

* * * * *

DEVELOPMENT AND EVALUATION OF A COMPUTERIZED
DATA BANK OF INSERVICE EDUCATION NEEDS
OF VOCATIONAL AGRICULTURE TEACHERS

J. David McCracken Department of Agricultural Education
L. H. Newcomb The Ohio State University
Gary E. Moore

With the continuing shortage of qualified vocational agriculture teachers throughout the United States and the entry into the profession of a great number of marginally qualified teachers, the importance of a well planned inservice education program has become extremely important. Not only do the emergency or temporarily qualified instructors require assistance but so do most beginning teachers who have completed a teacher preparation program in Agricultural Education. The needs of these clientele coupled with the needs of established teachers to complete their masters programs makes it essential that teacher

educators do an even better job of planning course offerings to meet those diverse needs.

To compound the problem, teacher educators are beginning to find that fewer teachers are available for summer classes due to the pressure of extended service. Additionally, in some states, state department of education personnel are unable to give nearly as much attention to the needs of individuals as was once possible. Many universities find that their faculty members cannot accomplish as much as should be done. It therefore appears that any assistance in doing a better job of meeting the real inservice education needs of teachers of vocational agriculture is welcomed.

The Department of Agricultural Education at The Ohio State University has traditionally given heavy emphasis to inservice education of vocational agriculture teachers. Graduate education courses have been offered by the Department in three-week summer workshops and in off-campus locations during the school year. During 1973-74, 12 graduate courses were offered off-campus in various locations throughout Ohio; and in 1974-75, the current year, 12 courses will be offered off-campus.

There are approximately 640 local teachers and supervisors of agricultural education in Ohio. Many of these are teaching in specialty programs such as horticulture, agricultural equipment and mechanics, and agricultural business. During the last two years, about 100 new teachers have entered the profession in Ohio each year. This great influx of teachers, combined with the fact there was no comprehensive data bank of courses previously taken or desired by Ohio teachers, resulted in inservice education course planning on a quarter-to-quarter basis. The need for a systematic procedure based on the expressed needs and desires of teachers became apparent. A procedure was proposed which would collect, store, and provide information concerning teacher needs. The procedure is concerned only with courses for graduate credit even though non-credit classes are provided as a part of the total inservice education program.

Objectives

The major purpose of this procedure was to develop a system for collecting, analyzing and utilizing data for graduate level inservice education course offerings for vocational agriculture teachers of Ohio. The major objectives were to:

1. Develop a data bank having demographic data, graduate education status, and graduate and inservice education needs of vocational agriculture teachers in the State of Ohio
2. Provide useful data for decision-making within the Department of Agricultural Education at The Ohio State University.

Methodology

A questionnaire was designed to collect the necessary data used in this procedure. The first section of this questionnaire gathered demographic data. The second section listed 52 graduate courses to which the teachers were to respond by indicating courses they desired. The graduate courses listed were in Agricultural Education, Animal Science, Agronomy, Agricultural Engineering, Natural Resources, Agricultural Economics, and Horticulture. Space was provided for the teachers to write in additional courses they desired.

Members of the faculty reviewed the questionnaire and several graduate students completed it to determine the time involved and necessary revisions.

At the May (1974) District Vocational Agriculture Teachers Meeting, the teachers in each of the 14 Districts were asked to complete the questionnaire. The questionnaire was administered either by a district supervisor or a teacher educator. This collection procedure resulted in a 90 per cent response rate. The following week, questionnaires were mailed to the teachers who did not attend the district meetings. This follow-up produced an additional response of five per cent. The remaining non-respondents were contacted at the State agriculture teachers' conference in July and asked to complete the instrument.

After the collected information was punched on computer cards, the SPSS¹ computer package was used to analyze the data.

Findings

Three types of information were obtained as outputs of the procedure: demographic data about each teacher, cross-tabulations of vocational agriculture districts with courses desired, and various listings of teachers.

Demographic Data

The demographic data which was collected included:

1. Vocational Agriculture District
2. Taxonomy (Agricultural Specialization)
3. Degrees Possessed
4. Graduate School Enrollment Status
5. Interest in Taking Additional Course Work

¹Norman H. Nie, Dale H. Bent, and C. Hadlai Hull, Statistical Package for the Social Sciences, New York: McGraw-Hill Book Co., 1970.

6. Interest in Working on a Master's Degree
7. Interest in a Doctoral Program
8. Teaching Certificate Possessed
9. Institution Granting Degrees
10. Hours Needed to Renew Teaching Certificate

Cross Tabulations

Any of the variables placed in the data bank can be cross-tabulated with any other variable. Major cross-tabulations used to date is in providing the number of teachers in each of the 14 vocational agriculture districts who indicated they would enroll in given graduate courses. Another use includes a determination by district of the number of teachers needing credit hours for renewal of teaching certificates. The recent emphasis on specialization in specific taxonomies encourages the use of this procedure to determine graduate courses desired by teachers in these specialized technical agriculture areas. It should be apparent that the potential use of this procedure in providing cross-tabulation frequencies is much greater than has been utilized at this point in time.

Various Listings of Teachers

A useful output from the procedure has included listings of teachers on certain variables. In planning inservice course offerings, names of teachers in each district who desired certain courses were listed. This enables course offerings to be centrally located for the benefit of enrollees. Letters were sent to teachers whose names appeared on the lists to announce course offerings and secure their help in recruiting additional enrollees.

Graduate research associates were needed for this school year when late word was received concerning funding of a research project. A computer listing of teachers interested in a doctoral program was obtained from the data bank. This proved to be a valuable source in obtaining staff for the project.

The procedure can also be used to secure a list of persons interested in, but who are not yet admitted to, graduate work. The Department could then assist such teachers in processing their application to the Graduate School.

Problems

One would think that with a procedure like the one described, enrollment in inservice education would be up significantly during the 1974-75 school year. Such has not been the case. It is apparent that the procedure only provides data concerning a person's interest at the point in time the questionnaire is completed. It does not account for changes in interest, inability to pay fees, missed enrollment deadlines, etc. An important extraneous variable influencing current enrollment

is a change in enrollment procedures making it impossible for late registration for courses. It is apparent that this procedure cannot serve as a substitute for good public relations, communication with teachers, recruitment, and personal interest in each teacher's program.

Techniques For Updating The Procedure

For a procedure such as this to work, it is vital to update the data periodically. During the summer, the computer cards for those teachers who left the profession are removed from the data bank. New teachers are given the questionnaire to fill out during the new teacher workshop. At the end of each quarter; teachers who have completed graduate courses, received a new degree, or moved to a new district; have their cards pulled and the change in their status is entered on the card.

Summary

A computerized data bank of perceived course work needs for inservice training of vocational agriculture teachers has a large number of potential uses to the practitioner in teacher education. Foremost among potential uses is the opportunity to systematically design a procedure that would offer courses to local agricultural educators based upon their perceived needs. The data retrieved from this system allows the teacher educator to project over a fairly long period of time what courses should be offered in various geographical locations in the state.

The procedure described is a useful tool for the teacher educator and is deserving of further field testing concerning its possible uses and potential value. However, in the final analysis the utility of the procedure is as great as the imagination and needs of the educational planner. The procedure will provide useful information to assist the planner in decision-making. It does require continuing effort to maintain. It will not, however, sign teachers up for inservice courses.

* * * * *