaching workshops; and 3) there has been limited agricultural faculty membership from Community Colleges and Area Vocational Technical Institutes.

Summary

The purposes of the Minnesota affiliate are the same as those of the National Organization. MACTA has successfully achieved these purposes through professional activities including a series of workshops featuring varied content, format, and emphasis on application as well as theory. It has been a dynamic and useful organization. The Minnesota affiliate of NACTA greets the future with strength and promise.

IDEA SHARING SESSION

Oral Presentations

Chemistry For Agriculture Students

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Professor of Animal Science
Southwest Missouri State University

Undergraduate programs in agriculture at most colleges and universities include a course in organic chemistry. Some also include a course in biochemistry. At Southwest Missouri State University, students are required to complete one five-semester hour course in general chemistry. Through advisement, a number of students will complete a course in organic chemistry. Almost none of our students will take a course in biochemistry.

In an effort to expose more students to the principles of organic chemistry, and especially to biochemistry, a special course called Food and Agricultural Chemistry was developed and is now

offered by the Department of Agriculture. It is a three semester hour, junior level, lecture course in elementary organic and biological chemistry. It emphasizes terminology, nomenclature, important reactions, and applications. A secondary purpose of the course is to attempt to ease some of the anxiety that many students have about chemistry, and to encourage them to enroll in additional courses. The course is required of majors in animal science and agronomy, and is an option for other students in agriculture. A number of home economics majors take the course also.

The course is organized into four sections or units:

Unit One - Organic Compounds. Saturated and unsaturated hydrocarbons, benzene derivatives, alcohols, aldehydes, ketones, acids, esters, and pesticides.

Unit Two - Carbohydrates. Simple and compound sugars, optical isomerism, starches, glycogen, cellulose and its commercial applications, energy value of carbohydrates.

Unit Three - Lipids. Fats and fatty acids, soaps and detergents, steroids including hormones and cholesterol, phospholipids, prostaglandins, fat soluble vitamins.

Unit Four - Proteins and Nucleic Acids. Amino acids and amino acid metabolism, proteins and protein structure, enzymes, DNA, RNA, ATP, protein synthesis, B vitamin coenzymes.

The textbook for the course is the third edition of **Introduction to Organic and Biological Chemistry** by Stuart J. Baum, and published by Macmillan. The book was designed for students in agriculture, biology, nursing, medical technology, and veterinary science, and includes applications and examples from these areas. A strong point of the book is the many problems and study questions found at the ends of the chapters.

Agrarianism As A Factor In University Level Agricultural Education

Darryl G. Murr
Department of Rural Economy
University of Alberta

Modern agriculture with its emphasis upon productivity, efficiency, profitability, and increased specialization has changed the educational program needs for students of agriculture. Agricultural education has become more specialized to meet these changes. Furthermore, more agriculture students are from non-farm backgrounds. In this study the relationship between the agrarian value system, which stresses the uniqueness of rural life, and that of social articulation which stresses the incorporation and interdependence of rural and urban life are related to students views of the need for farm-ranch experience as a part of their undergraduate program requirements.



The study was conducted at the University of Alberta. Students in agriculture were surveyed and information was obtained. The Flinn and Johnson Agrarianism scale was utilized to obtain agrarianism scores. Additional questions regarding the need for farm-ranch experience, demographic, and personal characteristics were asked.

Students want a practical education with farm-ranch experience. Agrarianism was significantly related to the questions of need for farm-ranch experience and that this experience be a part of normal undergraduate requirements. Age, size of graduating high school class, year in university, residence before age 16, residence prior to attendance at university, and farm experience were not related significantly to agrarianism. Major program at university was significantly related to agrarianism. Increased practical experience and its intergration into agriculture education was desired.

Technical Literacy Among Agricultural Social Science Students

Josef. M. Broder Asso. Professor Agr. Economics Univ. of Georgia	Bernard V. Tew Asst. Professor Economics Colorado State Univ	Phillip R. Wanschneider Asst. Professor Agr. Economics Washington State Univ.
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Requiring students to attain minimum competence in technical agriculture has long been a concern for the social science majors in colleges of agriculture. For many, knowledge of plant and biological processes has given college of agriculture graduates a unique and desirable asset in the job market. The returns to investments in technical agriculture have increased in

recent years with a renewed interest by employers in students with training in technical agriculture.

