

COMPARATIVE STUDY OF VOCATIONAL AGRICULTURE IV
CURRICULUM OF MULTI-TEACHER AND SINGLE TEACHER
DEPARTMENTS IN KANSAS

by 1264

LARRY CHARLES SCHWINTZ

B. S., Kansas State University, 1964

A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1969

Approved by:


Major Professor

LD
2668
R4
1969
534
c.2

ACKNOWLEDGEMENT

The helpful suggestions and guidance both professional and personal, given by Dr. Raymond J. Agan, Major Professor, Agriculture Education; Dr. James Albracht, In-service Teacher Trainer, Agriculture Education; Professor Howard Bradley, Teacher Educator, Agriculture Education; and those teachers of Vocational Agriculture included in the study, for their assistance in planning and preparation of this report were greatly appreciated.

Thanks to my wife, Martha Louise Schwintz, for her patience, encouragement and assistance in making this study possible.

TABLE OF CONTENTS

CHAPTER	PAGE
I. THE PROBLEM.	1
Introduction	1
The Problem.	2
Definitions of Terms Used.	3
II. REVIEW OF SELECTED LITERATURE.	5
III. PROCEDURE.	9
IV. FINDINGS	11
V. SUMMARY.	18
BIBLIOGRAPHY	21
APPENDIX A	23
APPENDIX B	28

LIST OF TABLES

TABLE	PAGE
I. Curriculum Organization.	12
II. Class Schedules.	13
III. Class Activities in Agriculture IV	14
IV. Agriculture IV Class Activities Listed by Vocational Agri- culture Teachers	15
V. Agriculture Mechanics in Agriculture IV.	17

CHAPTER I

THE PROBLEM

I. Introduction

Between the time of the passing of the School Unification Bill of 1965 and the time of this study, there was observed by the writer of this report a wide speculation as the implication of the bill to Kansas High Schools. The writer of this report had taught high school vocational agriculture for five years at the time of the study. All five years were taught at Prairie View Unified School District 362 located at La Cygne, Kansas.

Interest in this study, conducted in April-June, 1969, was further motivated due to the fact that La Cygne High School was unifying with Parker High School and Fontana High School. The three schools were planning to be in a new high school building in September, 1970. La Cygne and Parker High Schools had Vocational Agriculture Programs at the time of this study, but Fontana High School only had Industrial Arts. It was an observation of the writer of this report that all three high schools were made up primarily of rural students and there was a good deal of interest in Vocational Agriculture. It was the plan that during the school year 1969-1970 all seventh and eighth grade students would attend the Fontana High School attendance center. Parker High School would be the attendance center for the freshmen and sophomore students during the 1969-1970 school year. All juniors and seniors of the Prairie View Unified School District 362 would attend La Cygne High School attendance center. The enrollment figures for the combined Vocational Agriculture

programs of Prairie View Unified School District were approximately eighty students. Because the enrollment in Vocational Agriculture would be increased to approximately eighty students, it was felt by the La Cygne teacher of Vocational Agriculture that there would be a great need for a two teacher department. In an interview with Dr. James Albracht, teacher educator for agriculture education, College of Education, Kansas State University, December, 1968, he stated an opinion that there would be a need for a multi-teacher department upon completion of the new high school in September, 1970. Basic questions which evolved in the thinking of the writer of this report because of the aforementioned situation were: (1) When smaller schools unify into one larger unit how should programs of instruction be integrated? (2) Are there some ways that the transition could be made smoothly without loss of education continuity? (3) What was the common course of study followed in Vocational Agriculture IV?

II. The Problem

Statement of the problem. This study was designed to compare the differences and similarities of multi-teacher and single teacher Vocational Agriculture IV classes in Kansas. The main purpose of the study was to identify, through the use of a questionnaire, any difference which might exist in the courses of study used in Vocational Agriculture IV classes in multi-teacher departments as compared with courses of study used in Vocational Agriculture IV classes in single teacher departments. The data gathered was limited to the information supplied by the teachers of Vocational Agriculture in the schools studied in response to a questionnaire mailed to them.

