THE USE OF INDEPENDENT STUDY IN KANSAS HIGH SCHOOL PRODUCTION AGRICULTURE COURSES

by

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Chapter 1

INTRODUCTION

Independent study has been a part of the learning process for many years in high school vocational agriculture courses, however, up to the time this report was made, it had been practiced almost exclusively in the agriculture mechanics courses while being virtually absent in the production agriculture courses such as crop and animal science.

Reasons for this imbalance may have been a larger and more varied amount of training equipment, larger and more easily accessible working area (shop), and the greater emphasis on skill proficiency as stressed in agriculture mechanics courses. Factors inherant to the production agriculture courses in the classroom that may have detracted from their adaptability to independent study were limited space, a larger amount of cognitive material covered, and a lack of sufficient instructional aids.

While the above may have been substantial contributors to the limited use of independent study, they did not take into account the intangible factors such as tradition, perceptions and teacher attitudes that might reinforce the resistance to change from the traditional teaching methods in production agriculture courses.

Statement of the Problem

The purpose of this study was to determine a) to what extent independent study was being used in production agriculture courses in Kansas vocational agriculture programs, b) in what forms it was being used, c) reasons why it was not more widely used, and d) suggestions for the expansion of independent study.

Hypotheses

The factors most commonly associated with the lack of independent study programs in production agriculture courses were a lack of personal experience with proceedures for starting and using independent study programs, and a lack of financial resources.

Definition of Terms

The following definitions used for this study may differ slightly from those in common usage.

Independent study. Learning that allows students to progress independently, with some guidance, by giving them greater freedom and responsibility for the subject matter content and/or speed of learning as opposed to the traditional "all students learn the same thing at the same tiem" approach. This term is often used interchangably with individualized instruction.

Production agriculture. Subject matter taught in the classroom with little laboratory or observation or "hands on" type learning to supplement teacher instruction.

Agriculture mechanics. Subject matter taught with a substantial portion of time spent in shop improving physical skills such as welding and machinery repair.

Programed study guides. Written material designed to allow a student to learn subject matter in step by step progressions independently with limited help by the instructor.

Self-concept. The belief that one has in himself and his ability to function in a self-directed manner independent of the influence of his environment.

Significance of the Study

This study was important because while much was available to guide those teachers and administrators who wanted to use independent study techniques, many educators had not considered using independent study because of misconceptions or misinformation concerning its effects and usage.

This study was aimed at determining those factors that limited the use of independent study in vocational agriculture courses and to make recommendations for increasing the number of students exposed to this type of learning.

Limitations of the Study

This study was limited to thirty nine randomly selected Kansas high school vocational agriculture instruc-

tors who were teaching production agriculture courses.

The accuracy of the information gathered for this study was limited to the respondents ability to interpret the questions as the author had intended and the author interpreting the snswers as the respondents had intended.

Chapter 2

REVIEW OF THE LITERATURE

In reviewing the literature concerning independent study programs, three main areas of writing stand out: benefits of independent study, structure of independent study programs, and the procedures for establishing independent study programs.

Reasons for Independent Study

Much has been written about the student as an individual and how to teach him as an individual. Information on the subject was available for all phases of education including vocational agriculture, according to Rannels (1).

This interest in independent study came about from the concern of educators and parents that merely factual learning had taken too much of the students time at the expense of the development of the individual person in terms of self-concept.

Tremendous physical and mental differences between students are the reasons for the necessity of individualizing instruction according to Wolfson (2). In fact, according to Hall (3), one individualized study program was started in a school when it was found that

students in one grade differed by as much as ten grade levels measured by standard achievement tests.

Despite the fact that other standard achievement testing showed no significant changes in student abilities from independent study, there were substantial changes in student attitudes expressed by drops in absenteeism, coupled with greater self-assertion and self-actualization according to Thorwald (4). Young (5) showed that this enhancement of personalities - especially where disadvantaged students were concerned - had proven to be more important than merely factual learning for the purpose of attaining successful entry into the labor force upon graduation.