This paper focuses on the technical literacy of economics majors in colleges of agriculture. The problem setting is whether increases in enrollments by students from non-farm and/or non-rural backgrounds threaten the technical literacy of graduates from colleges of agriculture. The need for curriculum changes to maintain technical literacy among social science graduates is also discussed.

Survey and Data

The technical literacy of agricultural economics majors at the University of Georgia and Colorado State University was measured. Technical literacy tests were given to four separate agricultural economics courses at the University of Georgia and two separate agricultural economics courses at Colorado State University. Tests were given during the 1982-83, 1983-84 school years. Students were asked to correctly identify eight agricultural commodity samples which included: sorghum, wheat, oats, soybeans, navy beans, corn, fescue, and millet.

Major findings of the study are as follows: (1) The number of commodities correctly identified ranged from a class average of 2.0 to 4.5, (2) Technical literacy did not always improve during the student's undergraduate program. (3) Agricultural majors were not consistently better in identifying agricultural commodities than non-agricultural majors. (4) Technical literacy was not significantly correlated with the number of agricultural courses taken, (5) Other factors found to have a positive influence on technical literacy included: farm background, a desire to work in

agriculture after graduation, previous job experience in agriculture, and grade point average.

In summary, curriculum offerings should remain receptive to student backgrounds and career needs. Agricultural social science curriculum should remain flexible and enhance qualities unique to colleges of agriculture.

Bulletin Boards For The Ag Classroom

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Department of Agriculture
Southwest Missouri University

Many agriculture classrooms either have a) no bulletin boards, b) blank bulletin boards, or c) bulletin boards that contain pictures or information that has not been changed in recent years. There are alternatives. Bulletin boards can a) be a means of supplementing lecture material, b) serve as a learning center to provide students with information that may not pertain directly to the lecture but may heighten interest in a related subject matter area, c) be used to display student projects, d) be useful to display the most current material that may not yet be in textbooks, or e) be used to promote a class or activity.

Some general suggestions for effective displays include

- a. Choose a pertinent, timely subject
- b. Design the display around one central theme
- c. Narrow the topic - keep it simple
- d. Plan lettering - include at least the title in large lettering - keep it concise
- e. Do not crowd the bulletin board. The main idea should immediately be apparent
- f. Use color coordination - bright colors attract more attention than pastels
- g. For the college classroom, select and design the display to be of some interest to all classes using the room
- h. Plan for at least two bulletin boards per semester

Bulletin boards are not difficult to produce. There are many sources of material for the main idea. Posters can be purchased. Enlarged photographs can be made or photographs can be taken from many brochures or magazines. Advertisements often form the basis for a good bulletin board. A visit to an education supply store will reveal a wide variety of materials such as pre-cut lettering and borders. Background covers of corrugated cardboard or colored paper are also available. These materials allow the non-artist agriculture professor to produce a coordinated and professional-appearing display. The more artistic instructor may include hand lettered or drawn items in the display. Lamination is a process that will increase the durability of many materials and will enable the display to be reused more easily in the future. A small investment in time and money can result in a colorful and informative classroom display

Saturday Practicums: An Easy and Fun Way To Expose Students to Traditional Farm Skills

John C. Buckhouse, Department of Rangeland Resources, Oregon State University
Nancy N. Powell, Science and Technology Division, Kerr Library, Oregon State University

"Your students may know everything there is to know about range management, but if they can't handle a 4-wheel drive, they aren't much good to me," the forest supervisor told us.

It's a quandary. A university's job is to educate students to think, to solve problems, and to search continually for truth. It is not a trade school for entry-level jobs. But obviously some knowledge of traditional skills is important, if not mandatory.

We have experimented with non-credit, hands-on seminars built around a traditional skill competency list for our students who come increasingly from urban/suburban backgrounds. These practical experiences don't make experts, but they do provide an opportunity and the stimulus to learn more where warranted.

A "Saturday practicum" at the university farm may emphasize tractors, horses, fences, 4-wheel drives, or any of a variety of machinery and/or animal husbandry skills. Foreign students have frequently proven to be more interested in tractor operation and maintenance than in horsemanship, whereas Americans seem very interested in animals as well as machinery. The practicums can be run on separate Saturdays or with concurrent sessions. Staff, graduate students, and undergraduates with some experience serve as teachers.

We have found that the students appreciate the chance to field test their theories and develop a limited experience in a non-threatening situation.