Importance of the study. It was rationalized that there should have been a marked difference between Vocational Agriculture I, II, III, and IV so that the senior students were getting educational experiences that were challenging to them as seniors and not simply a repetition of those that were presented to them as freshmen or sophomores. In order to build a program of study that was challenging it was reasoned that teachers must answer two time worn questions: (1) are teachers giving the students four years of experience or (2) one year of experience four times?

III. Definitions of Terms Used

Certain terms were set aside for special definition for purposes of the study. The definitions may or may not have been those in common usage at the time of this study.

Course of study. The material that is presented in a specific year.

Cross-sectional plan of course organization. The cross-sectional plan of course organization in which the problems in an area of instruction are distributed throughout two or more years of instruction.

Curriculum. For the purpose of this study the curriculum is a design or plan of education.

District. A division of the State of Kansas according to the number of Vocational Agriculture departments. The districts in Kansas, of which there are seven, are set up for administrative purposes in the Future Farmer of America organization and the Vocational Agriculture program.

Integration. The combining of two or more Vocational Agriculture departments and establishing a course of instruction for all four years.

Modified cross-sectional plan of course organization. A modified cross-section plan of course organization is when a certain phase or phases of instruction, such as introduction to agriculture, agriculture, science, or agriculture business management receives central emphasis in each course.

Multi-teacher department. Vocational Agriculture department in which there are two or more teachers of Vocational Agriculture.

Single teacher department. Vocational Agriculture department in which there is one teacher of Vocational Agriculture.

Traditional type of course organization. The traditional type of course organization is when each year is devoted to a different phase of instruction.

Vocational Agriculture IV. An elective course in agriculture for senior students, may be used synonymously in this study, with senior agriculture and/or Agriculture IV.

Vocational Agriculture III. An elective course in agriculture for junior students, may be used synonymously in this study, with junior agriculture.

Vocational Agriculture II. An elective course in agriculture for sophomore students, may be used synonymously in this study, with sophomore agriculture.

Vocational Agriculture I. An elective course in agriculture for freshmen students, may be used synonymously in this study, with freshman agriculture.

CHAPTER II

REVIEW OF SELECTED LITERATURE

A survey was made of literature in the library of the Agriculture Education Office, Kansas State University, Farrell Library, Kansas State University and the author's personal library. The search included selected volumes of The Agriculture Education Magazine, one Masters thesis, and one masters report¹ on multi-teacher departments.

The central theme of the search for related literature was in regard to evaluation of Vocational Agriculture programs and course of study. More literature was found which was slanted toward course content than toward the form of presentation. Certain articles of related literature were selected for presentation in this report.

Bryant brought out the fact that teachers in multi-teaching situations will increase considerably in the years ahead.² Not only was the teaching function a possible specialization within multi-teacher departments, but there was also the possibility of specializing ones effort with the clientele he preferred to teach.³

Working together was the key to successful relationships in multi-teacher departments pointed out Phipps.⁴ In this reference the author

¹D. N. Pandya, "Comparative Study of Agriculture Curriculum Followed in High Schools of the State of Kansas and Gujarat," (unpublished masters report, Kansas State University, Manhattan, 1952).

²Douglas Bryant, "Preferences for Teaching in Multi-teacher Programs," The Agriculture Education Magazine, 37:49, August, 1964.

³Ibid.

