Utilization of Instructional Materials on Supervised Occupational Experience

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Increased production of instructional materials for vocational agriculture characterized the decade of the 1970s. These materials were developed to help teachers provide meaningful educational experiences for students. Before this goal can be accomplished the materials developed must be disseminated and utilized. In the case of instructional materials, dissemination involves four basic elements: (a) availability of the new materials, (b) communication from the originator to the teachers, (c) spreading of the information related to the materials among teachers in a given area, and (d) decision on the part of teachers to use the materials (Gillie, 1971).

The literature is almost void of research pertaining to dissemination of vocational agriculture instructional materials. Are the materials developed being used by teachers? How did teachers become aware of the materials? What factors influence teacher utilization of newly developed instructional materials? These and other questions were asked in regard to supervised occupational experience (SOE) instructional materials (referred to as "SOE packet" or "packet" hereafter) developed in 1977 at Iowa State University (Williams, 1977). The SOE packet was designed as a 15-hour unit to aid instructors in teaching beginning vocational agriculture students to select and plan their SOE programs.

Briers (1978), in an experiment designed to evaluate the SOE packet, found the materials to be effective in assisting teachers to work with beginning vocational agriculture students in selecting and planning SOE programs. Therefore, the packet was printed and disseminated through one day inservice education meetings for Iowa vocational agriculture teachers. Inservice meetings on how to use the packet were conducted at seven locations in the state during the summer of 1978. One of these inservice meetings was held at the 1978 Iowa Vocational Agriculture Teachers' Conference to serve teachers who could not attend the inservice meeting in their district. The Iowa Association of Vocational Instructional Materials stocked the SOE packet and announced its availability in 1978 through a display at the Iowa Vocational Agriculture Teachers' Conference and through the Association's catalog. The SOE packet was also introduced into the Agricultural Education preservice program beginning in the Fall of 1978.

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Purpose and Objectives

This research (Almazan, 1981) was designed to assess the extent to which the SOE packet was being utilized by teachers and to study teacher and situational factors related to utilization of the packet. The specific objectives were:

1. To determine how teachers became aware of the SOE packet.

2. To determine the degree that the SOE packet was being utilized by Iowa vocational agriculture teachers.

3. To determine if a significant relationship existed between the degree of utilization of the SOE packet and selected teacher and situational variables.

Methodology

The population for the study consisted of all Iowa vocational agriculture teachers who in the fall of 1980 had a minimum of two years teaching experience at their present locations and who had taught a class of beginning vocational agriculture students the previous year. To insure geographical representation, a stratified random sample of ninety teachers was drawn with fifteen from each vocational agriculture district.

Three instruments were developed by the researchers to collect data for this study. A questionnaire was used to collect personal and situational data from the vocational agriculture instructors. Included in this instrument was one item where teachers rated how they perceived their administrators' attitude toward SOE as an instructional method in vocational agriculture using a five-point scale where 1 = strongly disagree, 3 = undecided, and 5= strongly agree.

An instrument was developed to measure the degree of teacher utilization of the SOE packet in teaching beginning vocational agriculture students. To determine the items for the utilization scale, statements were developed describing specific learning activities included in the SOE packet. A panel of five judges rated these statements on a 1 through 9 scale based on the degree that each represented complete use of the SOE packet. The thirty statements included on the final scale did not vary more than three points among the judges and had a mean rating of six or above. The judges' mean rating for an item was used as the weighted value. Teachers in the sample were instructed to simply indicate "yes" or "no" for each of the thirty items on the scale based on their work with beginning vocational agriculture students. The weighted values for items answered "yes" were summated to yield a utilization score for each teacher.

An attitude scale (adapted from Briers, 1978) that included thirty-eight statements about SOE and a response framework of 1 =

strongly disagree, 6 = undecided, and 11 = strongly agree was developed and used to obtain a summated attitude score for each teacher.

Data were collected by mail during October and November, 1980. Eighty of the ninety teachers in the sample completed and returned the instruments, yielding a response rate of 89%.

Frequencies and means were used in summarizing the data. Pearson product-moment coefficients of correlation were calculated to test for relationships between utilization score and selected teacher and situational variables.