Specificaly, the advantages of an independent study program, according to a book entitled "Individualy Prescribed Instruction" (6), were that slower pupils should not be pushed faster than their capabilities. Students studying something of interest (sometimes self-initiated), and the student starting at his own level. Conversely, there were some individual characteristics that could not be met by indppendent study techniques such as group oriented or slow changing students who would benefit more from traditional classroom techniques. However, these differences could be attended to by conscientious application of both individual and group learning practices.

The above reference also stated that the student was not the only one who stood to gain from an independent study program. By using it, the teacher could improve

himself, and the assistance he provided to the student, by becoming more aware of the gaps in a students learning. Also more responsibility would be given to the student, and the student would help in planning the program of study and determination of goals.

Structure of Independent Study Programs

The structure of independent study programs ranged from mass-produced, and sometimes computerized, programed material that allowed a student to study specified subject matter at his own pace, according to Georgiales (9), down to self-directed learning that stressed self-responsibility and regulation divorced from any course requirements, according to Wedemeyer (7).

Independent study in high school vocational agriculture courses had generally been closer in structure to the latter. It often took the form of having students read magazine articles or book passages about a specific subject during a short period of time. Crop and other identification learning also became a form of independent study when students were given free time for that purpose. On the upper level of independent study, some instructors had students study almost completely on their own about specific subjects of job occupations through the use of complete learning guides.

Despite this wide range of structural differences, there were some aspects of independent study that should have been common to all of them in order for the students

to gain maximum benefit. According to Ringis (8), they were: a) concept focus, b) behaviorally stated objectives, c) multiple learning activities and methods, d) diversified learning resources, d) evaluation, and f) breadth and/or depth of suggestions for post-study work. Georgialies stated that basically, the curriculum should be divided into small, success oriented components which clearly state performance objectives. Shultz (10) added that the methods used should build on the students background and use achievement and not time as a determinant of student ability.

Often overlooked, but probably the most important ingredient of an independent study program, according to Bjorkquist (11) was the teacher.

Factors Limiting the Use of Independent Study

Even though there were very real benefits to be gained by the use of an independent study program and much literature was available on the subject, it was still not widely used.

Wedemeyer stated that a lack of money and space available to educators contemplating the use of more sophisticated independent study programs was one reason for its limited use. Other tangible reasons, according to Gibbons (12) were rigid grade reporting procedures and rigid organization of classtime that cramped the less structured style of independent study.

Dell (13) said that a lack of teacher preperation was also a cause of the limited use of independent study.

Many teachers had not been trained in its use; either before or after they began teaching. Georgialies stated that not only would new instructional techniques have to be learned, but a new pattern of thought towards the process of independent study would have to be developed. Also, according to Elmlinger (14), the embarking on efforts to individualize their instructional programs caused many teachers to leave many familiar practices behind which tended to cause insecurity.

Another limiting factor, according to Tunk (15) was that the actual role of the instructor would have to change. Instead of being an instructor, he would take on the unfamiliar role of instructional manager. In addition, Dell said that the teachers work load would be increased from having to set up objectives for each student and comfortable classroom activities would have to be discarded. Wedemeyer stated that many parents and educators doubted the effectiveness of independent study; holding to the belief that students learned better in groups, and that students would be wasting their time. In fact, according to Elmlinger, students themselves might react unfavorably towards a new and unfamiliar independent study program.

Establishing an Independent Study Program

Preventing or overcoming the previously mentioned problems surrounding an independent study program could be done but a conscientious effort would be needed by teachers and administrators for it to succeed, according to Elmlinger.

He gave several steps that should be followed by instructors before starting an independent study program.

1. Become thoroughly familiar with the professional literature underlining the philosophy and methodology of independent study.

