

72-16,018

STOLLER, Ronald Eugene, 1926-
THE IDENTIFICATION AND DIFFERENTIATION OF
SELECTED PROFESSIONAL COMPETENCIES FOR
AGRICULTURAL EDUCATORS.

The University of Nebraska, Ph.D., 1971
Agriculture, general

University Microfilms, A XEROX Company, Ann Arbor, Michigan

© 1972

RONALD EUGENE STOLLER

ALL RIGHTS RESERVED

THIS DISSERTATION HAS BEEN MICROFILMED EXACTLY AS RECEIVED

THE IDENTIFICATION AND DIFFERENTIATION OF SELECTED PROFESSIONAL
COMPETENCIES FOR AGRICULTURAL EDUCATORS

by

Ronald E. Stoller

A DISSERTATION

Presented to the Faculty of

The Graduate College in the University of Nebraska

In Partial Fulfillment of Requirements

For the Degree of Doctor of Philosophy

Adult Education Area

Under the Supervision of Professor James T. Horner

Lincoln, Nebraska

December, 1971

TITLE

THE IDENTIFICATION AND DIFFERENTIATION OF SELECTED PROFESSIONAL

COMPETENCIES FOR AGRICULTURAL EDUCATORS

BY

Ronald E. Stoller

APPROVED

DATE

James T. Horner

August 30, 1971

Ross D. Dillon

Ausut 30, 1971

Robert J. Florell

August 30, 1971

Otto G. Hoiberg

August 30, 1971

Wesley C. Meierhenry

August 30, 1971

SUPERVISORY COMMITTEE

GRADUATE COLLEGE

UNIVERSITY OF NEBRASKA

ACKNOWLEDGEMENTS

The author wishes to express his appreciation to many individuals who assisted to make this investigation possible. All of the many persons who assisted with the initial development of the study questionnaire, the development and testing of the questionnaire; and many others who provided guidance and counsel in the development of this study are gratefully acknowledged. Special acknowledgement and appreciation is also given the respondents for their time in responding to the lengthy list of competencies.

Special appreciation is extended to Dr. James T. Horner who served as chairman of the supervisory committee. Appreciation is also extended to Dr. Robert J. Florell, Dr. Wesley C. Meierhenry, Dr. Otto G. Hoiberg, and Dr. Roy D. Dillon who served as members of the supervisory committee.

The author also wishes to acknowledge with sincere appreciation all the encouragement, assistance, and tolerance provided by his wife and family throughout the study.

R.E.S.

TABLE OF CONTENTS

CHAPTER	PAGE
I. INTRODUCTION	1
The Problem.	2
Delimitations.	2
Definition of Terms.	2
The Design of the Study.	4
Assumptions.	6
Hypothesis	6
Design and Procedure	6
Analysis of Data	7
Organization of the Study.	7
II. REVIEW OF SELECTED LITERATURE.	9
Rationale for a Study of Teacher Competencies.	9
Influence of Federal Legislation on Agricultural Education Preparation Programs.	14
Flexibility of Agricultural Education Programs to Meet the Needs of a Changing Agricultural Society	16
Provision of Opportunities for Change by Legislation in the 60's	17
Emerging Needs for Agricultural Educators in Postsecondary School Programs.	24
Summary of the Review of Literature.	25
III. PROCEDURES AND METHODS USED IN THIS STUDY.	26
Development of the Questionnaire	26
Sample Population.	27
Administration of the Questionnaire.	28
Descriptive Data About the Sample Population	30
Statistical Procedure.	37
Summary.	38
IV. FINDINGS	40
Summary of the Central Core.	43
Professional Competencies Identified as Essential for County Extension Agents and Instructors of Secondary Vocational Agriculture.	55
Professional Competencies Identified as Essential for Instructors of Secondary Vocational Agriculture	55

Professional Competencies Identified as Essential for Secondary and Postsecondary Instructors of Vocational Agriculture	59
Professional Competencies Identified as Essential for Instructors of Postsecondary Agriculture.	59
Professional Competencies Identified as Essential for County Extension Agents	59
Professional Competencies Identified by All Respondent Groups as "Need to Know But Not Essential".	65
Professional Competencies Identified "Not Necessary for Their Job".	72
Summary of Findings.	72
V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	78
Summary.	78
Purpose	78
Need for the Study.	78
Theoretical Model and Hypothesis.	79
Design and Procedure.	79
Organization of Summary Data.	80
Conclusions and Implications.	81
Recommendations for Further Study.	85
BIBLIOGRAPHY	87
APPENDIX A - Central Core of Competencies Identified as Essential for All Respondent Groups (No Significant Differences Noted When the Null Hypothesis Was Tested)	92
APPENDIX B - Central Core of Competencies Identified as Essential for All Respondent Groups (Significant Differences Noted When the Null Hypothesis Was Tested)	132
APPENDIX C - Professional Competencies Essential for Instructors of Secondary Vocational Agri- culture and County Extension Agents	170
APPENDIX D - Professional Competencies Essential for Instructors of Secondary Vocational Agri- culture	177