Findings

Utilization of SOE Packet

According to data in Table 1, 35% of the vocational agriculture teachers became aware of the SOE packet through the Iowa Vocational Agriculture Teachers' Conference, 30% through inservice meetings sponsored by the Agriculture Education Department, and 10% through preservice education at Iowa State University. Only 5% of the respondents were not aware of the SOE packet.

When asked, "What single factor has most encouraged you to use the materials and procedures included in the SOE packet?", three-fourths of the teachers identified "comprehensive review of packet on my own" or "success in using portions of the packet" as reported in Table 1. This finding reveals that ways and means to get teachers to actually use new materials is an important step in introducing instructional materials to teachers.

These findings regarding sources of awareness and encouragement to utilize the SOE packet concurs with Havelock's (1979) theory that successful introduction of an innovation, including introduction of new instructional materials, is a two-step process that involves dissemination and demonstration.

The degree of utilization of the SOE packet was measured by asking teachers whether they had used specific learning activities included in the SOE packet. A "yes" response to a learning activity yielded a predetermined weighted value. A "no" response to an activity was valued as zero. When the weighted values for all activities with a "yes" response were totaled, a summated utilization score of 220 was possible. The utilization scores for the 80 respondents ranged from 13 to 220 with a mean of 157. A majority of the teachers had used most of the learning activities included in the scale, indicating a high degree of utilization of the SOE packet among vocational agriculture teachers within two years of its initial introduction.

A closer examination of the learning activities used by most teachers and the ones used by a limited percentage of the teachers

Table 1

Teacher Sources of Awareness of and Encouragement to Utilize the SOE Packet

Variable	n	Percent
Sources of awareness of the packet		
Not aware	4	5.0
Assisted with development	7	8.7
ISU inservice program	24	30.0
ISU preservice	8	10.0
Curriculum center	1	1.3
Vo-Ag teachers' conference	28	35.0
Another vo-ag teacher	3	3.7
Other	5	6.3
Sources of encouragement to use the packet		
None	12	14.9
Other teachers	1	1.3
University Ag. Ed. staff	5	6.3
Comprehensive review of the packet on my own	23	28.7
Successful use of a portion of the packet	38	47.5
Other	1	1.3

reveals some implications for instructional material development. Learning activities that required interaction with or organization of human resources outside the vocational agriculture department were utilized by less than 25% of the teachers. With the exception of informing parents, teachers were somewhat reluctant to use activities that involved parents, older students, business people, and farmers. The learning activities used by 25% or less of the teachers were:

1. sent letters to parents of students informing them that SOE program development will be discussed in the vo-ag class.

2. utilized panel of upperclass students, former students, farmers and/or others to discuss with students the purposes and benefits of SOE.

3. scheduled a student-parent meeting to discuss development of an SOE program.

4. directed students to interview selected people in the community as a means of studying agricultural occupations.

5. arranged for a panel of older students to discuss characteristics of successful SOE programs.

6. conducted a parent-student meeting that focused on selecting student SOE program.

Most of the learning activities that required only classroom interaction between the teacher and the students were utilized by a large percentage of the teachers in the sample. The learning activities used by 75% or more of the teachers in the sample were:

1. explained the relationship of SOE to classroom-laboratory instruction and FFA.

2. explained role of parents and teacher in supervising students' SOE program.

3. discussed the selection of an SOE program with students.

4. emphasized to the students that their agricultural interests should be considered in selecting their SOE program.

5. directed students to make a tentative choice of SOE program with the assistance of their parents.

6. guided students in planning the SOE program they selected.

7. discussed with students how SOE programs can expand over time and provide a way to grow into an agricultural occupation.

8. discussed the roles of students, the parents, and the teacher in planning SOE programs.

Careful consideration must be given to recommended learning activities in instructional materials. When learning activities involving outside resources are suggested, procedures for activating such resources in an efficient and effective way should be provided. Another possible consideration may be that teachers need more time to make decisions about utilization of activities that involve resource people than they do about activities that are classroom contained.

