

An Evaluation of the Illinois Rural
Core I Curriculum

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In recent years, vocational agriculture teachers have voiced a concern regarding organizing and maintaining quality programs which adequately serve a wide range of students, given the limited resources in many schools. Central to the problem is curriculum design. Many vocational agriculture teachers have not been offering an organized, comprehensive vocational agriculture program. Hemp (1980), and Blezek and Dillon (1980) have suggested that the development and implementation of a basic core curriculum could be a positive factor in rebuilding some of the weaker programs in vocational agriculture.

Background

Recognizing the problem, the Department of Adult, Vocational and Technical Education (DAVTE), Illinois State Board of Education, funded a research and development project in 1980 to develop and implement a core curriculum for vocational agriculture programs in Illinois. The Illinois Core Curriculum in Agriculture Project was designed as a five-phase project. Phase I concentrated on a review of existing curriculum literature and identified and analyzed employment needs and trends in the agricultural industry of Illinois. Phase I was conducted during a five month period in 1980. Phases II through V were funded over a four year period beginning in July 1980, and ending in June 1984. The general objectives of Phases II, III, IV, and V were to develop and disseminate an Illinois Core curriculum for rural (agricultural production and supply-service) vocational agriculture programs and for metropolitan (horticulture) vocational agriculture programs. Although Illinois concurrently developed and disseminated both rural and metropolitan core curriculum materials, only evaluation data about the rural core curriculum materials has been collected so far and will be presented in this article.

A review of related literature suggested that some states which developed a core curriculum for vocational agriculture programs had used the Mid-America Vocational Curriculum Consortium format, with many states using the Oklahoma Core Curriculum for Vocational Agriculture as the basic source of content (DAVTE, 1980). An early concern of the project developers, which was alluded to by Bradley (1976), was that as teachers increase their use of a core curriculum they decrease their use of problem solving and other teaching techniques. These teachers rely primarily upon the presentation (lecture) of subject matter in the core curriculum and do not localize and personalize their lessons (DAVTE, 1980). Therefore, the Core Curriculum Project staff along with a state-wide core curriculum advisory

committee developed a design which was structured to encourage a variety of problem-solving teaching techniques. The basic components of the Illinois Core Curriculum are categorized into units and problem areas. Each problem area includes some or all of the following components:

1. Suggestions to the Teacher
2. Teacher's Guide
 - a) suggested objectives
 - b) suggested interest approaches
 - c) anticipated problems and concerns of students
 - d) suggested learning activities
 - e) application procedures
 - f) evaluation procedures
 - g) references and aids
3. Competency Inventory
4. Information Sheets
5. Student Worksheets with Teacher's Key
6. Student Job Sheets (demonstration sheets)
7. Transparencies with Discussion Guides
8. Sample Test Questions with Teacher's Key

This combination of instructional materials was designed to be used as a source unit which would make up 60% of the instructional program.

Purpose and Objectives

The purpose of the study reported here involved an evaluation of the Illinois Core Curriculum to ascertain the degree of use by Illinois teachers and how the Curriculum had influenced selected areas of teaching. Lee (1975) asserted that instructional materials can only delineate a curriculum if they are used by teachers in the conduct of their instructional programs. Therefore, an evaluation study (Pepple, 1982) of the Illinois Core I Curriculum was conducted at the University of Illinois.

The major objectives of this study were:

1. To determine the specific use-rate of the selected core curriculum materials during the first semester of the 1981-82 school year.
2. To determine how the core curriculum influenced teaching practices, skills, and satisfaction of teachers with their classroom teaching during the first semester of the 1981-82 school year.

Procedure

Design and Population

A descriptive method of research, using a mail questionnaire, was used for this study. The identified population for the study was all 271 Illinois teachers of vocational agriculture who received the Core I Curriculum materials.

Instrument Development

The instrument used in this study was a questionnaire developed by the researcher. In the development of the actual items for this instrument, a panel of experts was used plus recommendations found in the review of literature. This contributed to improvement of content validity for the instrument. Reliability was evaluated by use of a test-retest method through the field-test teachers of the Core I materials. The instrument had a .71 reliability coefficient score.

Question one listed all 26 problem areas included in the Illinois Core I Curriculum. Respondents were asked to indicate which problem areas they taught during the fall semester. The degree to which each was used was indicated by marking the following scale, which was developed by a panel of agricultural educators and the Survey Research Laboratory Staff at the University of Illinois.