⁴Lloyd J. Phipps, Handbook on Agriculture Education in Public Schools, (Danville, Illinois: Interstate Printers and Publishers, 1965), p. 737.

brought out the advantage and disadvantages of multi-teacher departments and stated that the many successful multiple teacher departments indicated that the advantages outweighed the problems.⁵

Coster brought out that the rapid change that was being evidenced in the agriculture of the day should be reflected in the curriculum planning for Vocational Agriculture.⁶ That the local program planning was the responsibility of the teacher, guidance counselor, principal, key farmers, and local successful business men or industrial leaders was stated by Murphrey.⁷

When talking about the success of Vocational Agriculture, Faulkner stated that the reasons for success in the past was due to meeting the needs of the community and the success in the future would be determined by this same fact.⁸

Armstrong and James compared the Vocational Agriculture program and evaluation to a tree and the pruning process.⁹ In order to produce maximum yields water sprouts and dead and diseased wood must have been removed in the pruning process. So outdated courses of study and

⁵Ibid.

⁶John K. Coster, "Curriculum Planning and Technical Developments in Agriculture," The Agriculture Education Magazine, 34:90, October, 1961.

⁷Anthony Murphrey, "Some Suggestions for Planning Local Programs," The Agriculture Education Magazine, 38:129, December, 1965.

⁸T. L. Faulkner, "Updating Vocational Agriculture to Meet Present and Future Needs," The Agriculture Education Magazine, 38:85, October, 1965.

⁹L. O. Armstrong and Gerald B. James, "The Vo-Ag Tree," The Agriculture Education Magazine, 26:45, August, 1953.

outmoded methods must be deleted from Vocational Agriculture programs in order to maximize the productivity of the remaining.¹⁰

Scarborough wrote that tradition could be the major obstacle in the transformation from the one-man vocational agriculture department to the multiple-teacher situation. In the multiple-teacher department, the most important advantage over the traditional one-man department was the opportunity to specialize.¹¹

The decision to expand the staff to include a second teacher should be based on the all-day enrollment, number of adult classes, and other factors, such as need for a specialist, needs of the community, opinion of present teacher, and opinion of the advisory council stated Horton.¹²

Elson established certain guidelines when establishing a multi-teacher department. These findings are as follows.

(1) An additional teacher could be justified because of a high demand for young and/or adult farmer classes.

(2) A high demand for specialized training of high school students could justify an additional teacher.

(3) Teachers, administrators, and state supervisory personnel should all have a direct role in the development of policies for the multiple-teacher department.

(4) Assignment of teaching duties should be made through cooperation of all teachers and the administrator and should be in writing. A definite assignment should be made concerning reports.

¹⁰Ibid.

¹¹Cayce Scarborough, "Tradition vs. Specialization," The Agriculture Education Magazine, 39:27, August, 1966.

¹²J. C. Horton, "Organization of Multiple-Teacher Programs," The Agriculture Education Magazine, 39:30, August, 1966.

(5) Students should be grouped according to year in school and taught by teachers specializing in particular areas.

(6) Supervisory visits should be made by the teacher with a specialization which corresponds to the student's needs. At least one hour should be scheduled during each school day for visitation.

(7) A multiple-teacher department should not have more than one F. F. A. Chapter and all duties of the advisor should not be assigned to one teacher. The training of teams should be the responsibility of the teacher with an interest in the particular area.

(8) Advisory councils are necessary for effective operation of multiple-teacher departments.

(9) Each teacher in a department should have separate classrooms, but one shop would be sufficient with one teacher responsible for stocking the shop supplies. Scheduling use of facilities and/or equipment should be a shared responsibility of the teachers in the department.

(10) One teacher should be selected as head teacher by the administrator with the approval of the teachers in the department. The head teacher should have the authority to make decisions within the policies of the school and should receive compensation for those added responsibilities in monetary form or by reducing his teaching load.¹³

The review of literature was summarized by stating that a majority of teachers favored multi-teacher departments to single teacher departments. When a program was planned, outside help should be incorporated. With the addition of agricultural related programs, it was necessary to meet the needs of community, county, state, and nation. The aims and objectives of the total program had to be kept in mind when evaluation took place. The teacher should have been constantly updating and reevaluating the local schools Vocational Agriculture program.

