

Illinois Vocational Association, American Vocational Association, Illinois Association of Vocational Agriculture Teachers, and the National Vocational Agriculture Teachers Association.

8. More than half (55 percent of the community college agriculture teachers are employed on nine-month contracts.

### Summary

Teachers of agriculture in Illinois community colleges are a diverse group of professionals. Their educational qualifications and their work experience in teaching and in agricultural industries vary considerably from college to college and from program to program. Since most community colleges employ more than one agriculture teacher, candidates who have specific expertise in a particular taxonomy area or specific ex-

perience in agricultural industry are in great demand.

The demographic data presented in this report should be of interest to teacher educators and others who design and conduct in-service education programs for agriculture teachers in community colleges. These in-service programs need to be designed for specific subgroups of teachers with unique interests and needs. A wide range of educational services needs to be considered by state staff and teacher educators who are engaged in professional development efforts for teachers of agriculture at community colleges.

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Walker, Robert W., Lowell Hillen, and Paul Hemp. Standards for Agricultural Occupations Programs in Illinois Community Colleges. Division of Agricultural Education, University of Illinois and Department of Adult, Vocational and Technical Education, Illinois Office of Education.

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# A Mini-Sabbatical Program — An Approach To Instructional Improvement

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### Abstract

*This paper describes a complete course revision resulting from an instructional improvement activity supported by the mini-sabbatical program of the Office of Instructional Resources, University of Florida. Purposes, procedures, and accomplishments are reported. Evaluative data indicated that this activity had a significantly positive influence upon student achievement and the way students viewed the instructor, course, visual materials, and supplemental materials. Faculty and graduate student evaluation also yielded positive results.*

### Introduction

The Office of Instructional Resources (OIR) at the University of Florida provides a variety of services to support and improve instructional programs. As part of this effort, competitive proposals are requested annually from faculty for the "Mini-Sabbatical Program." This program supports instructional improvement activities. Upon project approval, funds are allocated to provide 50 percent release time for one quarter for the faculty members involved, as well as professional assistance in production of materials and development of specialized instructional procedures. Thirty-five proposals were submitted for the 1976-1977 academic year, 14 were approved with full funding and six received some support (Webb, 1978). This is a report of a project supported through the Mini-Sabbatical Program for the 1976-1977 academic year.

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### Purpose and Objectives

The central purpose of this project was to develop innovative instructional procedures and materials for Development and Philosophy of Agricultural Education (AED 321). To achieve this purpose, the following objectives were developed and served as the framework for executing the project:

1. Develop instructional objectives for the course.
2. Develop and/or revise instructional plans.
3. Develop and/or revise student instructional materials (handouts).
4. Develop appropriate visuals for each unit of instruction including 35mm slides and overhead transparencies.
5. Develop one self-instructional module.

### Procedure

To achieve objective one, research studies concerning competency-based vocational teacher education, and specifically agricultural education, were reviewed to assist in determining the specific competencies that should be developed. Of primary concern was the study by Cheek, Beeman, and Adams (1977) regarding professional competencies needed by agribusiness and natural resources teachers in Florida. Also, the course outline and purposes of the course in relation to other courses within the department served as a basis for determining the competencies that should be addressed. Specific instructional objectives were then developed using the identified competencies.

Objective two was accomplished by developing a detailed plan of instruction based on the competencies and instructional objectives identified in objective one. Also, the method or methods of teaching were examined and

modified when appropriate. This involved re-organizing, modifying, and/or developing new instructional plans and analyzing instructional methods and making appropriate modifications.

All student instructional materials (handouts) were reviewed and modified when necessary. Furthermore, the literature related to the course was searched to identify additional materials. Moreover, selected departments of agricultural education in the United States were contacted and requested to supply materials used in similar courses at their respective institutions. In addition, the instructor developed materials where voids were detected. All materials were subsequently reproduced for use in the course. These activities made possible the achievement of objective three.

Objective four was accomplished by determining those concepts which could most effectively be taught using visuals. Following this determination, appropriate visuals (35mm slides and overhead transparencies) were developed.

To accomplish objective five, one instructional unit was selected for developing a self-instructional module. Two modules of individualized instruction were acquired from The Center for Vocational Education, The Ohio State University: "Develop a Personal Philosophy Toward Student Vocational Organizations" (The Ohio State University, 1975) and "Develop and Maintain a Personal Philosophy of Education" (The Ohio State University, 1976). They were modified and restructured into a module of instruction entitled "Developing a Personal Philosophy of Agribusiness and Natural Resources Education."