Not at all	Only a little	To some degree	To a high degree	To a very high degree
1	2	3	4	5

Question two consisted of 16 statements which were designed to elicit a response concerning the degree of influence the Illinois Core I Curriculum had on four selected areas within their local program by using the following scale.

Not at all	Only a little	Some- what	A great deal	A very great deal
1	2	3	4	5

Questions three and four were used to determine how the perceived use of selected instructional methods changed due to the Core I materials. These questions listed 11 possible teaching methods. Respondents indicated if the Core I Curriculum materials had influenced the use of these methods. A scale of one (less), two (about the same), and three (more) was used to determine the perceived use of the selected teaching methods.

The remaining questions were concerned with collection of demographic data for comparison of responses among sub-groups of respondents within the sample. Three open-ended questions were included to allow respondents an opportunity to provide more detailed information on their use and feelings toward the advantages and disadvantages of the Core I Curriculum. Fullan and Pomfret (1977) reported that questionnaires can be effective in assessing the degree of implementation of curriculum innovations when both specific and open-ended questions are asked.

Data Collection

The questionnaire was mailed to 271 teachers along with instructions, a cover letter explaining the purposes and importance of the study, and a self-addressed stamped envelope for returning the completed questionnaire. Each questionnaire was coded to permit follow-up. A follow-up postcard was mailed two weeks after mailing of the initial questionnaire to schools which had not returned the form.

A second follow-up letter was mailed about three weeks after the first follow-up postcard. The second follow-up included a cover letter and another copy of the questionnaire. The final returns were delivered to the Survey Research Laboratory for key punching and verification. A total of 222 (81.9%) of the original 271 vocational agriculture teachers completed and returned usable questionnaires for this study.

Findings

Use of the Core I Curriculum

As shown in Table 1, all of the 26 Core I problem areas were used during the first semester by one or more respondents. When asked the degree each problem area was used during the first semester, respondents reported a mean degree-of-use score of 3.0 or higher on 12 (46.2%) of the 26 problem areas. A rating of 5.0 would indicate a very high degree of use, while a rating of 1.0 would indicate no use of the problem area. As might be expected, problem areas relating to FFA, SOEP, orientation, and agricultural careers were among the most highly used by more than 75% of the respondents. Problem areas which related to seasonal agricultural work during the spring (growing corn, growing soybeans, growing vegetables) were used the least during the fall semester.

Table 1

Percentage of Respondents Using Each Problem Area and Degree Each Was Used

Problem areas	% Respondents using problem area	Degree of use	
		\bar{X}	SD
1. Understanding and participating in FFA	94.1	3.6	1.07
2. Introduction to school, the agriculture program and FFA	90.1	3.3	.90
3. Orientation to supervised occupational experience	88.7	3.2	1.15
4. Starting and keeping S.O.E.P. records	85.6	2.9	1.18
5. Duties and responsibilities of FFA members	85.1	3.2	1.11
6. Planning my supervised occupational experience program	81.1	3.1	1.15
7. Developing parliamentary procedure skills	80.2	3.3	1.17
8. Identifying careers in agriculture	77.5	3.2	1.09
9. Identifying breeds of livestock and poultry	68.9	3.1	1.17
10. Introduction to agriculture and society	65.8	3.2	1.08
11. Identifying crop and weed seeds	64.0	2.8	1.20
12. Judging quality of grain for seed and for market	55.9	2.8	1.25
13. Developing safe work habits in agricultural mechanics	55.9	3.1	1.16
14. Selecting livestock	55.4	2.8	1.11
15. Understanding the livestock industry	53.6	3.0	1.14
16. Feeding livestock	49.5	2.8	1.06
17. Collecting soil samples	48.2	2.7	1.27
18. Identifying, fitting and using hand tools	45.5	3.1	1.17
19. Developing basic carpentry skills	41.4	2.9	1.21
20. Growing corn	41.0	2.7	1.13
21. Applying soil sample test results	40.2	2.7	1.25
22. Using selected power tools	40.1	2.9	1.17
23. Growing soybeans	37.8	2.7	1.16
24. Developing public speaking skills	36.0	2.9	1.20
25. Growing vegetables	17.1	2.8	1.02
26. Beautifying the homestead	14.4	2.4	1.03

Note. Degree of use determined by scale where 1 = not at all, 5 = to a very high degree.