¹³Donald Eugene Elson, "Operational Procedures for Multiple-Teacher Departments of Vocational Agriculture" (unpublished Master's thesis, Kansas State University, Manhattan, 1968), pp. 1-3.

CHAPTER III

PROCEDURE

In order to make a comparative study of Vocational Agriculture IV curriculums of multi-teacher and single teacher departments, a questionnaire was formulated. The Business of Farming for 12th Grade Vocational Agriculture Students¹ and a letter (see appendix B) from C. C. Eustace, State Supervisor, sent to all Vocational Agriculture teachers in Kansas August 29, 1968, served as a guide in the formulation of the questionnaire used in this study. Upon completion of the first draft of the questionnaire it was trial tested on a group of teachers which were meeting at Paola High School under the direction of Dr. James Albracht. After corrections were made on the questionnaire it was checked and approved by Dr. Raymond Agan.

The completed questionnaire (see appendix A) consisted of items of instruction that could be presented in Vocational Agriculture IV. Each teacher in the study was asked to check the items presented in his department and also the number of hours spent on each item in class or agriculture mechanics instruction. Other items included on the questionnaire were total number of student agriculture classes, number of seniors in agriculture classes, type of schedule, number of Agriculture IV classes, number of adult farmer and young farmer classes this year, whether Agriculture IV was combined with other classes or separate, and

¹The Business of Farming for 12th Grade Vocational Agriculture Students, issued by State Board for Vocational Education, Topeka, Kansas, July, 1962, (mimeographed material).

if Agriculture mechanics was a part of Agriculture IV or separate.

All multi-teacher departments, of which there were thirteen, were sent questionnaires, the envelopes being addressed to all of the teachers by name. To form the comparison group the questionnaire was sent to two teachers from randomly selected single teacher departments in each of the Northcentral district, the Eastcentral district, the Southcentral district, the Northeastern district, the Southeast district, and the Northwest district. One teacher from the Southwest district was randomly selected and sent a questionnaire. Only thirteen teachers of single teacher departments were needed as a comparison group. For this study the district with the smallest number of departments was allowed one department.

The procedure for random selection involved the 1968-1969 Vocational Agriculture Directory.² The departments in each of the seven districts were assigned numbers and these numbers were drawn from a box. The teachers of these departments were then sent questionnaires.

The first questionnaire was sent to the teachers of the twenty-six departments May 15, 1969 and the teachers were asked to return the questionnaire prior to May 30, 1969. A follow-up letter was sent to those teachers who didn't respond upon the first request June 12, 1969. The survey was closed July 3, 1969.

²Directory--1968-1969, (Topeka: Kansas State Board for Vocational Education, 1968). (Mimeographed)

CHAPTER IV

FINDINGS

This study was designed to compare the differences and similarities of multi-teacher and single teacher Vocational Agriculture IV classes in Kansas. The main purpose of the study was to survey through to use of a questionnaire (see appendix A) any differences which might exist in the course of study used by Vocational Agriculture IV classes in multi-teacher departments as compared with courses of study used in Vocational Agriculture IV classes in single teacher departments.

A questionnaire consisting of items of instruction that could be presented in Vocational Agriculture IV was sent to each teacher. Each teacher in the study was asked to check the items presented in his department and also the number of hours spent on each item in class or agriculture mechanics instruction. The questionnaire was sent to thirteen teachers of multiple-teacher departments and thirteen teachers in single teacher departments. Returns were received from nine teachers of multi-teacher departments or 69.23 percent and ten teachers or 76.92 percent of the single teacher departments. A total of nineteen or 73.07 percent of the twenty-six questionnaires mailed to the teachers were returned.

The results of the questionnaire were tabulated according to percentages and averages based on the number of questionnaires returned.

The tables in this chapter include the average of the hours reported and the percentage values. Class activities of Agriculture IV are presented as well as some of the other items not included in curriculum of Agriculture IV.

