May 17, 1965

To the Graduate Council:

I am submitting herewith a thesis written by Harold Cara Gregory entitled "An Agricultural Credit Education Program for Students of Vocational Agriculture in Tennessee." I recommend that it be accepted for nine quarter hours of credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Education.

Major Professor

We have read this thesis and recommend its acceptance:

Accepted for the Council:

Dean of the Graduate School

AN AGRICULTURAL CREDIT EDUCATION PROGRAM FOR STUDENTS OF VOCATIONAL AGRICULTURE IN TENNESSEE

A Thesis

Presented to

the Graduate Council of

The University of Tennessee

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

---

by

Harold Cara Gregory

June 1965

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CHAPTER I

THE PROBLEM AND ITS DEFINITIONS

Teachers of vocational agriculture in Tennessee are giving increased attention to the teaching of agricultural credit. Some teachers have a very definite need for new and improved techniques in teaching agricultural credit. Most teachers rely to a great extent on local lending agencies for instructional materials and for instructors. The personnel available in these local lending agencies are usually not trained in teaching techniques.[1]

It is not a justifiable practice for teachers merely to state that training in the use of credit is important and then do little to develop a sound educational program to provide the necessary education. Total farm debt on January 1, 1963, was 80 per cent higher than ten years ago.[2] Changes in agriculture are demanding organized instruction

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[1]James Robert Whitlow, "A Source Unit for Teaching Farm Credit in Vocational Agriculture" (unpublished problem in lieu of thesis, The University of Tennessee, Knoxville, 1962), p. 4.

[2]William L. Hull, "Financing the Farm Business" (The Pennsylvania State University, University Park, 1964), p. 3.

of the highest quality in the educational field embracing agricultural credit.

Education and capital can be considered to be technical complements in agricultural production. Except within a narrow range, benefits from capital cannot be obtained without increasing the education of farm operators. Agricultural education of higher quality will be needed.[3] The demand for more instruction in agricultural credit will probably increase in the future.

I. THE PROBLEM

Statement of the problem. The major purpose of the study was to determine the need for planning and providing an in-service training program for teachers of vocational agriculture to improve the teaching of agricultural credit for the students of vocational agriculture in Tennessee.

The following were the main objectives:

1. To determine the type of educational program in agricultural credit in which students are now participating.
2. To determine the methods used in the development of the present program.

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[3]E. L. Baun, H. G. Dusslin, and E. O. Heady, Capital and Credit Needs in a Changing Agriculture (Ames: The Iowa State University Press, 1961), pp. 343-344.

3. To determine the strengths and the "shortcomings" of the present program.
4. To propose a plan for strengthening the agricultural credit educational program.

Need for the study. Most people will readily concede that no educational program is perfect and that most methods of teaching have room for improvement. Since most of the teachers of vocational agriculture are interested in agricultural credit, they will be vitally interested in locating the weaknesses of their teaching programs and ways to strengthen their programs. The results of the study should be useful in improving the teaching techniques. The study was intended to aid in the preparation of material on credit and as a guide in planning and carrying out an in-service program for teachers.

Limitations of the study. This study was limited to selected public high schools in Tennessee. The study was limited to teachers and students of vocational agriculture in high schools.

II. DEFINITION OF TERMS

Vocational agriculture teachers. This term includes persons currently employed as teachers of vocational

agriculture in the state of Tennessee.

Vocational agriculture students. This term includes all high school students presently enrolled in courses of vocational agriculture in the state of Tennessee.

Curriculum. This term refers to a series of courses designed for instruction in a designated field. It may refer also to the whole body of courses offered in an educational institution.

Objectives. Educational objectives are statements of desired changes in the thoughts, actions, or feelings of students that a particular course or educational program should bring about. Educational objectives are relatively specific statements of the characteristics the students should possess after completing the course or program.

Tennessee's core curriculum. This is the group of common units of vocational agriculture utilized generally on a statewide basis. Revisions and additions are intended to adapt the curriculum to the needs of present day teaching of vocational agriculture.

Agricultural credit. This term refers to the internal and external financial resources utilized in the conduct of agricultural production and marketing.

Tactics. This term refers to the skillful direction of specific tasks and arrangement of particular conditions which contribute to the fulfillment of a plan.

Strategy. This term refers to the development of a

plan of action for an educational operation.

Agricultural business. This term refers to businesses dealing directly or indirectly with agriculture.

In-service education. This term includes the instruction and supervision of teachers for the purpose of improving their professional abilities.

Educational program. The learning activities engaged in by the teacher and students.

FLBA. Federal Land Bank Association.

PCA. Production Credit Association.

FFA. Future Farmers of America.

III. ASSUMPTIONS

Educators believe that in-service education is a valuable tool in aiding teachers to improve their educational program. The wise use of credit is an important element of management, and it will be more important in the future.

Rapid developments in agricultural economics are demanding a better understanding of agricultual credit. Through increasing activities in agricultural credit there are new opportunities for employment for young persons who know farm life and understand agricultural credit.

CHAPTER II

REVIEW OF LITERATURE

Only a brief summary of the literature closely related to the work of curriculum improvement and agricultural credit training was included.

I. IMPROVEMENT OF CURRICULUM

Many proposals have been offered for modification of the school curriculum. It is expected that teachers and the general public will continue to bring pressures for the continuance of the established and the familiar curriculum. In the past, opposition to change has been successful. Ross[1] reports that fifty years are required from the first introduction of an adaptation in the first school of a state until 100 per cent of the schools are using the adaptation.

Curriculum improvement has followed four patterns: judgmental, consensus, analytical, and experimental.[2] Where the judgmental approach has been used as the basis for

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[1]Donald Ross, Administration for Adaptability (New York: Metropolitan School Study Council, Teachers College, Columbia University, 1957), p. 53.

[2]B. Othanel Smith, William O. Stanley and J. Harlan Shores, Fundamentals of Curriculum Development (New York: World Book Company, 1957), p. 152.

curriculum adaptation there has been considerable agreement on values, processes, and objectives by the educational leaders. Consensus assumes that many are in favor of the adaptation or the improvement of the curriculum by reference to common goals. Analytic improvement emphasizes the examination of the component parts of the curriculum and their relations to the whole curriculum. Experimental research has brought about improvement in the form of new knowledge, skills, and techniques.

Implementing curriculum changes tends to follow four systems: bargaining, persuasion, politics and problem solving.[3] Where there is disagreement over the objective, bargaining is the basis of change. When it is assumed that almost everyone is in favor of certain broad objectives, then persuasion is a successful channel for implementing the change. In conflict of interest, politics is the powerful avenue of a potential change. When information is assembled in the seeking of new solutions, problem solving is the system of implementing the change.

The curriculum has frequently been changed without determining the relationship of the change to the basic objectives, and the fact that some changes had no objectives

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[3]William H. Lucio and John D. McNeil, Supervision, A Synthesis of Thought and Action (New York: McGraw-Hill Book Company, Inc., 1962), p. 108.

at all has led to misconception and misdirection. The formulation of objectives is most critical for guiding all the other activities of curriculum planning. Objectives must be operational and consistent with the functions of the school.[4]

There are five basic sources of objectives: learners themselves, contemporary life, subject specialists, psychology of learning, and philosophy of education.

A study of the learners themselves seeks to identify needed changes in behavioral patterns of the students which the educational institution should seek to produce. The placing of emphasis on student needs in education is often referred to as progressive education.

There are two reasons why contemporary life is a source for objectives. The first is that life is so complex and continually changing that objectives in education must relate to the present and future or schools may be neglecting some important areas of education. A second reason is that the study of contemporary life produces findings relating to the transfer of training. A student is much more likely to apply his learning when he recognizes the similarity between situations encountered in life and situations in which learning takes place. An essentialist emphasizes the

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[4]Ralph W. Tyler, Basic Principles of Curriculum and Instruction (Chicago: The University of Chicago Press, 1962), pp. 1-40.

cultural heritage, while the sociologist emphasizes the daily problems of contemporary life.

The study of the learners themselves and the contemporary life are sources of strategic objectives; while the psychology of learning and philosophy of education are used by subject specialists as sources from which to select tactic objectives. Strategy involves the development of objectives and a plan of action for a large-scale operation. Tactics call for skillful direction of specific tasks and arrangement of particular conditions which contribute to the fulfillment of the total educational plan.[5]

A prerequisite to selecting the objectives of the curriculum is determining the interest and the ability of the learners. Considerable research has been conducted to throw light upon the relationship of interest and ability to the motivation of the student.

Motivation is the heart of the learning process. The student learns only when he is motivated to learn. Symonds[6] stated that Dewey did not ignore motivation, but he motivated

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[5]William H. Lucio and John D. McNeil, Supervision, A Synthesis of Thought and Action (New York: McGraw-Hill Book Company, Inc., 1962), p. 90.

[6]Percival M. Symods, What Education Has to Learn from Psychology (New York: Columbia University Bureau of Publications, 1964), pp. 1-11.

students by the problem solving method. He placed emphasis on striving toward goals and foresight of ends as a guide to action. Thorndike[7] concluded that a person should attempt to learn what he needs when he needs it.