2. Make sure materials are readily available in the necessary quantities and varieties.

3. Involve the principal and other teachers in the program by explaining what it is and asking questions.

4. Decide whether to start with one or all sections of a departmental organization.

5. Explain to the class what will be done and why.

6. Explain to the parents what will be done and why.

7. Get under way.

While this procedure would be extremely beneficial to the success of the program it would not help the teacher who was not convinced that he should set up an independent study program in the first place. Elmlinger said this was where the principal and superintendent should come into the picture by offering advise, encouragement and understanding to the teacher who was wary of changing traditional patterns of instruction.

Other factors that may have been used to involve teachers in changing methodology, according to Gagne (16) were in-service training to provide teachers with conceptual understanding of individualized learning and awarding

incentive salary increments related to teacher performance.

Chapter 3

METHOD OF RESEARCH

In order to meet the objectives of determining the present status of and gathering suggestions for the improvement of independent study in production agriculture courses, a questionnaire was developed for distribution to randomly selected vocational agriculture instructors in Kansas.

Selection of Subjects

The population from which the subjects were selected were all Kansas high school vocational agriculture instructors as listed, alphabeticaly by post office name, in "Agriculture Education Instructors of Kansas 1973-74 Secondary".

It was decided that thirty nine subjects would be sufficient, assuming a 60% return, to obtain sufficient information from which to complete the study. From the above mentioned list of instructors, every fourth instructor, starting with the first, was chosen to receive a questionnaire.

Development of the Questionnaire

The author became interested in independent study and got his ideas for developing the questionnaire, from

exposure to independent study techniques while a graduat student at Kansas State University.

The questionnaire, which included thirty seven items, consisted of questions covering seven areas: personal and school background, starting and using independent study programs, types of independent study programs in use, methods of assisting students in using independent study, opinions about independent study, and why independent study was used more often in agriculture mechanics courses than in production agriculture courses. The author also wished to obtain information on how teachers would desire to have assistance in the use of independent study programs.

The questions used were of three types: questions to which responses consisted of varying quantities such as number of students and years teaching experience, questions to which responses were restricted to pre-selected answers, and unstructured response questions.

The questionnaire was validated by a Delphi technique involving staff in the Agriculture Education Department at Kansas State University and graduate students who had been teachers of vocational agriculture.

Treatment of Data

Frequency statistics were used to tabulate the responses of the teachers of vocational agriculture. The responses of the instructors who returned the questionnaire were divided into two groups: those who used independent study and those who did not use independent study in their

production agriculture classes.

The data was presented in tabular form and a narrative presentation was made of the findings in Chapter 4. Chapter 5 was devoted to the summary, conclusions and recommendations concerning independent study.

Chapter 4

ANALYSIS OF DATA

The information in Chapter 4 analyzes the responses of twenty eight Kansas high school vocational agriculture instructors to a questionnaire concerning the present status of and recommendations for independent study programs in production agriculture courses. The completed questionnaires were divided into two groups: those instructors (fifteen) who used independent study programs, and those instructors (thirteen) who did not use independent study in their classes.

Because of the varied types of questions used in the questionnaire, the responses were analyzed according to the following format:

1. Questions to which responses consisted of varying quantities, such as number of students and years of teaching experience, were totaled within the respective groups of instructors who used and did not use independent study and then divided by the number of instructors responding in each group. The resulting averages were then presented.

2. Questions for which returns were restricted to pre-selected responses were presented by frequency statis- for comparisons between groups.

3. Unstructured responses were requested for the third type of question used. Responses were listed and frequency statistics compared the returns for each group.

Following the guidelines just mentioned, the responses to the questionnaires were tabulated and analyzed. It was observed that several instructors failed to answer all of the questions. Reasons for this may have been that a particular answer may have been unknown, the questions did not apply, skipping a question inadvertently, or inconsistancy of mode of questioning throughout the questionnaire. It should be noted, however, that the group of instructors that used independent study were more consistant in answering the questions than the other group of instructors.

Twenty nine instructors responded to the questionnaire. However, one instructor returned the questionnaire saying he taught only agriculture mechanics and therefore his responses would not be relevent. For this reason, the anaylysis of data was based on the responses of twenty eight instructors.