It was noted on Table I that five of the nine multiple teachers, responding to the questionnaire, had adult farmer classes in 1968-1969 while there were no adult farmer classes held by the ten single teacher departments. Young farmer classes were held by four of the ten single teacher departments responding while seven of the nine multiple teacher departments had young farmer classes during 1968-1969. Enrollment in Vocational Agriculture IV was 6.3 for the single teacher departments as compared to 13 for multiple teacher departments.

TABLE I
CURRICULUM ORGANIZATION

	Ten Single Teacher Departments	Nine Multiple Teacher Departments
1. Total number of student agriculture classes (ave.)	4	4.55
2. Number of seniors in your classes (ave.)	6.3	13
3. Number of agriculture IV classes (total)	9	12
4. Adult farmer classes (total)	0	5
5. Young farmer classes (total)	4	7
6. Agriculture IV combined with other class	2	2
7. Agriculture IV as separate	8	7
8. Agriculture mechanics separate	2	1
9. Agriculture mechanics a part of Agriculture IV	8	8

From the data gathered from the nine multi-teacher departments it was noted on Table II that two departments did not have Vocational Agriculture I because of the seventh, eighth, and ninth grade students being in a junior high building separate from the senior high building. The common schedule of the ten single teacher departments in this study was a 1-2-1-1 with 6 of the ten departments having this schedule.

TABLE II
CLASS SCHEDULES

<u>SCHEDULE</u>	<u>MULTI-TEACHER</u>	<u>SINGLE TEACHER</u>
1-1-1	1	0
2-2-2	1	0
1-1-1-1	2	2
1-2-1-1	0	6
1-1-2-1	1	0
1-2-1-2	0	1
1-2-2-1	3	1
1-2-2-2	1	0

Table III shows the items that were included on the questionnaire in the classroom section of Agriculture IV. It was reported that the greatest difference existed between the hours of instruction in government programs, 3.39 hours. The least difference, it was reported, in hours in instruction was found in insurance, 0.13. The average difference in hours of instruction was .51.

The questionnaire gave the respondents an opportunity to list

specific classroom activities beyond those presented on the questionnaire form. The items, average hours and percentages so listed are found in Table IV. Teachers from multiple teacher departments who returned questionnaires indicated that they spend an average of 109.03 hours in class instruction as compared to participating single teacher department teachers who reported an average of 91.7 hours in class instruction. These hours were based on a total of 180 possible hours of class and agriculture mechanics instruction.

TABLE III
CLASS ACTIVITIES IN AGRICULTURE IV

	Ten Single Teacher Departments		Nine Multiple Teacher Departments	
	Ave. Hrs.	%	Ave. Hrs.	%
F. F. A.	12.60	13.74	11.44	10.49
Career Opportunities	7.60	8.29	8.88	8.14
Farm Credit and Finance	10.90	11.89	11.77	10.80
Insurance	4.90	5.34	4.77	4.37
Government Programs	9.50	10.36	6.11	5.60
Farm Accounts and Records	12.60	13.74	11.33	10.39
Lost Days	11.80	12.87	10.55	9.68
Agriculture Occupations	7.00	7.63	7.44	6.82

Table V shows the items that were reported to have been presented in Agriculture Mechanics the senior year in multiple and single teacher

TABLE IV
 AGRICULTURE IV CLASS ACTIVITIES LISTED BY
 VOCATIONAL AGRICULTURE TEACHERS

	Ten Single Teacher Departments		Nine Multiple Teacher Departments	
	Ave. Hrs.	%	Ave. Hrs.	%
Living in Todays World	0.00	.00	2.11	1.94
Planning Farm Business	0.00	.00	8.11	7.45
Magazine Reports and Doanes Management Guides	.80	.87	1.22	1.12
Production Goals	0.00	.00	1.22	1.12
Farm Law	2.00	2.18	2.88	2.64
Farm Organization	0.00	.00	.22	.20
Livestock Management and Animal Nutrition	6.70	7.31	5.33	4.89
Crop Management	2.80	3.05	5.33	4.89
A. H. Practicums	0.00	.00	3.22	2.95
Livestock Judging	0.00	.00	5.55	5.09
Marketing	1.20	1.31	1.33	1.22
Types of Business	0.00	.00	.22	.20
Horticulture	1.30	1.42	0.00	.00
Total for Tables I and II	91.70	100.00	109.03	100.00