The final step in the selection of objectives is the assurance of full investigation and participation in choosing the most beneficial curriculum which means understanding the needs and interests of the learner, understanding the society in which he lives, and understanding instructional material that may serve to meet his needs.[8] No one person or group of persons has the last word on objectives of the curriculum. Curriculum and instruction are held to require the leadership and participation of persons who possess certain professional competencies. Professional authority is granted to individuals demonstrating superior knowledge, but the privilege of the selection of objectives is revocable by decisions of the people through their elected representatives.[9]

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[7]E. L. Thorndike, Adult Learning (Chicago: The Macmillan Company, 1928), p. 147.

[8]J. R. Kidd, How Adults Learn (New York: Association Press, 1963), p. 281.

[9]Lucio and McNeil, op. cit., p. 117.

A pattern of curriculum improvement calls for the involvement of teachers in the improvement activities. When the curriculum is improved, the individual teachers must accept a new objective. Teachers can be influenced to accept a new objective if the worthwhileness of the objective can be demonstrated. Workshops or in-service training in which teachers attack their problems are effective approaches to curriculum improvement. In-service classes which do not relate to the inadequacies of teaching are of little help to the teacher. When teachers desire to improve an element of the curriculum, in-service training is a tool in developing the curriculum improvement process.[10]

II. AGRICULTURAL CREDIT TRAINING

In his study of five hundred Tennessee farmers, Roman[11] concluded that farmers have many false impressions about real estate mortgages and lack of knowledge of alternative credit sources, interest rates, interest rate calculation and the productive aspects of credit.

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[10] Ibid.

[11] J. Thomas Roman, "Knowledge and Attitudes of Tennessee Farmers Concerning Credit Practices and Some Effects on Credit Management and Credit Costs" (unpublished Master's thesis, The University of Tennessee, Knoxville, 1957), pp. 149-159.

In "A Source Unit for Teaching Farm Credit in Vocational Agriculture," Whitlow[12] listed the following as recommended units of instruction:

1. Acquainting students with farm credit
2. Determining individual credit needs and sound financial practices
3. Selecting lending agencies
4. Applying for, obtaining, and repaying the loan.

He listed recommended references for teachers of agricultural credit in the bibliography of his study.

The farmer must learn to manage his farm finances so that the credit he uses may increase his income. Most of the FFA members who have been named State Farmers have already learned to use credit as a means of increasing their income.[13]

A better understanding of credit may help the farmer to better utilize his income to include the things he wants and the things which make life more pleasant. The

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[12]James Robert Whitlow, "A Source Unit for Teaching Farm Credit in Vocational Agriculture" (unpublished problem in lieu of thesis, The University of Tennessee, Knoxville, 1962), preface i-ii.

[13]Financing Farming Activities, A Report Prepared in Cooperation with the Vocational Agricultural Departments of Ohio, Indiana, Kentucky, and Tennessee (Louisville: Farm Credit Administration of Louisville, 1963), p. 6.

intelligent use of credit may mean the difference between success and failure. A knowledge of credit is considered necessary in any individual's education.[14]

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[14]Agricultural Credit, A Report Prepared by the Vocational Agricultural Departments of Alabama, Mississippi, and Louisiana (New Orleans and Louisville: Farm Credit Administration of New Orleans, 1948), pp. 5-21.

CHAPTER III

METHODS OF PROCEDURE AND SOURCES OF DATA

The procedure used in making the study began with the definition of the problem and a review of selected literature related to agricultural credit education. The procedure included a study of methods of procuring data.

I. Q SORT TECHNIQUE

The Q sort technique has been elevated as a reliable tool in determining curriculum content.[1] The basic idea is applicable in group measurement and the results of the Q sort can be handled to reflect group opinion.[2] The Q sort should begin with the selection of a list of behavioral outcomes.[3] From credit training literature, thirty-five behavioral outcomes were selected. The behavioral outcomes in

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[1]William J. Schell, "The Use of the Q-Technique in Determining Curriculum Content," California Journal of Educational Research, XII (September, 1961), 178-184.

[2]R. E. Cummins, "Some Applications of Q Methodology to Teaching and Educational Research," Journal of Educational Research, LVII (October, 1963), 96-98.

[3]Fred N. Kerlinger, Foundations of Behavioral Research (New York: Holt, Rinehart and Winston, Inc., 1964), pp. 581-599.

agricultural credit were selected from five primary areas, as follows:

1. General information about credit
   a. Understands the basic facts concerning credit
   b. Appreciates credit (advantages and disadvantages)
   c. Understands the basic moral values which give direction to the proper use of credit
   d. Understands the governmental laws related to credit
   e. Understands social structures and social processes relating to the use of credit
   f. Possesses knowledge of credit terminology
   g. Understands the merits of credit in the free enterprise system
2. Cost of credit
   a. Develops skill in determining the need for credit in relationship to cost of credit
   b. Understands interest as a cost element in the conduct of business
   c. Has developed competency in calculating interest
   d. Has developed ability to compare actual interest charged with true interest rates

e. Understands the general operational cost of lending institutions (banks and other loan agencies)

f. Possesses knowledge of how to build and maintain a good credit rating

g. Possesses basic knowledge of the cost of money to lending agencies

3. Sources of credit

a. Understands the role of appraiser

b. Possesses knowledge of requirements for collateral and its use

c. Has developed competency in selecting a lending agency

d. Possesses knowledge of the sources of credit

e. Understands how to apply for credit

f. Understands the different functions of lending institutions

g. Possesses basic knowledge of the sources of money to lending agencies

4. Uses of credit

a. Has developed competency in making a choice to use or not to use credit

b. Understands how credit is a tool of production

c. Understands different types of loans

d. Understands a financial statement and how to prepare it

e. Understands partial budgeting and how to prepare it

f. Understands the various uses of credit

g. Recognizes the potential uses and limits of credit

5. Repayment of credit

a. Understands the responsibility for repayment of loans

b. Understands the functions of different loan documents

c. Understands the fringe benefits and penalties for paying ahead of schedule

d. Understands the service charges, fees, and insurance rates of a loan

e. Understands different types of repayment plans

f. Understands the responsibility of co-signers

g. Possesses competency in the use of checks, deposit slips, etc.

The behavioral outcomes were utilized in a Q sort survey form (see Appendix A). Agricultural educators and lending agents participated in the Q sort. These persons were selected from each of the three regions of the state. Three persons each from Production Credit Association, Federal

Land Bank Association, commercial banks, and farm suppliers were selected to represent lenders' participation in the Q sort. Three persons each were selected as representatives of the vocational agriculture teachers, college professors, high school administrators, and vocational agricultural regional supervisors to represent educators' participation in the Q sort.

II. VOCATIONAL AGRICULTURE DEPARTMENT SURVEY

A written examination was framed according to the five primary areas of credit selected in the formulation of the thirty-five behavioral outcomes. Questions were selected from "Financing the Farm Business"[4] and "A Source Unit for Teaching Farm Credit in Vocational Agriculture."[5] Each question was selected to indicate the knowledge possessed by the individual according to a specific behavioral outcome. The examination was designed to aid in determining the relationship of the knowledge of credit to the grade level of the student, to the acreage of the student's home farm,

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[4]William L. Hull, "Financing the Farm Business" (The Pennsylvania State University, University Park, 1964), pp. 54-61.

[5]James Robert Whitlow, "A Source Unit for Teaching Farm Credit in Vocational Agriculture" (unpublished problem in lieu of thesis, The University of Tennessee, Knoxville, 1962), pp. 12-60.

to the student's knowledge of his parent's borrowing habits, and to the student who has borrowed money (see Appendix B).

A survey was designed to sample the procedures and materials used by vocational agriculture teachers in educating students to use credit (see Appendix C).

III. SELECTION OF VOCATIONAL AGRICULTURE DEPARTMENTS

The sampling universe was the Vocational Agriculture Departments in Tennessee. The sample was stratified according to the three regions of Tennessee which were designated by the State Department of Vocational-Technical Education. Ten departments in the middle region and ten departments in the west region, and nine departments in the east region were randomly selected through the use of a table or random numbers.[6] Letters were written to teachers whose departments were selected to gain permission to include their departments in the study (see Appendix D). Data, Q sort, methods survey, and examinations required in the study were obtained by the investigator from the vocational agriculture departments in Tennessee during April, 1965 (see Appendix E).

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[6]Frederick Mosteller, Robert E. K. Rourke and George B. Thomas, Jr., Probability and Statistics (London: Addison Wesley Publishing, Inc., 1961), p. 366.

CHAPTER IV

PRESENTATION AND DISCUSSION OF DATA

The purpose of this chapter was to present and discuss the results of the investigation. The selected behavioral outcomes as rated by selected authorities were compared to the outcomes of the present agricultural credit education of vocational agricultural students as indicated by mean scores on the knowledge of agricultural credit examination. The mean scores from the knowledge of agricultural credit examination were presented in relationship to the student whose parents have borrowed money, to students who have borrowed money and to the acreage of the student's home farm. The agricultural credit training program was evaluated as to the instructional materials and according to objectives of the present curriculum.