## Results

The following outcomes were evident as the result of this instructional improvement activity:

1. Seventy-five objectives were developed using a behavioral objective format.
2. Based on the instructional objectives, current and up-to-date instructional plans were developed for each unit of instruction and the method or methods of instruction to be used were specified.
3. Current student instructional materials (handouts) were developed for each of the 13 units of instruction. Fifty three handouts were developed.
4. Eighty professionally prepared transparencies and 218 professionally prepared 35mm slides were developed. In addition, 237 35mm slides were taken by the instructor which are related to the instructional programs, facilities, equipment, land laboratories, and FFA activities in Florida.
5. One self-instructional module involving writing one's philosophy of agribusiness and natural resources education was developed.

## Evaluation

In the Fall quarter 1976, the course was taught using existing course materials and instructional procedures. This provided base-line data upon which to determine the impact of this instructional improvement activity. During the Winter quarter 1977, the mini-sabbatical occurred. Development and subsequent production of the new materials and procedures extended beyond the Winter quarter 1977, thus varying amounts of new and revised materials and procedures were available for use during Spring quarter 1977 and Fall quarter 1977. All new materials and procedures were used in the Spring quarter 1978. Consequently, evaluative data are presented for the Fall quarter 1976 (control quarter); Spring quarter 1977 (quarter one); Fall quarter 1977 (quarter two); and Spring quarter 1978 (quarter three). Three criteria were used to evaluate the impact of the mini-sabbatical on instructional improvement. These criteria were (1) student performance data as determined by student knowledge gains between a pre-test and a post-test; (2) Institute of Food and Agricultural Sciences (IFAS) course and teacher evaluation data; and (3) faculty and graduate student comparisons of pre-mini-sabbatical and post-mini-sabbatical course materials and procedures.

### Student Performance Data

As a means of evaluating the effectiveness of the mini-sabbatical, the relative change in student knowledge was calculated. Students were administered a pre-test on the first day of class and a post-test during the week of finals to determine the extent of knowledge gained as a result of the course. The identical pre-test and post-test administered during the control quarter could not be utilized in the post-mini-sabbatical quarters because of modifications that occurred in course content as a result of the activities conducted during the mini-sabbatical. However, a substantial degree of similarity existed between the test used in the control quarter and the test used in subsequent quarters.

Table 1 shows comparisons of pre-test and post-test means by quarter. The least gain in knowledge occurred in the control quarter and quarter one; the greatest gain occurred in quarters two and three. The gains in the latter two quarters may be partially attributed to the lower pre-test means; however, the greatest knowledge gain occurred in the latter two quarters. Based on these findings, it was concluded that the mini-sabbatical did have a positive influence upon the relative change in student knowledge.

Table 1. Pre-Test and Post-Test Means By Quarter .

Quarter	Means		Difference
	Pre-Test	Post-Test	
Control	32	88	56
One	33	89	55
Two	25	87	62
Three	16	83	67

## Course and Teacher Evaluation

The IFAS course and teacher evaluation instrument was administered during the last week of classes for the four quarters involved. Eighteen items were averaged to produce the instructor and course mean and two items were averaged to yield the visual and supplemental materials mean. Each item was responded to on a four-point Likert scale with numerical values equated to responses as follows: 1 - Poor; 2 - Adequate; 3 - Good; and 4 - Outstanding.

Table 2 shows the means for instructor and course and means for visual and supplemental materials. The instructor and course means increased from pre-mini-sabbatical assessment when compared with post-mini-sabbatical evaluations. A more dramatic increase is evident regarding visual and supplemental materials means.

**Table 2. Results of IFAS Course and Teacher Evaluation Instrument by Quarter**

Quarter	N	Instructor and Course Means	N	Visual and Supplemental Materials Means
Control	23	3.31	20	3.15
One	25	3.47	24	3.33
Two	26	3.66	24	3.54
Three	21	3.59	20	3.70

Analysis of variance was performed on these data to determine if statistical differences existed among quarters with the .05 level of significance set as the critical standard. Significant differences were found at the .01 level ( $F=4.46$ ) among the four quarters for instructor and course means and at the .05 level ( $F=3.48$ ) among the four quarters for visual and supplemental materials means.

Since a significant F-value was determined, the Duncan's multiple range test was calculated to determine where significant differences lay. The results of the analysis regarding instructor and course means are displayed in Table 3. Significant differences did not exist among quarters one, two, and three; and no significant difference was determined between the control quarter and quarter one. However, significant differences at the .05 level did exist between quarters two and three when compared to the control quarter. Based on these findings, it was concluded that students viewed the course and instructor more positively at the completion of the mini-sabbatical than before.

**Table 3. Duncan's Multiple Range Test for Instructor and Course Means By Quarter at the .05 Level of Significance**

Quarter	N	Means	Groupings
Two	26	3.66	A
Three	21	3.59	A
One	25	3.47	A B
Control	23	3.31	B

Means with the same letter are not significantly different at the .05 level.