In-Residence Program at UMW

Thomas J. Lindahl and William J. Nelson
University of Minnesota Technical College, Waseca

In-residence is a program at the University of Minnesota Technical College, Waseca, which brings practicing farmers and other business persons to the college during assigned periods to relate with students and faculty in classes and on a one-to-one basis. A search of literature provided information on one similar program at Trenton State College in New Jersey. Both programs were started in the fall of 1976.

The single mission of a two-year technical college in agriculture requires that students and faculty remain in contact and interact with practitioners. The in-residence program which began in the agricultural production program area has the objective of bringing experienced agriculture operating managers to the campus to interact with faculty and students, to assist in course delivery, to assist in developing learning situations for students, and to assist the college administration in planning.

Some problems were encountered as the program began, including some differences of opinion between faculty and the in-residence representatives, lack of dialogue between faculty and students, and involvement in the ongoing courses of the college. These concerns have been addressed and corrected as the program has developed.

Advantages to the college are numerous. Students have found the in-residence person to be a good consultant to test ideas and concepts, and to obtain additional ideas from a practical viewpoint. The representatives have added extra breadth and depth to college classes. Field trips and the use of resource persons in the classroom has increased.

The program has been a success and is being expanded to include the horticulture and agricultural business program areas.

"Hands-on" At Calving

Dale W. Weber,
Department of Animal Science,
Oregon State University

Many students have never participated in a delivery; and so in an attempt to provide practical "hands-on" experience in a beef production course, cows from the University's herd are calved out each spring by the class. Cows which are selected from the research herd are transported to the Campus Beef Center. To begin the exercise, an outline of procedures is distributed and discussed in class. Teams composed of three class members each are formed. Students may select their teammates; however, we attempt to include a person experienced in parturition and if possible to have both men and women on the team. Each team selects a cow for which they are responsible. A guest lecture by a practitioner from the College of Veterinary Medicine is presented so that possible problems may be anticipated and proper procedures conducted. To further prepare students, prescribed baby calf management practices and procedures are demonstrated by the herdsman. Responsibility for frequent pre-calving observation is rotated between team members and an observation log is posted near the calving area which the instructor reviews frequently. Telephone numbers are posted so that as many team members as possible can be available for observation and decision making. If assistance is required, the team makes the decision to request professional help. Following parturition, team members administer recommended baby calf management practices and observe the cow and calf frequently for any health or nutritional problems. An added benefit to this parturition exercise is that it appears to assist in the establishing of good student-student and instructor-student relationships. The uncertainty of the time and difficulty of parturition aids in the establishing of a good camaraderie within and between calving teams.

Since this calving exercise occurs early in the quarter, this rapport seems to carry over into the more formal classroom situation. Therefore, an improved learning environment is present throughout the term.

Creating A Positive Atmosphere For Instructional Improvement

Richard Waldren,
Ted Hartung and Joyce Povlacs¹

A positive atmosphere for instructional improvement in the UNL College of Agriculture has been developed by a multi-faceted approach to increasing faculty awareness, and improving faculty acceptance, of instructional improvement innovation. Although improvement of instruction has always been encouraged, recent years have seen a more systematic approach to the subject by faculty and administrators.

In 1978, the College received a grant from the UNL Teaching Council, to assign an instructional consultant to the College on a half-time basis. The purpose of the project was to encourage improvement of the quality of teaching and to set goals for instructional improvement on a college-wide basis. The College established an ad hoc Instructional Improvement Committee (IIC) that worked with the consultant in implementing the project. After the grant expired in 1980, funding for the consultant was continued on a permanent basis, and the IIC became a standing committee of the College to continue the programs begun by the project.

At the present, instructional improvement in the College works on two levels: individual and college-wide. Classroom instructors can work with the consultant on a confidential, voluntary basis, while the IIC sponsors activities for the college community as a whole. Each level reinforces the other, with a large number of faculty members participating on both levels. In addition, certain faculty have been selected to serve the IIC as resource persons. Each resource person either has an expertise in an area of teaching innovation, or is willing to develop an expertise.

Success of the program has been built on several key ingredients. Widespread faculty instructional improvement has developed and is continuing to expand. The IIC is proactive rather than reactive; it sets the thrust of activities for the College by annually reviewing program activities and setting priorities for the coming year. There has been solid administrative support from the Dean, which includes funds and personal time. Also, the continued development of resource persons is providing an increasing pool of expertise among the faculty.