I. AGRICULTURAL CREDIT TRAINING OBJECTIVES

In Table I, the ten most important behavioral outcomes, according to the Q sort, are listed according to the ratings of lenders and educators. Fifteen important behavioral outcomes are listed in Table II. Behavioral outcomes receiving a rank of one through seven were awarded positive value as important to the teaching of agricultural

TABLE I

THE RANK AND VALUE WEIGHTS OF THE TEN MOST IMPORTANT OUTCOMES OF AGRICULTURAL CREDIT TRAINING AS RATED BY TWELVE LENDERS AND TWELVE EDUCATORS

Rank	Behavioral Outcomes	Value Weights		
		Lender	Educator	Total
1	Understands the basic facts concerning credit	14	19	33
2	Possesses knowledge of how to build and maintain a good credit rating	16	14	30
3	Has developed ability to compare actual interest charges with true interest rates	13	16	29
4	Understands the responsibility for repayment of loans	8	10	18
5	Understands how credit is a tool of production	6	10	16
6	Has developed competency in making a choice to use or not to use credit	6	9	15
7	Understands partial budgeting and how to prepare it	6	6	12
7	Understands different types of loans	3	9	12
9	Understands interest as a cost element in the conduct of a business	8	2	10
10	Possesses knowledge of requirements for collateral and its use	6	3	9

TABLE II

THE RANK AND VALUE WEIGHTS OF FIFTEEN BEHAVIORAL OUTCOMES CONSIDERED IMPORTANT IN AGRICULTURAL CREDIT TRAINING AS RATED BY TWELVE LENDERS AND TWELVE EDUCATORS

Rank	Behavioral Outcomes	Value Weights		
		Lender	Educator	Total
1	Understands the basic moral values which give direction to the proper use of credit	9	- 1	8
2	Understands a financial statement and how to prepare it	7	0	7
2	Recognizes the potential uses and limits of credit	2	5	7
2	Understands the service charges, fees, and insurance rates of a loan	5	2	7
5	Understands the responsibility of co-signers	4	1	5
6	Understands how to apply for credit	2	1	3
7	Appreciates credit (advantages and disadvantages)	- 3	4	1
8	Possesses competency in the use of checks, deposit slips, etc.	- 3	3	0
8	Skilled in determining the need for credit in relationship to cost of credit	0	0	0
10	Understands the merits of credit in free enterprise system	0	- 1	- 1

TABLE II (continued)

Rank	Behavioral Outcomes	Value Weights		
		Lender	Educator	Total
10	Possesses knowledge of the sources of credit	- 3	2	- 1
10	Has developed competency in selecting a lending agency	2	- 3	- 1
13	Understands different types of repayment plans	0	- 2	- 2
14	Has developed competency in calculating interest	- 7	3	- 4
15	Understands the various uses of credit	- 3	- 2	- 5

credit. Two behavioral outcomes ranked eighth and did not receive positive value as a final value because negative values counteracted the positive value weights. The behavioral outcomes ranking ten through fifteen had a negative total value, although they were awarded positive weights by some individuals participating in the Q sort.

The ten least important behavioral outcomes shown in Table III were awarded total negative value weights by both lenders and educators. The ranking of individual behavioral outcomes increased in importance when they are grouped according to the five areas of agricultural credit education.

In Table IV, no behavioral outcome was considered to be least important in the use of credit. In the area of general information only one behavioral outcome was considered to be most important while three of the behavioral outcomes were considered to be least important.

II. AGRICULTURAL CREDIT KNOWLEDGE

The student's knowledge increased considerably from the freshman class to the senior class as shown in Table V. The eleven point difference between the freshman mean score and the senior mean score becomes more meaningful when compared with only a twenty-one point difference between the senior mean score and the teacher mean score.

TABLE III

THE RANK AND VALUE WEIGHTS OF THE TEN LEAST IMPORTANT BEHAVIORAL OUTCOMES OF AGRICULTURAL CREDIT TRAINING AS RATED BY TWELVE LENDERS AND TWELVE EDUCATORS

Rank	Behavioral Outcomes	Value Weights		
		Lender	Educator	Total
1	Understands the general operation cost of lending institutions (banks and other loan agencies)	-16	-20	-36
2	Possesses basic knowledge of the cost of money to the lending agencies	-11	-16	-27
3	Possesses basic knowledge of the sources of money to lending agencies	-10	-16	-26
4	Understands the governmental laws relating to credit	-14	-11	-25
5	Understands the functions of different loan documents	-12	- 8	-20
5	Understands the role of the appraiser	- 8	-12	-20
7	Understands social structures and social processes relating to use of credit	- 6	-10	-16
8	Possesses knowledge of credit terminology	- 9	- 4	-13
8	Understands the different functions of lending institutions	- 8	- 5	-13
10	Understands the fringe benefits and penalties for paying ahead of schedule	- 3	- 3	- 6

TABLE IV

BEHAVIORAL OUTCOMES ACCORDING TO LEVEL OF IMPORTANCE IN FIVE AREAS OF AGRICULTURAL CREDIT TRAINING AS RATED BY TWELVE LENDERS AND TWELVE EDUCATORS

Behavioral Outcomes	Level*
I. General Information of Credit	
Understands the basic facts concerning credit	A
Appreciates credit (advantages and disadvantages)	B
Understands the basic moral values which give direction to the proper use of credit	B
Understands the merits of credit in free enterprise system	B
Understands the governmental laws relating to credit	C
Understands social structures and social processes relating to the use of credit	C
Possesses knowledge of credit terminology	C
II. Cost of Credit	
Has developed ability to compare actual interest charges with true interest rates	A
Understands interest as a cost element in the conduct of a business	A
Possesses knowledge of how to build and maintain a good credit rating	A
Skilled in determining the need for credit in relationship to cost of credit	B

TABLE IV (continued)

Behavioral Outcomes	Level
II. Cost of Credit (continued)	
Has developed competency in calculating interest	B
Understands the general operation cost of lending institutions (banks and other loan agencies)	C
Possesses basic knowledge of the cost of money to the lending agencies	C
III. Sources of Credit	
Possesses knowledge of requirements for collateral and its use	A
Has developed competency in selecting a lending agency	B
Possesses knowledge of the sources of credit	B
Understands how to apply for credit	B
Understands the role of the appraiser	C
Understands the different functions of lending institutions	C
Possesses basic knowledge of the sources of money to lending agencies	C
IV. Uses of Credit	
Has developed competency in making a choice to use or not to use credit	A

TABLE IV (continued)

Behavioral Outcomes	Level
IV. Uses of Credit (continued)	
Understands how credit is a tool of production	A
Understands different types of loans	A
Understands partial budgeting and how to prepare it	A
Understands a financial statement and how to prepare it	B
Understands the various uses of credit	B
Recognizes the potential uses and limits of credit	B
V. Repayment of Credit	
Understands the responsibility for repayment of loans	A
Understands the service charges, fees, and insurance rates of a loan	B
Understands different types of repayment plans	B
Understands the responsibility of co-signers	B
Possesses competency in the use of checks, deposit slips, etc.	B
Understands the functions of different loan documents	C
Understands the fringe benefits and penalties for paying ahead of schedule	C

*Level A--Most Important; B--Important; C--Least Important.

TABLE V

MEAN SCORES OF 1,489 STUDENTS ACCORDING TO GRADE LEVEL AND FOR SEVENTEEN VOCATIONAL AGRICULTURE TEACHERS ON THE KNOWLEDGE OF AGRICULTURE CREDIT EXAMINATION

Grade Level	Number of Students	Mean Score
Freshman	500	50
Sophomore	470	55
Junior	280	58
Senior	239	61
Teacher	17	82

Approximately one student out of every three vocational agriculture students knew that his parents borrowed money as shown in Table VI. These students possess slightly more knowledge about credit than other students.

In comparing Table V to Table VII the mean score of freshmen who have borrowed money was three points higher than the mean score of the total freshman class. The mean scores for the sophomores, juniors, and seniors were identical. The evidence that 7 per cent of the freshman class borrow money and 18 per cent of the senior class borrow money points to the potential value of credit education in the high schools. Thorndike states in his study that a person should attempt to learn what he needs when he needs it; therefore, students using credit will be interested in studying it.[1]

A scoring pattern cannot be determined from Table VIII. The student from all grade levels living on farms with acreage ranging from 51 to 150 acres have the highest mean score. Seniors living on farms with acreages ranging from 151 to 250 have the highest mean score for any separate classification.

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[1]E. L. Thorndike, Adult Learning (Chicago: The Macmillan Company, 1928), p. 147.