Teacher Attitude Toward SOE

As shown in Table 2, 98% of the teachers had SOE attitude scores above 229, indicating that most teachers had a favorable attitude toward SOE programs. The mean attitude score was 346.58 and the range was 28 to 411. A score of 418 (ratings of 11 for all 38 items) was possible.

Table 2

Teacher Attitude Toward SOE

Summated attitude score	Attitude score adjusted to 11-point scale (undecided = 6.0)	n	Percent
114 - 228	score $\leq$6.0	2	2
229 - 342	6.0 score $\leq$9.0	24	30
343 and above	9.0$\leq$ score	54	68

Administrators

Teachers were asked to rate their school administrators' attitude toward this statement: "SOE is an important instructional method in vocational agriculture." As shown in Table 3, 79% of the teachers perceived their administrators as having a favorable or strongly favorable attitude.

These findings of positive attitudes toward SOE program among vocational agriculture teachers and administrators as perceived by teachers, coupled with similar findings by Briers (1978) for vocational agriculture students, reveal that SOE is recognized as an important learning component of vocational agriculture in Iowa.

Table 3

Administrators' Attitude Toward SOE
as Perceived by Teachers

Administrators' attitude as perceived by teachers	n	Percent
Strongly unfavorable	3	3.8
Unfavorable	3	3.8
Undecided	11	13.7
Favorable	43	53.7
Strongly favorable	20	25.0

Relationship Between Utilization of SOE Packet and Selected Variables

The data in Table 4 show the coefficients of correlation between SOE packet utilization score and selected teacher and situational variables. Teachers' attitudes toward SOE and administrators' attitudes toward SOE as perceived by the teachers are significantly related to diffusion of the SOE packet. The coefficients of correlation were .278 and .250, respectfully. Even though these coefficients of correlation were significant at the .05 level, it should be recognized that they express a relatively weak positive relationship between these pairs of variables. However, it could be concluded that as the utilization score increased, there was a slight tendency for teachers' attitudes toward SOE and teachers' perception of administrators' attitude toward SOE to increase.

No significant relationship was observed between utilization of the SOE packet, and non-farm student and farm student enrollment in vocational agriculture as indicated by coefficients of correlation of -.052 and .148, respectfully. Similarly, no significant relationship was observed between utilization of the SOE packet and school enrollment or years of teaching experience of the vocational agriculture teacher.

Table 4

Coefficients of Correlation Between Degree of Utilization of the SOE Packet and Selected Variables

Variables	Coefficients of Correlation
Teachers' attitude toward SOE	.278*
Administrators' attitude toward SOE as perceived by teachers	.250*
Non-farm student enrollment in vocational agriculture	-.052
Farm student enrollment in vocational agriculture	.148
School enrollment (grades 9-12)	.123
Years teaching experience of vocational agriculture teacher	-.024

* Significant at .05 level

Summary and Conclusions

It was concluded from this study that almost all (95%) of the experienced Iowa vocational agriculture teachers in the sample were aware of the SOE instructional materials, a majority of the teachers had used some or most of the materials. Learning activities that could be conducted in the classroom and involved only interaction between the teacher and students were utilized by a larger percentage of the teachers than were activities that required interaction with people outside the classroom. Teachers of vocational agriculture became aware of the SOE packet through a variety of means. Inservice meetings on the use of the packet and the vocational agriculture teachers' annual conference served as the awareness vehicles for a majority (65%) of the teachers.

Iowa vocational agriculture teachers in the sample valued SOE as a learning method in vocational agriculture and perceived that their administrators possessed similar attitudes. Statistically significant, but relatively weak, correlations were observed between the SOE packet utilization score and teachers' attitude toward SOE, and administrators' attitude toward SOE as perceived by teachers.

In summary, the SOE packet has been widely utilized by Iowa vocational agriculture teachers. Inservice meetings and the state teachers' conference were effective in dissemination of the SOE packet. Undoubtedly, a strong positive teacher attitude toward SOE as a learning method in vocational agriculture and teachers' perceptions of a similar attitude among their administrators contributed to the utilization of the SOE packet in Iowa.

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