

teaching procedure may suggest to other teachers the possibility of objectively assessing the effectiveness of other teaching procedures which may not be widely believed to be effective, as is apparently the case with personalization procedures.

Of course, subjective considerations will certainly be involved in making the final decision as to whether or not to continue a procedure. Such matters as extra expenditure of time, labor and money the procedure requires and student and instructor attitudes toward it cannot be ignored. Using the "Get Acquainted" procedure described here costs about \$0.25 per student and about three extra man hours of labor per class. Also, there is no time for instruction during the first class period. With respect to

attitudes toward the procedure, it is overwhelmingly successful. The instructor in the present case found that it made teaching infinitely more enjoyable and satisfying, and thirty of the students in class 2 indicated on an anonymous questionnaire that their opinion of the procedure was very good, believing that it increased their motivation to learn; four held a good opinion and one failed to answer the question concerning his opinion of the procedure.

The ultimate objective of any teacher should be neither "innovation for its own sake" nor "objectivity for its own sake" but should be "unceasing effort to increase the effectiveness of the teaching-learning experience by whatever means can be found."

The Centralia College of Agricultural Technology

"Farm Analysis Project" *

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The Centralia College of Agricultural Technology, under the direction of the Ontario Ministry of Agriculture and Food was established in 1967. The College offers two year diploma courses in Agricultural Business Management, Animal Health Technology and Home Economics.

Method

When the College was established it was decided not to include a demonstration farm in conjunction with the College but rather to solicit the support of cooperator farms in the community and to utilize these farms as field laboratories for instructional purposes. In this way, principles presented in the classroom could be applied to real farm situations before the students graduate from Centralia College.

This approach also permits a modified elective system, since students are assigned to farms in groups of five according to their main interest (dairy, beef, swine, poultry, mixed farming, etc.). The students are required to do a complete and in-depth study of all the physical and economic factors of the farm business — soils, crops, livestock, machinery, buildings, labour, credit, records, etc. The eventual requirement of the students after the present farm operation has been analyzed is to make and defend recommendations which will maximize farm profitability.

The farms normally are located within a radius of twenty miles from the campus and within easy driving distance. The College has had no difficulty in obtaining cooperators for the project. Each cooperator receives a 500 dollar retainer fee to offset any inconvenience that may occur during the calendar year study of his farm business. Several farmers have indicated that the 500 dollar retainer should have been paid to the College for the detailed study and recommendations they received at the conclusion of the study.

Approximately fifty-five different farms have been studied to date, with each farm being used only once. The farms are not selected on the basis of size, net farm income or appearance. They are not necessarily the biggest or the best farms in the area. Rather, they are farms on which there is something to see and an operator who is willing to cooperate to the fullest extent by giving all of the required information and doing whatever is necessary to provide a meaningful learning experience for the students.

Names of potential project farms are obtained from our enrollment lists at short courses, the County Extension Offices and our own extension contacts. Many potential project farms are recommended by past and present project farmers. The program is now well enough known and respected in the community that

some farmers have asked if their farms can be used as project farms.

The farmers are asked to sign a contract with the Ontario Ministry of Agriculture and Food. This contract states that should any misfortune during the project result in injury of students, livestock, crops, equipment, etc., then Centralia College and not the farmer is liable. The contract also states that the farmer will receive \$500 for allowing the Farm Analysis Project to take place on his farm.

Project Personnel

One staff member is responsible for the coordination of the Farm Analysis Project and he relies quite heavily on assistance and advice from everyone on the Agricultural staff. In effect, it is a team effort, with many individuals making some contribution.

Most of the members of the Agricultural Business Management staff are directly involved as tutors responsible for one or two groups of students. The tutors are responsible for coordinating the efforts and activities of their individual groups as well as advising and directing them through the project.

Every member of the Agricultural Business Management staff and the Animal Health Technology staff serves as a resource person whether or not he is directly involved as a group tutor.

The list of outside resource people would include members of the various Branches of the Ministry of Agriculture and Food, bankers and members of other lending institutions, lawyers, real estate and insurance men, accountants, leaders and authorities from the agricultural business sector, the project farmers and other farmers in the community.

The students are introduced to the Farm Analysis Project during their first term. The project is outlined and explained to them by the staff members and a volunteer group of senior students. The students then select the type of farm operation they wish to study and are assigned to farms in groups of five under the guidance of a staff tutor.

They are interested in collecting a comprehensive record of all farm business matters. They are concerned with livestock production systems, cropping programs and farm management. The students do not become directly involved in the operation of the farm.