TABLE VI

GRADE LEVEL, NUMBER, PER CENT AND MEAN SCORES ON THE KNOWLEDGE OF AGRICULTURE CREDIT TEST OF STUDENTS WHO KNOW AND DO NOT KNOW OF THEIR PARENTS BORROWING MONEY FROM COMMERCIAL AGENCIES

Grade Level	Students with Knowledge	Students without Knowledge	Per Cent of Class	Mean Score
Freshman	310		63	51
Freshman		180	37	49
Sophomore	241		60	57
Sophomore		161	40	53
Juniors	180		70	59
Juniors		89	30	58
Seniors	175		77	63
Seniors		52	23	60

TABLE VII

THE GRADE LEVEL, NUMBER, PER CENT, AND MEAN SCORE ON THE KNOWLEDGE OF AGRICULTURE CREDIT EXAMINATION OF STUDENTS WHO HAVE BORROWED MONEY FROM COMMERCIAL AGENCIES

Grade Level	Number of Students	Per Cent of Class	Mean Score
Freshman	37	7	53
Sophomore	52	11	55
Junior	30	11	58
Senior	43	18	61

TABLE VIII

GRADE LEVEL AND MEAN SCORE OF STUDENTS ON THE KNOWLEDGE OF AGRICULTURE TEST ACCORDING TO ACREAGE OF HOME FARM LAND

	Acreage				
	Less Than 50	51 to 150	121 to 250	Over 250	Did Not Give Information
Per Cent of Class					
Freshman	54	28	8	7	3
Sophomore	48	25	7	6	14
Junior	43	30	12	11	4
Senior	45	33	9	7	6
Mean Score					
Freshman	53	54	52	50	
Sophomore	55	56	59	59	
Junior	56	60	55	57	
Senior	62	63	64	56	

Tables IX, X, and XI do not show a great difference in the level of knowledge students possess in the behavioral outcomes considered most important, important, and least important. It would be dangerous to compare students' ability on one behavioral outcome to another behavioral outcome because the difficulty level of individual indicators has not been established.

Relationship is shown in Table XII between the mean score rank of areas of agricultural credit training to the Q sort value of these areas. The Q sort value established "the use of credit" as the most important area of training, while the knowledge mean scores indicate that the best job of training of students is done in the area of the "sources of credit."

III. PROCEDURES AND MATERIALS USED IN AGRICULTURAL CREDIT EDUCATION

Agricultural credit education was added to most vocational agriculture curriculums through the efforts of the vocational agriculture teachers and lenders. Table XIII indicates that seventy-one vocational agriculture teachers were the primary influence and lenders the secondary influence. Lenders were the primary influence in 11 per cent of the cases. The increased use of credit is thought to be the reason for credit training to be included in the

TABLE IX

MEAN SCORES OF 1,489 STUDENTS AND SEVENTEEN TEACHERS PER INDIVIDUAL BEHAVIORAL OUTCOME INDICATORS OF THE KNOWLEDGE OF AGRICULTURAL CREDIT EXAMINATION BY GRADE LEVEL ACCORDING TO THE RANK OF THE TEN MOST IMPORTANT BEHAVIORAL OUTCOMES

Behavioral Outcomes			Mean Score per Grade Level*				Students' Mean	Teachers' Mean
Rank	Q Sort Number	Group Number	F.	S.	J.	S.	Score	Score
1	1	I	3	5	7	5	5	18
2	13	II	58	61	55	61	58	60
3	11	II	13	25	16	17	18	60
4	29	V	30	52	45	52	45	47
5	23	IV	74	84	45	87	72	94
6	22	IV	48	60	54	72	58	94
7	26	IV	33	41	68	52	48	76
8	24	IV	28	30	33	29	30	60
9	9	II	69	43	91	91	73	94
10	16	III	59	71	74	77	70	100

*F. Freshman
S. Sophomore
J. Junior
S. Senior

TABLE X

MEAN SCORES OF 1,489 STUDENTS AND SEVENTEEN TEACHERS ON KNOWLEDGE OF AGRICULTURAL CREDIT EXAMINATION ACCORDING TO FIFTEEN BEHAVIORAL OUTCOMES

Behavioral Outcomes			Mean Score per Grade Level*				Students' Mean	Teachers' Mean
Rank	Q Sort Number	Group Number	F.	S.	J.	S.	Score	Score
1	3	I	6	19	7	20	13	20
2	25	IV	62	74	75	83	73	94
3	28	IV	43	51	49	45	47	78
4	32	V	56	61	63	70	63	88
5	34	V	76	86	82	87	83	100
6	19	III	34	40	46	43	41	78
7	2	I	76	83	79	82	80	100
8	35	V	30	36	28	28	30	35
9	8	II	55	71	60	69	64	78
10	7	I	27	36	25	26	29	47
11	18	III	54	62	68	65	62	100
12	17	III	50	64	46	65	63	94
13	33	V	6	35	18	18	20	60
14	10	II	51	65	34	74	56	100
15	27	IV	47	62	66	67	60	100

*F. Freshman
S. Sophomore
J. Junior
S. Senior

TABLE XI

MEAN SCORE OF 1,489 STUDENTS AND SEVENTEEN TEACHERS PER INDIVIDUAL BEHAVIORAL OUTCOME INDICATORS OF THE KNOWLEDGE OF AGRICULTURAL CREDIT EXAMINATION BY GRADE LEVEL ACCORDING TO THE RANK OF THE TEN LEAST IMPORTANT BEHAVIORAL OUTCOMES

Behavioral Outcomes			Mean Score per Grade Level*				Students' Mean	Teachers' Mean
Rank	Q Sort Number	Group Number	F.	S.	J.	S.	Score	Score
1	31	V	22	23	24	22	23	40
2	20	III	49	58	40	62	52	100
3	6	I	64	82	73	78	74	87
4	5	I	44	52	32	37	41	60
5	15	III	66	56	80	87	73	100
6	30	V	69	72	76	76	74	100
7	4	I	50	57	47	69	56	94
8	21	III	35	41	39	39	39	76
9	14	II	20	39	42	44	36	88
10	12	II	50	56	55	61	55	76

*F. Freshman
S. Sophomore
J. Junior
S. Senior

TABLE XII

MEAN SCORES OF STUDENTS BY Q SORT RANKS FOR FIVE AREAS OF AGRICULTURAL CREDIT TRAINING

Areas of Agricultural Credit Training	Rank as to Q Sort	Rank as to Mean Score
I. General Information of Credit	4	5
II. Cost of Credit	2	3
III. Sources of Credit	5	1
IV. Uses of Credit	1	2
V. Repayment of Credit	2	4

TABLE XIII

PERSONS INSTRUMENTAL IN INTRODUCING AGRICULTURE CREDIT IN TENNESSEE'S PRESENT VOCATIONAL AGRICULTURE CURRICULUM ACCORDING TO THE TWENTY-NINE VOCATIONAL AGRICULTURE TEACHERS

Persons	Primary Influence	Per Cent	Secondary Influence	Per Cent
Vocational Agriculture Teachers	22	76	4	14
Loan Agents	3	11	21	73
Advisory Councilmen	2	7	1	3
Other Teachers	1	3	1	3
Students	1	3		

vocational agriculture curriculum. Table XIV shows that "increased use of credit" was the reason 73 per cent of the teachers gave for having credit training in their curriculum. Although the survey form did not include cooperative training and farm security administration training, as shown in Table XIV, 6 per cent of the teachers received training from these agencies, thereby causing them to include credit training in the curriculum. College training and state and local school policies were included "as possible sources of influence" on the survey. Each was listed one time as a secondary reason that agricultural credit training was included in the curriculum.

The survey form listed three major aims in teaching agricultural credit, forcing the teacher to select one of the three. Table XV shows that 70 per cent of the teachers have as their major aim acquainting the student with a general understanding of the use of credit.

Vocational agriculture departments offer training to high school students, young farmers, and adult farmers. Table XVI shows that 80 per cent of the teachers teach credit to the junior and senior classes. In a number of departments junior and senior students were combined in one class. This would account for the percentages being the same. Seventeen of the twenty-nine departments offer agricultural credit education to other than high school students. Five

TABLE XIV

REASONS GIVEN BY THE TWENTY-NINE TEACHERS IN TENNESSEE FOR TEACHING AGRICULTURAL CREDIT TO VOCATIONAL AGRICULTURE STUDENTS

Reasons	Number	Per Cent
Increased use of credit	21	73
Community environment	3	11
Tradition in the curriculum	2	7
In-service training	1	3
Cooperative training	1	3
Farm Security Administration training	1	3

TABLE XV

THE PRIMARY AIMS IN TEACHING STUDENTS AGRICULTURAL CREDIT ACCORDING TO THE TWENTY-NINE TEACHERS IN TENNESSEE

Aims	Number	Per Cent
Acquire a general understanding of the use of credit	20	70
Use credit wisely in their future farming activities	7	23
Use credit in their future careers related to farming	2	7

TABLE XVI

HIGH SCHOOL AND ADULT AGRICULTURAL CREDIT CLASSES TAUGHT BY TWENTY-NINE VOCATIONAL AGRICULTURE TEACHERS IN TENNESSEE

Grade Level	Classes Taught		
	Number Possible	Number Actual	Per Cent
Freshmen	29	7	23
Sophomores	29	10	35
Juniors	29	23	80
Seniors	29	23	80
Adult Farmers	29	17	22

departments reported young farmers classes and twelve reported adult classes in agricultural credit education.