departments included in this study. The first seven items of Table V were found on the questionnaire sent to the teacher and the bottom six items were specific agriculture mechanics activities listed by the respondent. It was reported by two teachers writing in the activity

that multiple teacher departments spent 1.33 hours on micro and heliarc welding instruction while none of the teachers in the single teacher departments reported spending time with this activity. The single teacher departments reported spending 64.20 hours in agriculture mechanics instruction while the multiple teacher departments in this study reported spending 90.28 hours. From this table it was noted that 63.55 percent of the agriculture mechanics instruction of single teacher departments was in project work while teachers of multiple teacher departments spent 66.30 percent of their agriculture mechanic instruction in project work. From the data gathered it was noted that one single teacher department did not have agriculture mechanics the senior year but spent the entire year in classroom instruction. Another teacher from a single teacher department reported not having Agriculture IV during the year of the study (1968-1969) because of small enrollment. Of the nine multiple teacher departments that returned questionnaires it was noted that one department taught agriculture mechanics for seniors separate as compared to two of the ten single teacher departments.

TABLE V
 AGRICULTURE MECHANICS IN AGRICULTURE IV

	Ten Single Teacher Departments		Nine Multiple Teacher Departments	
	Ave. Hrs.	%	Ave. Hrs.	%
Tractor Maintenance	3.90	6.07	6.22	6.89
Machinery Repair	4.60	7.17	8.22	9.11
Project Work	40.80	63.55	59.86	66.30
Small Engines	5.50	8.57	0.00	.00
Electricity	5.20	8.10	3.33	3.69
Soil Conservation	3.50	5.45	3.33	3.69
Large Engine Overhaul	0.50	.78	1.11	1.23
Concrete	0.20	.31	3.33	3.69
Preparation for Contests	0.00	.00	1.11	1.23
Lathe	0.00	.00	1.11	1.23
Micro and Heliarc Welding	0.00	.00	1.33	1.47
Machinery Costs	0.00	.00	1.22	1.35
Fuels	0.00	.00	.11	.12
Total	64.20	100.00	90.28	100.00

CHAPTER V

SUMMARY

This study was designed to compare the differences and similarities of multi-teacher and single teacher Vocational Agriculture IV classes in Kansas. The main purpose of the study was to identify, through the use of a questionnaire, any difference which might exist in the course of study used in Vocational Agriculture IV classes in multi-teacher departments as compared with courses of study used in Vocational Agriculture IV classes in single teacher departments. The data gathered was limited to the information supplied by the teachers of Vocational Agriculture in schools studied in response to a questionnaire mailed to them.

The review of literature was summarized by stating that a majority of teachers favored multi-teacher departments to single teacher departments. When a program was planned outside help should be incorporated with the addition of agriculture related programs, it was necessary to meet the needs of community, county, state, and nation. The aims and objectives of the total program had to be kept in mind when evaluation took place. The teacher should have been constantly updating and reevaluating the local schools Vocational Agriculture programs.

All multi-teacher departments, of which there were thirteen, were sent questionnaires, the envelopes being addressed to all of the teachers by name. To form the comparison group the questionnaire was sent to two teachers from randomly selected single teacher departments in each of the Northcentral district, the Eastcentral district, the Southcentral

district, the Northeastern district, the Southeast district, and the Northwest district. One teacher from the Southwest district was randomly selected and sent a questionnaire. Thirteen teachers of single teacher departments were used as a comparison group. For this study the district with the smallest number of departments was allowed one department.