In order for them to get the maximum benefit from the Farm Analysis Project, it is necessary for them to have access to the detailed information of the farm business. This information is treated in the strictest confidence by the students and tutors.

During their second and third terms, the group will spend the equivalent of one-half day per week at the farm studying the

total operation. "How-to-do-it" workshops, such as how to take inventory, are appropriately timed to enable the students to make efficient use of their time at the farm. In addition to this time spent on the farm, the students are expected to do the required research and visit resource people on their own time.

Early in the fourth term, and at the conclusion of the calendar year, the records are completed and analyzed. Recommendations are then made to improve the profitability of the farm operation. The final goal is a comprehensive report to the farmer showing their findings and recommendations.

Evaluation

The evaluation of students on a continuing basis is probably the most difficult part of the Farm Analysis Project. We do our evaluation by requiring the students to prepare six written and six oral reports. There are two testing periods in each of the three semesters.

The written reports are intended to be a group effort while the oral reports are individual efforts even though the group is together for the oral testing. The first five assessments are concerned primarily with the students fact finding and analytical efforts regarding the farm while the sixth and final assessment deals almost exclusively with their recommendations to increase the profitability of their farm and their defence of these recommendations.

A typical evaluation session would have the group present a short oral summary of their written report to the examining team consisting of four or more staff members (at least one staff member from each of livestock, soils and crops, engineering and business management). The farm family is invited to participate in the final oral. Each member of the examining team would di-

rect questions to each member of the group. This oral questioning continues until each examiner is satisfied he can accurately assign a grade to each student. This usually required from 1 to 1½ hours for the first four sessions and 2 hours or more for the fifth and sixth assessment.

Potential

Six years of experience suggests several unique potentials and strengths of the Farm Analysis Project. Practically all classroom courses offered at the College will have a direct application to the farm study. As an example, students can relate basic nutrition, genetics and animal health courses to the actual farm herd and can develop improved feeding, breeding and management programs that will improve the productive capacity of a herd of dairy cattle. This opportunity to apply the information to a real herd situation tends to result in a more acceptable and understandable method of presenting information. Similarly, courses such as accounting and record keeping that are important in any business become much more real when the students are required to maintain an accurate set of records for that business over the calendar year. The analysis of records to pinpoint weaknesses in the financial structure now relate to a specific farm business and becomes a real rather than a theoretical study.

The results have been gratifying to date because the College has received excellent cooperation from the participating project farmers, the students are able to apply classroom information to real and viable farm businesses and the costs of maintaining a demonstration farm as a laboratory are eliminated.

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A Planned Program of Involvement with Junior and Community Colleges.*

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The College of Agricultural Sciences at Texas Tech University has undertaken a three-pronged attack on the problems limiting the educational partnership between the two and four year colleges. First, we arbitrarily divided the state into six areas, each containing 3 to 5 Junior colleges. Agronomy Department volunteers visited each school and invited the Agriculture Faculty to participate in a Junior College Conference at Texas Tech. The initial conference started the second phase of our program. We have had three successful conferences, each consisting of a program designed to allow both Tech and the two year colleges to explain their problems, objectives, and successes. Our third

effort was the implementation of a "Visiting Scientist Program" to furnish speakers for Junior College biology and agriculture classes. We feel the success of all three programs is definite but difficult to measure. We have transfer students who tell us that transferring wasn't difficult. In 1972, we had the largest increase in enrollment in the College of Agricultural Sciences since World War II. Most importantly we have an active friendly working relationship with many of the Texas Junior and Community College faculties.

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Split- and Tri-Screen Projection in Agriculture Instruction*

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Doubtless, we are all familiar with the chalk-talk and single projection methods of instruction. The chalk-talk approach does not maintain continuity unless the image is left on the board for some length of time. Likewise, the single projector presentation does not allow a continuity of thought since the image does not remain on the screen for long.

The idea of split-screen projection as a teaching aid is not new. However, it has not been used widely and certainly has not reached its potential in agriculture instruction.

In its simplest form, the system utilizes two projectors for front or rear projection. The operator has a control unit for each

projector in each hand or the two control units can be taped together and held in one hand.

From this basic system, several modifications are available to the instructor. For example, a third projector may be added to give 3 images at one time. This is somewhat harder to control as the operator must have all three controls in his hands at the same time.

Further modification is possible by adding a dissolve unit to the basic two or three-projector systems. In the case of the two-projector system, only one control unit is needed. However, the two-simultaneous-image advantage is lost. When a dissolve unit is