Ninety per cent of the agriculture teachers reported that agricultural credit training was being emphasized too little, while 10 per cent believed it was being emphasized enough considering the number of other areas in the curriculum. The majority of the twenty-nine teachers believed that from 100 to 76 per cent of their students would profit from studying agricultural credit. Seventy-three per cent of the twenty-nine teachers reported that students have the same interest or more interest in agricultural credit than in other units which they teach in the agricultural curriculum. The majority of the teachers used some variation of the discussion method with other teaching techniques in credit education activities. All teachers used reference books and chalkboard in teaching agricultural credit. The majority of the teachers used models, movies, and agriculture charts. Two sources of instructional material shown in Table XVII, "lending agents visiting the class" and "the use of newspapers and consumer catalogs," were added to the survey by teachers. The lack of instructional material is emphasized in Table XVIII because only 10 per cent of the twenty-nine departments have over ten different reference books containing information concerning credit. The lack of educational material was emphasized in Table XIX showing that

TABLE XVII

INSTRUCTIONAL MATERIALS IN AGRICULTURAL CREDIT TRAINING USED BY TWENTY-NINE VOCATIONAL AGRICULTURE TEACHERS IN TENNESSEE

Instructional Materials	Number of Teachers	Per Cent
Chalkboard	29	100
Reference books	29	100
Models or copies of documents	19	66
Movies	16	54
Charts	16	54
Loan agents' visits to class	10	35
Visits to loan offices	9	32
Film strips	5	18
Recordings	2	7
Pictures	2	7
Newspapers and catalogs	2	7

TABLE XVIII

NUMBER OF DIFFERENT AGRICULTURE REFERENCE BOOKS CONTAINING CREDIT INFORMATION IN TWENTY-NINE VOCATIONAL AGRICULTURE DEPARTMENTS IN TENNESSEE

Number of Books	Number of Departments	Per Cent
Less than 5	18	62
5 to 10	8	28
11 to 15	2	7
16 to 20	1	3

TABLE XIX

NUMBER OF COPIES OF AGRICULTURAL CREDIT REFERENCES PER DEPARTMENT IN TWENTY-NINE VOCATIONAL AGRICULTURE DEPARTMENTS IN TENNESSEE

Vocational Agriculture Departments	Agricultural Credit References						
	Financing; Farming Activities	Production Credit Association Bulletins	Federal Land Bank Bulletins	United States Department of Agriculture Bulletins	A Source Unit for Teaching Farm Credit in Vocational Agriculture	University of Tennessee Agriculture Extension Bulletins	Bank Bulletins
West Tennessee							
1		25			1		50
2	2				1		
3	1	1	1		1		
4						1	
5	1				1		
6	12	5	5		5	1	1
7		12	12		10		
8	25	20	20		20	8	
9	1	15	1		6		
10	20	10	10		1	1	
Middle Tennessee							
1	1		3				
2	30	12	12	30	1		
3	1	2	2		3		
4	5	10	5		1		
5	25	20	20		1		
6	20	20	12		1		
7	6	20	5		1		
8		15	5				
9	5	20	20		1		
10	10	15	15		5		

TABLE XIX (continued)

Vocational Agriculture Departments	Agricultural Credit References						
	Financing, Farming Activities	Production Credit Association Bulletins	Federal Land Bank Bulletins	United States Department of Agriculture Bulletins	A Source Unit for Teaching Farm Credit in Vocational Agriculture	University of Tennessee Agriculture Extension Bulletins	Bank Bulletins
East Tennessee							
1	25	25	25	25	3		
2	20	15	15		1		
3	19	30	30	60			
4		15	15		1		
5	10	15	15				
6	25						
7	15	30	30	15	2		
8	30						
9	20		10	20	1		

only five of the twenty-nine departments have any bulletins from the United States Department of Agriculture relating to farm credit. Only one of these departments was in Middle Tennessee and the other four were in East Tennessee. The only departments having any bulletins from the University of Tennessee Agricultural Extension relating to farm credit were five departments in West Tennessee. Two departments in West Tennessee have bank bulletins. All of the other agricultural credit reference bulletins or booklets were either furnished them by the Production Credit Association or by the Federal Land Bank Association.

Most of the evaluation of the agricultural credit training activities was done by the vocational agriculture teacher. A small percentage of the teachers used resource personnel, and principals in evaluation. The deficiencies emphasized by the teachers were the lack of college training and the lack of instructional materials. Thirty-eight per cent, as shown in Table XX, reported that they did not receive college training which was required for teaching agricultural credit. All but one of the twenty-nine teachers desired assistance in teaching agricultural credit. As shown in Table XXI, 38 per cent of the teachers desired instructional materials assistance in teaching agricultural credit. A number of teachers reported a desire for more training in agricultural credit but only after classroom instructional

TABLE XX

REASONS LIMITING TEACHING OF AGRICULTURAL CREDIT ACCORDING TO TWENTY-NINE TEACHERS OF VOCATIONAL AGRICULTURE IN TENNESSEE

Reasons	Number	Per Cent
Lack of college training	11	38
Lack of instructional materials	9	32
Lack of time	5	18
Lack of in-service training	1	3
Lack of state and local school policies	1	3
Community environment	1	3
Not a problem	1	3

TABLE XXI

DESIRED ASSISTANCE IN TEACHING AGRICULTURAL CREDIT ACCORDING TO TWENTY-NINE TEACHERS OF VOCATIONAL AGRICULTURE IN TENNESSEE

Type of Assistance	Number of Teachers			
	First Choice	Per Cent	Second Choice	Per Cent
More instructional materials	11	38	11	38
In-service training (off campus with college credit)	8	28	7	23
In-service training (similar to TVA workshop)	8	28	6	20
Specialists to teach the classes	1	3		
Assistance not desired	1	3		

materials were obtained. Fifty-six per cent of the teachers desired in-service training either with or without college credit for the class. Teachers not desiring the college credit for the course were teachers who had already earned their Master's degree.

CHAPTER V

SUMMARY AND CONCLUSIONS

The major purposes of the study was to determine the need for planning and providing an in-service education program for vocational agriculture teachers to improve the teaching of agricultural credit to students of vocational agriculture in Tennessee.

I. SUMMARY OF SELECTED LITERATURE

Implementing curriculum changes requires professional competencies. The objectives of the curriculum are its foundation. In-service education is a useful channel for implementing curriculum changes.

The Whitlow, Hull, and Roman studies are sources of materials for teaching agricultural credit. The intelligent use of credit gives a man power to be a success and the lack of knowledge about credit may cause him to fail to attain his potential in life.

II. SUMMARY OF DATA

Q sort and knowledge of agricultural credit. Seven per cent of freshman vocational agriculture students have borrowed money and almost a fifth of the students in senior

vocational agriculture have used credit. Over 60 per cent of the parents of vocational agriculture students have borrowed money.

According to the Q sort, vocational agriculture education should be emphasing agricultural credit education in the following order of importance:

1. Uses of credit
2. Cost of credit and repayment of credit
3. General information about credit
4. Sources of credit

According to students' knowledge of agricultural credit, as indicated by test scores, the present instructional program is emphasizing credit in the following order of importance:

1. Sources of credit
2. Use of credit
3. Cost of credit
4. Repayment of credit
5. General information about credit

The greatest difference in the present educational program and the credit areas listed as important by the Q sort was in the area of "sources of credit." The teachers may not be over-emphasizing "sources of credit" in their activities, but almost all of the instructional material used in the departments was produced by the Federal Land Bank

Association, Production Credit Association, and commercial banks which may be an element that has caused more student-awareness in the "sources of credit."

In the total analysis of the Q sort, "use of credit" was the most important area of training, but the behavioral outcomes which the Q sort established as the ten most important behavioral outcomes were from each of the five areas as follows:

I. General information about credit
   Understanding the basic facts concerning credit

II. Cost of credit
   Possesses knowledge of how to build and maintain a good credit rating
   Has developed ability to compare actual interest charges to true interest rates
   Understands interest as a cost element in the conduct of business

III. Sources of credit
   Possesses knowledge of requirements for collateral and its use

IV. Use of credit
   Understands how credit is a tool of production
   Has developed competency in making the choice to use or not to use credit
   Understands partial budgeting and how to prepare it

Understands the different types of loans

V. Repayment of credit

Understands the responsibility for repayment of loans

Out of the ten most important behavioral outcomes, selected by the Q sort technique, the students, taking the knowledge of credit examination, scored the highest on the following three behavioral outcomes.

1. Understands interest as a cost element in the conduct of a business.
2. Understands how credit is a tool of production.
3. Possesses knowledge of requirements for collateral and its use.

Out of the ten most important behavioral outcomes, selected by the Q sort technique, the students, taking the knowledge of credit examination, scored the lowest on the following three behavioral outcomes.

1. Understands the basic facts concerning credit.
2. Has developed ability to compare actual interest charges with true interest rates.
3. Understands different types of loans.