Table 4 displays data relative to Duncan's multiple range test regarding visual and supplemental materials means. Significant differences did not exist among quar-

ters one, two, and three and between the control quarter and quarter one. However, significant differences at the .05 level were determined between quarters two and three when compared to the control quarter. Based upon these results, it was concluded that a statistically significant increase occurred in the quality of visual and supplemental materials used in the course as the result of the mini-sabbatical.

**Table 4. Duncan's Multiple Range Test for Visual and Supplemental Materials Means by Quarter at the .05 Level of Significance**

Quarter	N	Means	Groupings
Three	20	3.70	A
Two	24	3.54	A
One	24	3.33	A B
Control	20	3.15	B

Means with the same letter are not significantly different at the .05 level.

## Faculty and Graduate Student Evaluation

The final method employed to evaluate the impact of the mini-sabbatical on instructional improvement was to have a faculty member and a graduate student compare the pre-mini-sabbatical and post-mini-sabbatical course materials and procedures. A questionnaire was developed which sought to determine opinions regarding various aspects of the course (instructional plan, visual materials, student instructional materials, objectives, overall unit evaluation, course outline and requirements, and overall quality of course materials). Each item was responded to a six-point Likert scale with numerical values equated to responses as follows: 1 - Did not exist; 2 - Not satisfactory; 3 - Fair; 4 - Satisfactory; 5 - Very good; and 6 - Excellent. Means for each item were then calculated. Dr. Joe P. Bail, Visiting Professor in the Department of Agricultural and Extension Education, University of Florida, served as the faculty evaluator and Miss Ellen Grygotis, graduate assistant in the department, served as the graduate student evaluator. These evaluations were conducted during the Spring quarter 1978.

Of the 62 different aspects evaluated, all areas increased with the exception of three. The most vivid improvements resulting from the mini-sabbatical were in the areas of visual materials and student instructional materials. This finding is also supported by the findings presented on Table 2 and Table 4. Based upon the results of this evaluation, it was also concluded that the mini-sabbatical had a positive effect upon the quality of the course materials and procedures.

## Recommendations

Based upon the results that emerged and evaluative data obtained from this mini-sabbatical, the following recommendations appear to be in order:

1. The University of Florida should augment the mini-sabbatical program by supporting a greater number of participants on an annual basis.

2. A more intense effort should be made to create an awareness of the mini-sabbatical program among faculty and encourage submission of proposals.
3. An annual faculty seminar should be established for disseminating the results of mini-sabbatical projects developed by faculty.
4. Universities interested in improving instruction should support similar activities.

## References

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# Resources for Teaching and Learning

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## Theory and Practice

Theory and practice must interact constantly in any intellectual activity of man — including teaching. The learning resources center's program can provide a base for interaction between theory and practice.

The most important characteristic of a profession is that its technique is founded upon a body of systematic theory and research which is being expanded constantly by intellectual activities within the profession. Teaching is a profession, and audio visual communication — as it relates to materials, technology, and methodology within teaching — is part of this profession. However, the instructional resource and development field has not always clearly defined the relationship between theory and practice. It is not a matter of relating to one or the other. For example, some teachers insist they want to be "practical," not "theoretical," and that "experience" is the thing; others think theory is somewhere near the heavenly bodies and their teaching labors on the far edge of reality and filled with suppositions.

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This either/or attitude, as Gerald M. Torkelson, former president of the Association of Educational Communication and Technology, said, "is a total misunderstanding of the nature of reflective thinking, scientific progress, and the well springs of human behavior." Without interaction of theory and practice, a field or profession can go only so far.

Theory provides the base and structure for research, and research subsequently provides guidelines and direction for practice.

Much basic teaching/learning research never becomes visible to the practicing teacher. This is for several reasons. The quantity and mass of published data is difficult to search and evaluate. Also, much data is collected and shelved to meet the requirements of graduate programs and not necessarily to research a basic teaching or learning problem. Another important reason is the understanding and attitude of the teacher. Teachers need to use the methodology of the researcher in evaluating their own methods and materials. All teachers should use some procedure to assess instructional methods and materials. Although primitive, such a procedure is a research methodology. With this as a developed attitude, teachers would more aggressively search the findings and the reflective and futuristic thinking of their profession. Teaching is mostly an individual matter. To progress within a profession, whether they be teachers or researchers, individuals must be involved in the interaction between theory and practice.

A good learning resource center will provide a base for interaction between theory and practice. Its faculty curriculum resources laboratory develops new materials and techniques. Its student materials and learning center