Influence on Teaching Program

Sixteen questions were asked to determine the perceived influence the Core I Curriculum had on the teaching program of the respondents. These questions were selected to ascertain information on four major areas. These areas were: Satisfaction with classroom teaching, improvement of instruction, inclusion of relevant instruction to a greater range of agricultural occupations, and integration of FFA and SOE into the curriculum. A five point Likert-type scale was used to ascertain the perceived degree of influence. A rating of 5.0 would indicate a very great deal of influence and a rating of 1.0 would indicate no influence at all. Four questions were asked per area and the scores were summed and averaged.

It was determined that the Core I Curriculum had the greatest degree of perceived influence on satisfaction with classroom teaching and improvement of instruction on satisfaction with classroom teaching and improvement of instruction with mean responses of 3.51 and 3.34 respectively. Respondents reported the Core I Curriculum had only "a little" to "somewhat" of an influence in helping them relate their instruction to a greater range of agricultural occupations (2.88) and in integrating the FFA and SOE into their curricula (2.85). The four selected areas and responses are presented in Table 2.

Influence on Teaching Methods

Respondents indicated the Core I Curriculum did influence their use of various teaching methods. Almost 40% of the respondents indicated they believed the Core I materials influenced them to use the discussion method more than they had previously been using it. Over 33% reported an increase in the use of problem-solving as a method of teaching. Nearly 33% of the respondents indicated an increase in the use of laboratory exercises, supervised study, and written tests. Over 20% reported an increase in the use of skill tests and the lecture method when teaching. However, about 20% of the respondents indicated they were using the lecture method less as a result of the influence of the Core I materials. It is also noted that only 11% of the respondents reported an increase or decrease in the use of field trips and resource speakers. This may suggest that the use of field trips and resource speakers as teaching methods are more strongly influenced by numerous external factors or conditions than are the other nine methods. This information is presented in Table 3.

Open-Ended Responses

Additional information pertaining to the degree the Core I Curriculum helped respondents teach more effectively was obtained from item 10 on the questionnaire which asked, "Do you think the Illinois core curriculum materials have enabled you to teach more effectively?" "Why is that?" In response to this question, 214 (96.4%) answered "yes" and 8 (3.6%) answered "no".

Table 2

Core Curriculum's Influence on Selected Areas of Respondents' Teaching Program

Group	\bar{X}	SD
Satisfaction with classroom teaching	3.51	.82
Improvement of instruction	3.34	.78
Inclusion of relevant instruction to a greater range of agricultural occupations	2.88	.86
Integration of FFA and SOE into curriculum	2.85	.92

Note. Degree of influence determined by scale where 1 = not at all, 5 = a very great deal

Table 3

Core Curriculum's Influence on Respondents' Use of Selected Teaching Methods

Method	% Respondents using each method	
	Less	More
Discussion	3.6	39.2
Problem solving	1.8	35.1
Supervised study	6.3	29.3
Written tests	3.2	29.3
Laboratory exercises	4.1	29.3
Lecture	19.8	22.5
Skill tests	4.1	21.2
Demonstration	1.8	18.0
Student reports	8.1	10.8
Resource speakers	7.2	4.5
Field trips	7.7	3.6

The total responses were content analyzed and grouped into three areas. The most common way mentioned (50.9%) in which the Core I Curriculum helped respondents teach more effectively was by providing well organized, updated, current information and by providing new teaching ideas on what could be taught in a first-year vocational agriculture course. Saving time, improving efficiency, and improving planning time was the next most common way the core helped with teaching effectiveness (34.3%), followed by suggesting new teaching methods and teaching techniques (20.8%). The number and percentage of responses in each area are shown in Table 4.

Table 4

Ways Mentioned in Which Core Curriculum Helped Respondents Teach More Effectively

Grouped responses	n	%
Updated, current information; new subject ideas; well organized	113	50.9
Saves time; helps efficiency; improves planning time	76	34.3
New teaching methods and techniques	46	20.8

Information pertaining to problems respondents had with the core materials was obtained from item 11 on the questionnaire which asked, "In what ways, if any, have using the core curriculum materials been a problem for you?"

The total responses were content analyzed and grouped into five areas. The most frequently mentioned (20.7%) problem with using the core curriculum materials was the need to get familiar with the core's organization. Respondents indicated that locating specific items was time consuming. Also, the respondents mentioned that the material was hard to adapt to their old habits and old materials. Needing to use the material more, needing core curriculum materials in other classes, and recognizing that it is now harder to teach the other classes without the core curriculum, was the next most mentioned problem (9.0%). About 9.0% of the respondents indicated the materials did not match what they were currently teaching to their freshman classes and 6.4% indicated the large amount of core materials was a problem in using the Core I Curriculum. One hundred twenty-six (56.8%) of the respondents did not report any problems with using the core curriculum materials. The number and percentage of response in each area are recorded in Table 5.