The behavioral outcome, "has developed competence in calculating interest," was given a negative value by all the lenders but positive value by all the educators, although the lenders and educators gave positive value to the behavioral

outcome, "has developed ability to compare actual interest charges with true interest rates."

All the lenders gave positive value to the behavioral outcome, "understands the basic moral values which give direction to the proper use of credit," while 50 per cent of the educators gave it negative value and the other educators did not rate it negative or positive.

A scoring pattern cannot be determined from Table VIII (page 33). When analyzing the mean scores, the analyist must consider that the student who is forced to attend school may drop out at the age of seventeen, which is usually between the freshman and sophomore year, and that a number of students planning to go to college attending small rural schools have difficulty in scheduling agriculture classes after the sophomore year. Parents with less than 150 acres may not be financially able to send their children to college; therefore, these capable students continue four years of vocational schooling.

Materials and training procedures. Agricultural credit education is now a part of "Tennessee's Core Curriculum" for vocational agriculture, but the initial instruction of credit to the vocational agriculture curriculum was by the local vocational agriculture teacher and by local lending agents.

The primary aim of teaching agricultural credit was to acquaint students with "general understanding of the use of credit." Agricultural credit education was taught by 80 per cent of the teachers in the junior and senior classes. The interest of the students in credit education was ranked the same as or more than their interest in other units taught in vocational agriculture. Over 75 per cent of the teachers believed that over 75 per cent of their students would profit from studying agricultural credit and that agricultural credit education is not being emphasized enough as compared to other units taught. Practically all of the instructional materials used in teaching agricultural credit was obtained from lending agencies. Over 75 per cent of the teachers reported that their lack of college training and lack of instructional materials were the limiting factors in teaching credit.

III. CONCLUSIONS

The present educational program in agricultural credit. Eighty per cent of the teachers are teaching agricultural credit to junior and senior students and 22 per cent have classes for adults in credit. The phases of credit education receiving the highest student mean score in the curriculum are "sources of credit" and "use of credit." The basic instructional materials are those

obtained from lending agencies. The method used in developing the present program could not be defined by the study. Vocational agriculture teachers' concern with the increased use of credit by agriculturalists caused them to add credit education to their curriculum. Personnel of lending agencies were a secondary influence and in some cases the primary influence in implementing this curriculum addition. Many vocational agriculture teachers voluntarily include credit training in the curriculum. The basic weaknesses of the educational program was thought to be by the twenty-nine teachers, the vocational agriculture teachers' lack of training in credit, and the lack of instructional materials.

The review of literature and data indicated that agricultural credit education should be emphasized in the following order: "uses of credit," "cost of credit," "repayment of credit," "general information about credit," and "sources of credit." The study of the mean scores of vocational agriculture students and teachers, and the survey of materials and procedures used in agricultural education, indicated that the present credit educational program is being taught in the following order: "sources of credit," "uses of credit," "cost of credit," "repayment of credit," and "general information about credit." Comparing the two rankings indicates that the present educational training in

credit needs to be improved in the areas of "repayment of credit," "uses of credit," and "cost of credit."

IV. RECOMMENDATIONS

The demand for instruction in agricultural credit has increased and will likely increase in the future. Many vocational agriculture teachers and many students are aware of this condition; therefore, it is recommended that the educational training in credit at all levels of vocational agriculture be improved. It is essential that the educational materials which are available on credit be studied and assembled according to the high school students' ability and be made available to the vocational agriculture departments in quantity. It is essential, because of the teacher's lack of college training, that he receive in-service education in the knowledge of credit and methods of teaching credit. The leadership of credit education in the high school program has been assumed by the vocational agriculture teacher and by the personnel of the lending agencies. New leadership should be assumed also in colleges, teacher training departments in colleges, and State Department of Vocational-Technical Education.

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APPENDIXES

APPENDIX A

Q Sort Survey Form

GENERAL INSTRUCTIONS FOR USING THE Q SORT

These 35 behavioral outcomes have been selected as desirable for students' goals in the study of credit.

You are to select the ten behavioral outcomes which you consider the most important and the ten which you consider the least important.

From your selected group of the most important, select the one most important behavioral outcome (give it a +3) and select the next four most important behavioral outcomes (give each a +2). (Give a +1 to each remaining five.)

From your selected group of the least important select the one least important behavioral outcome (give it a -3) and select the next four least important behavioral outcomes (give each a -2). (Give a -2 to each remaining five.)

Value Weights		Behavioral Outcomes
_____	1.	Understands the basic facts concerning credit
_____	2.	Appreciates credit (advantages and disadvantages)
_____	3.	Understands the basic moral values which give direction to the proper use of credit
_____	4.	Understands the governmental laws relating to credit
_____	5.	Understands social structures and social processes relating to the use of credit
_____	6.	Possesses knowledge of credit terminology
_____	7.	Understands the merits of credit in free enterprise system
_____	8.	Skilled in determining the need for credit in relationship to cost of credit

Value Weights		Behavioral Outcomes
_____	9.	Understands interest as a cost element in the conduct of a business
_____	10.	Has developed competency in calculating interest
_____	11.	Has developed ability to compare actual interest charges with true interest rates
_____	12.	Understands the general operation cost of lending institutions (banks and other loan agencies)
_____	13.	Possesses knowledge of how to build and maintain a good credit rating
_____	14.	Possesses basic knowledge of the cost of money to the lending agencies
_____	15.	Understands the role of the appraiser
_____	16.	Possesses knowledge of requirements for collateral and its use
_____	17.	Has developed competency in selecting a lending agency
_____	18.	Possesses knowledge of the sources of credit
_____	19.	Understands how to apply for credit
_____	20.	Understands the different functions of lending institutions
_____	21.	Possesses basic knowledge of the sources of money to lending agencies
_____	22.	Has developed competency in making a choice to use or not to use credit
_____	23.	Understands how credit is a tool of production
_____	24.	Understands different types of loans
_____	25.	Understands a financial statement and how to prepare it

Value Weights		Behavioral Outcomes
_____	26.	Understands partial budgeting and how to prepare it
_____	27.	Understands the various uses of credit
_____	28.	Recognizes the potential uses and limits of credit
_____	29.	Understands the responsibility for repayment of loans
_____	30.	Understands the functions of different loan documents
_____	31.	Understands the fringe benefits and penalties for paying ahead of schedule
_____	32.	Understands the service charges, fees, and insurance rates of a loan
_____	33.	Understands different types of repayment plans
_____	34.	Understands the responsibility of co-signers
_____	35.	Possesses competency in the use of checks, deposit slips, etc.

APPENDIX B

Written Examination,

Behavioral Outcomes,

Indicators

EVALUATION OF THE KNOWLEDGE OF AGRICULTURAL CREDIT

Circle the letter which precedes the most nearly correct answer to the question.

I. Identification

1. The vo-ag class in which you are enrolled:

a. 9th
b. 10th
c. 11th
d. 12th

2. Number of acres in home farm:

a. Do not live on a farm or operate farm land.
b. Less than 50.
c. 50 to 100
d. 101 to 150
e. 151 to 200
f. 201 to 250
g. 251 to 300
h. Over 300

3. Have you ever borrowed money from a lending agency of any commercial type? a. Yes b. No

4. The lending agencies in your community:

a. Banks
b. Federal Land Bank
c. Production Credit Association
d. Farmers Home Administration
e. Finance agencies

II. Credit Knowledge

1. The largest share of the farm mortgage debt is held by

a. Banks
b. F L B (Federal Land Bank)
c. Individuals who sold the land
d. Insurance companies

2. Every person has

a. A limited total credit rating
b. An unlimited credit rating
c. An unlimited short term credit rating
d. An unlimited long term credit rating

3. Farmers would be most likely to borrow from consumer credit agencies for the purchase of
   a. land
   b. fertilizer
   c. household furniture
   d. machinery

4. The Production Credit Associations are
   a. Operated by federal government
   b. Operated by government employees
   c. Farmer owned and operated cooperatives
   d. Farmer operated but owned by the federal government

5. The net worth ratio of the farmers of the United States is approximately
   a. 7.5:1 (assets to liabilities)
   b. 1.5:2 (assets to liabilities)
   c. 1:7.5 (assets to liabilities)
   d. 1:1.5 (assets to liabilities)

6. The word credit comes from the
   a. English word "crease"
   b. Latin word "credo"
   c. Latin word "sic"
   d. English word "check"

7. Today the nation's business is conducted with
   a. Approximately 95% credit
   b. Approximately 50% credit
   c. Approximately 25% credit
   d. Approximately 75% credit

8. Making a plan with several alternatives for operating an agricultural business is
   a. to doubt personal ability to plan correctly
   b. to realize that there may be several profitable combinations
   c. to place too much dependence on a plan
   d. to show up an unprofitable part of the farm business

9. The charge made for the use of credit is
   a. Principal
   b. Equity
   c. Time
   d. Interest

10. If 5% interest and 5% carrying charge was the cost of borrowing $100.00, in a year the total cost would be
   a. $ 5.00
   b. $25.00
   c. $ 10.00
   d. $105.00