¹Waldren is an Associate Professor of Agronomy and 1983-84 Chair of IIC; Hartung is Dean, College of Agriculture; and Povlacs is an Instructional Consultant, Teaching and Learning Center, University of Nebraska-Lincoln, Lincoln, NE 68583

A Positive Approach To Evaluation Of Faculty

Byron E. Harrison
Associate Professor
University of Minnesota, Waseca

Evaluation can be considered the process of identifying qualities where improvement is needed. Yes, evaluation should include suggestions for improving techniques and coursework, but can recognize a person's strengths as well.

Today, I will address ideas to improve the process of evaluation that will reduce the anxiety of being evaluated. We are reviewed daily by us and others, but the thought of a formal evaluation can be frightening.

I have found over the past years, when properly approached, our faculty welcome the opportunity to share their talents and skills with their peers, supervisors, and administrators. As faculty, we like to be assured our supervisors and administrators are aware of our teaching ability and our concern for our students.

I was involved in teaching Vocational Agriculture for seven years before a formal evaluation of my teaching was made. I had requested, first by verbal invitation, and later by written requests, evaluations of my teaching. I expected my supervisor would want an opportunity to evaluate and assist, especially in my early years in teaching. I am certain my personal experience has motivated me to help others in a constructive and positive manner.

It is my practice as a Division Director of the Agricultural Industries and Services/Agricultural Production Division, to inform each faculty member of my willingness and sincere interest in visiting class sessions (both lecture and laboratory) to assist them in their teaching responsibilities.

My visitation and evaluation is made upon request by the faculty member. I meet with the individual prior to the session, or sessions, to arrange for the visitation and review session of the classroom/laboratory presentation.

Some practices I consider essential for constructive evaluation include:

- The evaluator should arrive before the session begins, be as inconspicuous as possible, and remain throughout the session.
- Notes should be recorded, but listen and observe carefully. Continuous recording of ideas can frustrate both the students and the faculty member.
- A review should be written. I use an "Evaluation of Classroom Presentation" form and add a supplemental page listing strengths and suggestions.
- A post-review session should be conducted within one day after the review, and allow adequate time for discussion.
- The evaluator should determine if the faculty member desires the written review to be placed in his/her personnel file.

As a Director, I appreciate the opportunity to visit both classroom and laboratory sessions. It provides me a review of the course content in relationship to the objectives of the course. I have also evaluated a number of field trips since an effective use of these resources is vital to quality instruction.

I encourage each of us as faculty and supervisors to use this opportunity and technique to improve instruction.

A positive approach to evaluation of faculty can and should result in positive learning experiences for our students, as well as our faculty.

AWARDS BANQUET

Ensminger and Guin Receive Special Awards for Meritorious Service to NACTA

At the Fall Executive Committee Meeting of NACTA, it was unanimously voted to develop a "special award" for Dr. M.E. Ensminger, President of Agriservices Foundation, Clovis, CA., and Mr. Russell Guin, Chairman of the Board, The Interstate Printers and Publishers, Inc. of Danville, Illinois. Since 1969 these gentlemen have provided financial and moral support to make possible a NACTA award known as the "NACTA DISTINGUISHED ENSMINGER-INTERSTATE TEACHER AWARD." Establishment of the award was announced in the March 1969 issue of the *NACTA Journal*. The first award was made to Dr. Fredrick E. Beckett on June 17, 1969, by Mr. A.C. Razaitis, of the Interstate Printers and Publishers. Since that time, some of NACTA'S best have received the award and the recognition which accompanies it. It goes without saying that this is NACTA'S most prestigious award. Only one is given each year and the awardee receives a handsome plaque and a check for \$1,000.

NACTA is indeed grateful to the two men who made this award possible. We are most appreciative of their generosity and wish to honor them tonight for their contributions to the award and hence to the growth and development of NACTA.

Dr. M.E. Ensminger is a native of Stover, Missouri. He is married to the former Audrey Helen Watts of Winnipeg, Canada; they have one son, John. He was reared on a general livestock and dairy farm. During high school, he participated in 4-H Clubs and FFA. He received the BS and MS degrees from the University of Missouri and the Ph.D. at the University of Minnesota. The latter degree was in Animal Science with a minor in biochemistry.

Dr. Ensminger has worked in the area of soil erosion, managed an Experiment station, and served as