Information pertaining to how the core curriculum could benefit the vocational agriculture programs in Illinois was obtained from item 12 on the questionnaire which asked, "Briefly, what do you feel the chief benefits, if any, of the core curriculum have been to Illinois in general?"

The total responses were content analyzed and grouped into six areas. The most frequently (35.6%) mentioned benefit of the core curriculum was to beginning teachers by helping them plan better lessons, organize their classes, and save class preparation time. Unifying and standardizing Illinois agriculture programs was the next

Table 5

*Ways Mentioned in Which the Core Curriculum Materials
Had Been a Problem*

Grouped responses	n	%
None	126	56.8
Hard to adapt to; need to get familiar with organization; material hard to find	46	20.7
Harder to teach without it; needed in other classes; need to use it more	20	9.0
Does not fit my class(es); not what I teach; don't have the references	19	8.6
Too much material; vast amount of material	14	6.4

Table 6

*Ways Mentioned In Which Illinois Teachers Could
Benefit from the Core Curriculum*

Grouped responses	n	%
Saves beginning teachers time; helps beginning teachers organize classes; better lesson plans	79	35.6
Unify vocational agriculture programs in Illinois; consistency among agriculture programs	71	32.1
Improve quality of vocational agriculture programs in Illinois; teachers can get at basics	41	18.5
Reduce class preparation time; easier to prepare for unfamiliar subject areas	33	14.9
Help experienced teachers update material; keeps teachers current	26	11.8
None	23	10.4

most frequently (32.1%) mentioned benefit of the core curriculum to Illinois programs in general. Other benefits of the core curriculum involved helping teachers get at the basic skill and knowledge areas in vocational agriculture (18.5%); reduce class preparation time for unfamiliar subject areas (14.9%), and assisting experienced teachers in updating and keeping their classes current (11.8%). Twenty-three (10.4%) of the respondents did not mention any benefit to Illinois programs in general from the core curriculum. The number and percentage of responses in each area are recorded in Table 6.

Conclusions

Based upon the findings of this study, it was concluded that the Illinois Core I Curriculum was being widely implemented by Illinois vocational agriculture teachers during the first semester that it was available. A majority of the respondents were not using all of the content in the Core I Curriculum, but selected from and localized the core curriculum to meet their individual needs.

Respondents reported a perceived improvement in their instruction and satisfaction with teaching when they used the Core I Curriculum. While it cannot be concluded that the Core I Curriculum caused all of these responses, the open-ended questions support the suggestion that these improvements were enhanced by the Core I Curriculum.

The format design of the Illinois Core I Curriculum enhanced the using of a variety of teaching methods. It would appear that teachers need inservice instruction to assist them in becoming familiar with the organization and content of the Core I Curriculum as this was reported as a problem by over 20% of the respondents.

Overall, respondents believed the Core I Curriculum will help standardize Illinois vocational agriculture programs and improve their quality as reported in their responses to open-ended questions.

Recommendations

Based on the findings of this study and professional judgment, the following recommendations are offered to aid in developing, implementing, and evaluating new curriculum materials such as the Illinois Core Curriculum.

1. New curriculum materials should provide teachers with new instructional content. One of the benefits of new curriculum materials is that they improve teachers' efficiency and reduce their course planning and preparation time.

2. New curriculum materials should provide suggested methods of incorporating SOE and youth organization activities into the classroom subject areas.
3. New curriculum materials should suggest alternative teaching methods and techniques to assist new and experienced teachers in providing more variety to their classroom instruction.
4. Curriculum materials must be kept current, and therefore, strategic revisions must be made as the materials become dated.
5. It is recommended that student teachers receive instruction on using newly developed curriculum materials in their methods classes to help promote continual usage as new teachers enter the profession.
6. As a means of dissemination, preservice and inservice workshops should be utilized. These workshops should emphasize the purpose and organizational sequence of the new materials. This will familiarize teachers with the new content so it is less threatening. This procedure will help insure a higher use rate of new curriculum materials.
7. It is suggested that research be conducted to determine the major classroom references used by local teachers and the new curriculum materials should be based on these references, when desirable, and recommend them as sources. This will reduce a school's financial outlay when teachers adapt the new curriculum materials into their program.

Finally, implementation of these recommendations by those who develop curriculum materials in agricultural education in the United States should do much to improve the use of new materials by teachers. Further, it is reasonable to expect that the quality of instruction should be strengthened as a result of improved materials use.

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