11. If on a $600.00 loan at 6%, interest was charged in advance and this amount added to the amount of the principal was repayed in twelve equal payments, the actual interest would be approximately

    a. 6% c. 9%
    b. 24% d. 11%

12. A high percentage of the interest paid to lending agencies is used

    a. To pay governmental officials
    b. For operational costs of the agencies and interest the agencies pay
    c. To pay insurance for individuals
    d. All of the above

13. One of the best recommendations an applicant can have for a loan is his

    a. Self-confidence
    b. Past record of honesty
    c. Financial position
    d. Managerial record

14. Lending agents borrow the money they loan

    a. Without cost from the federal government
    b. And pay one-half of the interest charges
    c. From only governmental sources
    d. And pay interest to the lending agents

15. The appraiser is a man who

    a. Estimates the normal value of assets
    b. Is an employee of the government
    c. Is president of the cooperative
    d. Gives examinations

16. Collateral may be defined as

    a. Security offered for repayment of a debt
    b. A co-signer
    c. A second mortgage negotiated at the same time as the first mortgage
    d. None of the above

17. The farm credit system consists of

    a. F L B (Federal Land Bank)
    b. P C A (Production Credit Assoc.)
    c. Bank for cooperatives
    d. All of the above

18. Short term loans are usually made to an individual by

    a. Insurance companies
    b. Federal Land Bank Associations
    c. Building and loan associations
    d. Commercial banks and PCA's

19. Usually the least personal information asked of the applicant seeking a loan

    a. The lower the loan cost
    b. The higher the total cost of the loan
    c. The smaller the total cost of the loan
    d. Lower will be the interest rate

20. Long term loans are usually made by the

    a. Production Credit Associations
    b. Auto finance companies
    c. Commodity credit corporation
    d. Federal Land Bank

21. Lending agencies borrow the money they lend from

    a. Intermediate credit banks
    b. Insurance companies
    c. Individuals
    d. All of these

22. Success in management is most dependent on

    a. Long time objectives
    b. Immediate objectives
    c. Intermediate objectives
    d. Inflexible objectives

23. Credit should be used to

    a. Spend money
    b. Buy luxuries
    c. Spend time
    d. Earn money

24. If a farmer needs capital to purchase livestock he should apply for

    a. An intermediate term loan
    b. A long term loan
    c. A short term loan
    d. A restocking loan

25. The amount of long term credit available to a farmer is determined by

    a. His security in the form of fixed assets reported on the financial statement
    b. The value of machinery he owns
    c. The amount of his current cash on hand
    d. The worth of his livestock

26. A budgeted loan of $2,000 at 6 per cent interest per annum with $500 disbursements to the borrower every three months compared to a $2,000 loan with interest charged in advance would cost

    a. $15.00 less
    b. $15.00 more
    c. $45.00 less
    d. $45.00 more

27. A good policy is to borrow money to

    a. Pay for a vacation
    b. Pay for a new car
    c. Relieve pressure on other debts
    d. Make money

28. Farmers borrowing money should obtain it from farm credit specialists because they know

    a. About credit and economies
    b. The money and stock market
    c. About credit and farming
    d. The farmers' objectives

29. A plan of repayment is necessary at the time money is borrowed because

    a. A farm business should repay the loan
    b. A maturity date should coincide with the purpose of the loan
    c. The borrower should show from what source the repayment will be made
    d. Those furnishing credit do not assume any risk

30. An instrument creating a lien or legal claim on property is known as a

    a. Promissory note
    b. Mortgage
    c. Release
    d. Penalty

31. Only a few lenders permit advance payments
    a. Giving large benefits
    b. Without endorsement of second person
    c. Without penalty
    d. Without increased collateral

32. The cost of a loan should include
    a. Interest
    b. Service charges and fees
    c. Insurance
    d. All of these

33. The two general types of repayment plans are
    a. Equal and decreasing
    b. Principal and interest
    c. Systematic and penalty
    d. Contract and non-contract

34. Agencies lending to a minor may
    a. Require another minor to sign with him
    b. Require him to have an adult co-signer
    c. Require the FFA chapter secretary to sign with him
    d. Require him to pay a higher interest rate

35. A cancelled check is a good evidence of payment
    a. And is a legal receipt
    b. Except for small amounts
    c. But is not a legal receipt
    d. Except for large amounts

BEHAVIOR OUTCOMES--INDICATORS

I. GENERAL INFORMATION OF CREDIT

A. Understands the basic facts concerning credit

The largest share of the farm mortgage debt is held by:

1. banks
2. F L B
*3. individuals who sold the land
4. insurance companies

B. Appreciates credit (advantages and disadvantages)

Every person has:

*1. a limited total credit rating
2. an unlimited credit rating
3. an unlimited short term credit rating
4. an unlimited long term credit rating

C. Understands the basic moral values which give direction to the proper use of credit

Farmers would be most likely to borrow from consumer credit agencies for the purchase of:

1. land
2. fertilizer
*3. household furniture
4. machinery

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*Correct answer

D. Understands the governmental laws related to credit

The Production Credit Associations are:

1. operated by federal government
2. operated by government employees
*3. farmer owned and operated cooperatives
4. farmer operated but owned by the federal government

E. Understands social structures and social processes relating to the use of credit

The net worth ratio of the farmers of the United States is approximately:

*1. 7.5:1 (assets to liabilities)
2. 1.5:2 (assets to liabilities)
3. 1:7.5 (assets to liabilities)
4. 1:1.5 (assets to liabilities)

F. Possesses knowledge of credit terminology

The word credit comes from the:

1. English word "crease"
*2. Latin word "credo"
3. Latin word "sic"
4. English word "check"

G. Understands the merits of the credit in the free enterprise system

Today the nation's business is conducted with:

*1. approximately 95% credit
2. approximately 50% credit

3. approximately 25% credit

4. approximately 75% credit

II. COST OF CREDIT

A. Skilled in determining the need for credit in relationship to cost of credit

Making a plan with several alternatives for operating an agricultural business is:

1. to doubt personal ability to plan correctly

*2. to realize that there may be several profitable combinations

3. to place too much dependence on a plan

4. to show up an unprofitable part of the farm business

B. Understands interest as a cost element in the conduct of business

The charge made for the use of credit is:

1. principal

2. equity

3. time

*4. interest

C. Has developed competency in calculating interest

If 5% interest and 5% carrying charge was the cost of borrowing $100.00, in a year the total cost would be:

1. $5.00

2. $25.00

*3. $10.00

4. $105.00

D. Has developed ability to compare actual interest charged with true interest rates

If on a $600.00 loan at 6%, interest was charged in advance and this amount added to the amount of the principal was repayed in twelve equal payments, the actual interest would be approximately:

1. 6%
2. 24%
3. 9%
*4. 11%

E. Understands the general operation cost of lending institutions (banks and other loan agencies)

A high percentage of the interest paid to lending agencies is used:

1. to pay governmental officials
*2. for operational cost of the agencies
3. to pay insurance for individuals
4. all of the above

F. Possesses knowledge of how to build and maintain a good credit rating

One of the best recommendations an applicant for a loan can have is his:

1. self confidence
*2. past record of honesty
3. financial position
4. managerial record

G. Possesses knowledge of the cost of money to the lending agencies

Lending agents borrow the money they loan:

1. without cost from the federal government
2. and pay one-half of the interest charges
3. from only governmental sources
*4. and pay interest to the lending agents

III. SOURCES OF CREDIT

A. Understands the role of the appraiser

The appraiser is a man that:

*1. estimates the normal value of assets
2. is an employee of the government
3. is president of the cooperative
4. gives examinations

B. Possesses knowledge of requirements for collateral and its use

Collateral may be defined as:

*1. security offered for repayment of a debt
2. a co-signer
3. a second mortgage negotiated at the same time as the first mortgage
4. none of the above

C. Has developed competency in selecting a lending agency

The farm credit system consists of:

1. FLB
2. PCA
3. Bank for cooperatives
*4. All of the above

D. Possesses knowledge of the sources of credit

Short term loans are usually made to individual by:

1. insurance companies
2. Federal Land Bank Associations
3. building and loan associations
*4. commercial banks and PCA's

E. Understands how to apply for credit

Usually the least personal information asked of the applicant seeking a loan:

1. the lower the loan cost
*2. the higher the total cost of the loan
3. the smaller the total cost of the loan
4. lowest will be the interest rate

F. Understands the different functions of lending institutions

Long term loans are usually made by the:

1. Production Credit Associations
2. auto finance companies
3. Commodity Credit Corporation
*4. Federal Land Bank

G. Possesses basic knowledge of the sources of money the lending agencies

Lending agencies borrow the money they lend from:

1. intermediate credit banks
2. insurance companies
3. individuals

*4. all of the above

IV. USES OF CREDIT

A. Has developed competency in making a choice to use or not to use credit

Success in management is most dependent on:

*1. long time objectives

2. immediate objectives

3. intermediate objectives

4. inflexible objectives

B. Understands how credit is a tool of production

Credit should be used to:

1. spend money

2. buy luxuries

3. spend time

*4. earn money

C. Understands different types of loans

If a farmer needs capital to purchase livestock he should apply for:

*1. an intermediate term loan

2. a long term loan

3. a short term loan

4. a restocking loan

D. Understands financial statements and how to prepare them

The amount of long term credit available to a farmer is determined by:

*1. his security in the form of fixed assets reported on the financial statement

2. the value of machinery he owns

3. the amount of his current cash on hand

4. the worth of his livestock

E. Understands partial budgeting and how to prepare it

A budgeted loan of $2000 at 6% interest per annum with $500 disbursements from the lender to the borrower every three months compared to interest charged in advance for a $2000 loan would cost:

1. $15 less

2. $15 more

*3. $45 less

4. $45 more

F. Understands the various uses of credit

A good policy is to borrow money to:

1. pay for a vacation

2. pay for a new car

3. relieve pressure on other debts

*4. make money

G. Recognizes the potential use and limits of credit

Those borrowing money should obtain it from farm credit specialists because they know:

1. about credit and economics

2. the money and stock market

*3. about credit and farming

4. the farmers' objectives

V. REPAYMENT OF CREDIT

A. Understands the responsibility for repayment of loans

A plan of repayment is necessary at the time money is borrowed because:

1. a farm business should repay the loan
2. a maturity date should coincide with the purpose of the loan
*3. the borrower should show from what source the repayment will be made
4. those furnishing credit do not assume any risk

B. Understands the functions of different loan documents

An instrument creating a lien or legal claim on property is known as a:

1. promissory note
*2. mortgage
3. release
4. penalty

C. Understands the fringe benefits and penalties for paying ahead of schedule

Only a few lenders permit advance payments:

1. giving large benefits
2. without endorsement of second person
*3. without penalty
4. without increased collateral

D. Understands the service charges, fees, and insurance rates of a loan

The cost of a loan should include:

1. interest
2. service charges and fees
3. insurance
*4. all of the above

E. Understands different types of repayment plans

The two general types of repayment plans are:

*1. equal and decreasing
2. principal and interest
3. systematic and penalty
4. contract and non-contract

F. Understands responsibility of co-signers

Agencies lending to a minor may:

1. require another minor to sign with him
*2. require him to have an adult co-signer
3. require FFA chapter secretary to sign with him
4. require him to pay a higher interest rate

G. Possesses competency in the use of checks, deposit slips, etc.

A cancelled check is good evidence of payment:

1. and is a legal receipt
2. except for small amounts
*3. but is not a legal receipt
4. except for large amounts

APPENDIX C

Survey Form on Credit Education

SURVEY FORM ON CREDIT EDUCATION

1. A. Why are you teaching agricultural credit in your present curriculum?

   1. Tradition in the curriculum_____
   2. Community environment_____
   3. My college training_____
   4. My in-service training_____
   5. State and local school policies_____
   6. Increased use of credit_____
   7. Other_____

   B. What is limiting your teaching of agricultural credit in your present curriculum?

   1. Tradition in the curriculum_____
   2. Community environment_____
   3. My lack of college training_____
   4. My lack of in-service training_____
   5. My lack of instructional materials_____
   6. Lack of state and local school policies_____
   7. My lack of time_____
   8. Other (specify)_____

2. What percentage of students in your classes do you believe will profit from agricultural credit training?

   (1) 100% to 76% _____ (2) 75% to 51% _____
   (3) 50% to 26% _____ (4) 25% to 0% _____

3. As you see it, agricultural credit training is being emphasized (present curriculum):

   (1) too much____ (2) enough____ (3) too little____

4. Your primary aim in teaching students agricultural credit is to help them

   (1) acquire a general understanding of the use of credit_____

   (2) use credit wisely in their future farming activities_____

   (3) use credit in their future careers related to farming _____

5. The agricultural credit units were taught to

   (1) all day students 9th___ 10th___ 11th___ 12th___

   (2) young farmer class_____

   (3) adult class_____

6. You find the students' interest in agricultural credit to be compared to other subjects or units to be

   (1) more than_____ (2) same_____ (3) less than_____

7. Who were instrumental in introducing agricultural credit in your present agriculture curriculum

   (1) vo-ag teacher _____
   (2) advisory council _____
   (3) other teachers _____
   (4) school administrators_____
   (5) students _____
   (6) loan agents _____
   (7) regional supervisors _____
   (8) others (specify) _____

8. The teaching procedure generally used was

   (1) vo-ag teacher leading discussion_____
   (2) vo-ag teacher presenting instructional materials and supervised study_____
   (3) vo-ag teacher presenting data with occasional use of community personnel_____

(4) class taught by specialists_____
(5) other (specify) _____

9. Instructional materials used were

(1) chalkboard_____ (4) film strips_____
(2) charts _____ (5) recordings _____
(3) movies _____ (6) pictures _____
(7) models or copies of documents_____
(8) visits to loan offices, etc. _____
(9) credit references (books, etc.)_____
(10) other (specify)_____

10. How many of the following agricultural credit references are in your department?

(1) Financing, farming activities (no. of copies)_____

(2) A Source Unit for Teaching Farm Credit in Vo-Ag _____

(3) Federal Land Bank Bulletin_____

(4) Production Credit Association Bulletin_____

(5) U. T. Ag. Ext. Bulletins_____

U.S.D.A. Bulletins_____

Other bulletins_____

(6) Different reference books with credit information

(a) Less than 5_____ (b) 5 to 10_____
(c) 11 to 15 _____ (d) 16 to 20_____
(e) 21 to 25 _____ (f) 26 and over _____

11. If you feel a need for assistance in teaching the use of credit, what kind of help could you use to best advantage?

(1) college class on credit with college credit_____

(2) in-service training (off-campus credit)_____

(3) in-service training (similar to TVA work shop)_____

(4) more instructional materials_____

(5) other (specify)_____

12. Who helped the teacher evaluate credit units?

(1) advisory council_____

(2) class members _____

(3) principal or teacher_____

(4) other (specify)_____

13. What factors or criteria were used in evaluating instruction?

(1) attendance_____

(2) written examination_____

(3) general interest in the subject_____

(4) personal comments_____

(5) other (specify) _____

APPENDIX D

Letter to Selected Teachers of Vocational Agriculture

THE UNIVERSITY OF TENNESSEE
Knoxville
College of Education

Department of
Agricultural Education

Date: April 2, 1964

To: Selected Teachers of Vocational Agriculture in Tennessee

From: Harold C. Gregory, Graduate Student

I am working on a research problem in the field of agricultural credit, and I am in need of your assistance. I hope that it will not be asking too much for permission to visit your department.

I have prepared a survey and a student evaluation form as a means for collecting data needed in developing my thesis. Because of certain items, these reports will be considered confidential.

If it is convenient for you, I plan on visiting your department the _____ of _____.
I have not written your principal. I would appreciate your clearing this visit with the principal if it is desirable. If the above time is not convenient with you, please let me know.

HCG/el

APPENDIX E

Twenty-nine Vocational Agriculture Departments Visited

THE TWENTY-NINE VOCATIONAL AGRICULTURE DEPARTMENTS VISITED

East Tennessee

County:	School:
Bradley	Bradley County High School Cleveland, Tennessee
Greene	McDonald High School Mohawk, Tennessee
Hamblen	Morristown High School Morristown, Tennessee
Hawkins	Rogersville High School Rogersville, Tennessee
Jefferson	White Pine High School White Pine, Tennessee
McMinn	Calhoun High School Calhoun, Tennessee
	McMinn County High School Athens, Tennessee
Monroe	Sweetwater High School Sweetwater, Tennessee
Washington	Sulphur Springs High School Jonesboro, Route 6, Tennessee

Middle Tennessee

County:	School:
Davidson	Donelson High School Donelson, Tennessee
Fentress	Alvin C. York Institute Jamestown, Tennessee
	Clarkrange High School Clarkrange, Tennessee

County:	School:
Overton	Rickman High School Rickman, Tennessee
Putman	Algood High School Algood, Tennessee
Rutherford	Kittrell High School Readyville, Tennessee
	Lascassas High School Lascassas, Tennessee
Sumner	Union High School Gallatin, Tennessee
Williamson	College Grove High School College Grove, Tennessee
Wilson	Lebanon High School Lebanon, Tennessee

West Tennessee

County:	School:
Crockett	Hamlett-Robertson High School Crockett Mills, Tennessee
Dyer	Dyersburg High School Dyersburg, Tennessee
Fayette	Fayette County High School Somerville, Tennessee
Gibson	Peabody High School Trenton, Tennessee
Hardeman	Central High School Bolivar, Tennessee
	Grand Junction High School Grand Junction, Tennessee

County:	School:
Henderson	Lexington High School Lexington, Tennessee
	Montgomery High School Lexington, Tennessee
Madison	Beech Bluff High School Beech Bluff, Tennessee
	East High School Jackson, Tennessee