Teachers of multiple and single teacher Vocational Agriculture departments in Kansas reported the items and the number of hours of instruction in Vocational Agriculture IV. The study was designed to compare the responses of Vocational Agriculture teachers by averages and percentages. Returns were received from nine teachers of multi-teacher departments or 69.23 percent and ten teachers or 76.92 percent of the single teacher departments. A total of nineteen or 73.07 percent of the twenty-six questionnaires mailed to the teachers were returned.

Teachers from multiple teacher departments who returned questionnaires indicated that they spent an average of 109.03 hours in class instruction as compared to participating single teacher department teachers who spent an average of 91.70 hours in class instruction. The most time spent in classroom instruction of multiple teacher departments was in farm credit and finance, 11.77 hours. Single teacher department teachers reported that they spent the most time of classroom instruction in farm accounts and records, 12.60 hours.

It was reported that teachers of single teacher departments spent 64.20 hours in agriculture mechanics instruction while the teachers of multiple teacher departments spent 90.28 hours. It was reported that teachers of multiple teacher departments and teachers of single teacher

departments spent most of their hours in project work instruction, 40.80 hours and 59.86 hours.

Five of the nine multiple teachers, responding to the questionnaire, had adult farmer classes in 1968-1969 while there were no adult farmer classes held by the ten single teacher departments. Young farmer classes were held by four of the ten single teacher departments responding while seven of the nine multiple teacher departments had young farmer classes during 1968-1969.

It was observed by the author of this report that most multi-teacher departments appear to allow for (1) more adult education in agriculture (2) more specialization by the teachers and (3) wider variation in subject matter content in Agriculture IV curriculum.

BIBLIOGRAPHY

BIBLIOGRAPHY

- Armstrong, L. O. and Gerald B. James. "The Vo-Ag Tree," The Agriculture Education Magazine, 26:45, August 1953.
- Atherton, J. C. "Building A Dynamic Vocational Agriculture Program," The Agriculture Education Magazine, 38:146, December 1965.
- Brown, William J. Jr. "Teaching Guide Can Speed Curriculum Change," The Agriculture Education Magazine, 37:198-99, February 1965.
- Bryant, Douglas. "Preferences for Teaching in Multi-Teacher Programs," The Agriculture Education Magazine, 37:48-49, August 1964.
- Coster, John K. "Curriculum Planning and Technical Developments in Agriculture," The Agriculture Education Magazine, 34:89-90, 92, October 1961.
- Directory-1968-1969. Topeka: Kansas State Board for Vocational Education, 1968.
- Ellis, W. T. "New High School Vo-Ag Courses Developed," The Agriculture Education Magazine, 37:250-51, April 1964.
- Elson, Donald Eugene, "Operational Procedures for Multiple-Teacher Departments of Vocational Agriculture." Unpublished Master's thesis, Kansas State University, 1968.
- Juergenson, E. M. "Building a Challenging Course of Study," The Agriculture Education Magazine, 28:67-68, September 1955.
- Mumphrey, Anthony. "Some Suggestions for Planning Local Programs," The Agriculture Education Magazine, 38:129, December 1965.
- Pandya, D. N. "Comparative Study of Agriculture Curriculum Followed in High Schools of the State of Kansas and Gujarat," Unpublished Master's Report, Kansas State University, Manhattan, 1952.
- Phipps, Lloyd J. Handbook on Agriculture Education in Public Schools. Danville, Illinois: Interstate Printers and Publishers, 1965. 774 pp.
- Tarone, Ernest and E. M. Jergensen. "15 Kinds of Teacher Problems," The Agriculture Education Magazine, 37:192-93, February 1965.
- The Business of Farming for 12th Grade Vocational Agriculture Students. Topeka: Kansas State Board for Vocational Education, July 1962.
- Warmbrod, J. Robert. "The Sampling Problem in Research Design," The Agriculture Education Magazine, 38:106-7, 114-15, November 1965.