The information in Chapter 4 was tabulated and analyzed in seven seperate groups: 1) personal and school background, 2) starting and using independent study programs, 3) types of independent study programs in use, 4) methods of assisting students using independent study, 5) opinions about independent study, 6) why independent study is used more often in shop than production agriculture courses,

and 7) what assistance would be of the greatest help towards increasing the use of independent study.

Personal and School Background

The data in Table 1 indicated that both the instructors who used independent study and those that did not use it had exactly the same average nubmer of years of teaching (9.2) and had the same number of FFA members in their chapters (43.4).

Other data indicated that the instructors who used independent study had been at their present locations longer (8.6 years) than those that did not use independent study (6.8 years). Also, the instructors using independent study had smaller Fresmen and Senior classes although their Sophomore classes were larger while the Junior classes of both groups were relatively the same.

The annual budgets indicated that the instructors using independent study had more funds at their disposal ($11,000) than instructors not using independent study ($10,200). The data also indicated that instructors who used independent study were more likely (5 of 10 respondents) to have a school farm than instructors who did not use independent study (2 of 10 respondents). The response on the uses of school farms were small and the data was not analyzed.

The responses in Table 1 did not reveal any real differences between groups of instructors that might indicate an influence as to whether or not an instructor

Table 1

The Responses of Twenty Eight Vocational Agriculture Instructors About Their Personal and School Background

	Questions on Personal and School Background	Fifteen using ind. study	Thirteen not using ind. study
1.	Years taught vocational agriculture (average)	9.2	9.2
2.	Years present location (average)	8.6	6.8
3.	Number of students in your classes (average)		
	Freshmen	15.9	20.4
	Sophomore	16.8	14.9
	Junior	14.0	14.1
	Senior	11.4	13.9
4.	Number of FFA members (average)	43.4	43.4
5.	Annual vocational agriculture budget (average)	$11,000[a]	$10,200[b]
6.	Does the school have a farm?		
	yes	5	2
	no	10	10
7.	School farm used for:		
	crops	5	0[c]
	livestock	1	0

[a] From eleven respondents

[b] From five respondents

[c] The two instructors not using independent study and answering yes to question six did not answer question 7

was using independent study although the smaller Freshmen and Senior classes belonging to the instructors who used independent study might indicate a more relaxed atmosphere which could be condusive to independent study. The larger annual budgets of the instructors that used independent study may indicate that they had more money to use in setting up their programs although the wide range of individual responses (from $800 to "virtually unlimited") and the number of instructors who did not know or did not answer makes the data inconclusive. The fact, as shown in Table 1 that instructors who used independent study were more likely to have a school farm could be interpreted to mean that they had a better chance to give the students a greater amount of subject related practical experience that would fit well with an individual study program.

Starting an Independent Study Program

The data in Table 2 relating to getting an independent study program started shows that the most common reason (5 of 15 responses) for getting a program started was the instructors recognition that the students had varying sbilities or interests that could not be met through conventional means of learning. The next most common (3 of 15 responses) reason given was the wide course coverage. In getting help for setting up an independent study program, more than 50% (9 of 15 responses) of the instructors said that they did the job themselves.

The responses of the instructors in Table 2

indicated that a good number of instructors were aware of the primary reason for independent study - meeting the needs of individual students. Thr responses also indicated that most instructors had instituted their independent study programs on their own which may have indicated that the programs were not as effective as they might have been if experience gained by others had been available.

Table 2

The Responses of Fifteen Vocational Agriculture Instructors who used Independent Study Programs

Questions	Number of responses
1. If you use independent study, what influenced you to start using it?	
Varying student abilities/interests	5
Wide course coverage	3
Areas where instructional ability lacking	1
Easier to teach	1
Class offered in school	1
Already in use	1
College instruction	1
Personal goal	1
No response	1
2. If you use independent study, where did you get help in setting it up?	
Self	9
Principal	2
ACE program	2
Published materials	1
No response	1