APPENDIX E - Professional Competencies Essential for Instructors of Secondary and Postsecondary Vocational Agriculture.	182
APPENDIX F - Professional Competencies Essential for Instructors of Postsecondary Agriculture.	204
APPENDIX G - Professional Competencies Essential for County Extension Agents	207
APPENDIX H - Professional Competencies Identified as "Need to Know But Not Essential" for All Groups.	225
APPENDIX I - Professional Competencies Identified as "Not Necessary"	244
APPENDIX J - Questionnaire and Cover Letters Punching and Coding Scheme.	250
APPENDIX K - Cover Letter and List of National Jury Experts.	265

LIST OF TABLES

TABLE		PAGE
1	Sample Population, Number of Respondents Selected, Percentage of Available Population Sampled, Number and Percentage of Usable Questionnaires Returned	29
2	Age Range of Respondents in Years.	31
3	Educational Attainment of Respondents.	32
4	Number of Years Respondents Had Worked At Their Present Job.	34
5	Respondents' Major Fields of Study	35
6	Previous Work Experience and Approximate Number of Years at Each Job.	36
7	Professional Competencies Identified as Essential for All Respondent Groups--"The Central Core" (Competencies Indicating No Significant Differences) . . .	44
8	Professional Competencies Identified as Essential for All Respondent Groups--"The Central Core" (Competencies Indicating Statistically Significant Differences)	50
9	Professional Competencies Identified as Essential for County Extension Agents and Instructors of Secondary Vocational Agriculture	56
10	Professional Competencies Identified as Essential for Instructors of Secondary Vocational Agriculture. . . .	58
11	Professional Competencies Identified as Essential for Secondary and Postsecondary Instructors of Vocational Agriculture	60
12	Professional Competencies Identified as Essential for Instructors of Postsecondary Agriculture	64
13	Professional Competencies Identified as Essential for County Extension Agents.	66

TABLE

PAGE

14	Professional Competencies Identified as "Need to Know But Not Essential" for All Respondent Groups	69
15	Professional Competencies Identified as "Not Necessary for Their Job"	73

PREVIEW

LIST OF FIGURES

FIGURE		PAGE
1	A Theoretical Framework for Determining Competencies of Professional Agricultural Educators	5

PREVIEW

CHAPTER I

INTRODUCTION

Rapid changes in agriculture brought about by profound advances in science and technology necessitate a continued scrutiny of preservice and inservice programs of professional agricultural educators. Departments of Agricultural Education at various universities have traditionally been committed to provide preparation programs primarily for instructors of vocational agriculture in secondary schools. However, in recent years, responsibilities of these departments at many colleges have been broadened to include educational programs to also prepare county extension agents, and instructors of postsecondary technical agriculture and others who may become agricultural educators in other governmental and private entities. This suggests a broad and diversified preparation program. In view of the changing perspectives of agriculture, as well as more diversified clientele who are now being prepared by Departments of Agricultural Education, it would seem advisable that a study be made to determine whether professional agricultural educators in the field have experienced a need for different preparation programs.

The literature reviewed indicates that the various groups of professional agricultural educators have fairly well developed repertoires of research within their respective groups. There was little or no research to compare or determine whether there is a common core of

competencies needed to perform the professional educational process in the field of agricultural education.

The Problem

The purpose of this study was to determine from the various groups of professional agricultural educators in the field whether a common core of professional competencies could be identified and whether there were differences in the competencies needed among the various groups.

Delimitations

The study was limited to a random sample of 120 instructors of vocational agriculture at the secondary level, 53 at the post-secondary level and 120 county extension agents in Kansas and Nebraska. A stratified random sample of 60 national experts, namely, chairmen of Departments of Agricultural Education and directors and/or state leaders of extension education and training were also asked to identify competencies needed for instructors of vocational agriculture and county extension agents in the field.

Definition of Terms

Instructor of secondary vocational agriculture. A person responsible for teaching and conducting a reimbursable vocational agriculture program in a secondary school, authorized by federal and state legislation including the Smith-Hughes Act of 1917 and subsequent legislation.

Instructor of postsecondary agriculture. A person responsible for conducting a postsecondary agricultural education program at a technical level in a posthigh school, vocational technical school or union or community college (often comparable to the thirteenth or fourteenth year of instruction and may or may not be reimbursable).

County extension agent. A person responsible for conducting an educational program at the local level under a cooperative arrangement with the state land-grant university, the United States Department of Agriculture and the local county or area organization, authorized by the Smith-Lever Act of 1914, with subsequent agreements and revisions. (In this study, the term county extension agent will refer to county extension agent chairman.)

Professional competency. The term professional competency or competencies in this study refers to the capabilities an educator is likely to need so that he may perform the educational task assigned to him. This would include the knowledge, skills, and abilities he has acquired through professional study and/or experience, and personal characteristics that are prerequisites to their development.¹

Agricultural educator. A person who works primarily in the area of agriculture and has a responsibility for planning, developing,

¹H. Del Schalock, A Competency Based, Personalized and Field Centered Model of An Elementary Teacher Education Program, Nine program models submitted to the U.S. Office of Education, Northwestern Regional Educational Laboratory (Washington, D.C.: U.S. Government Printing Office, FS 5 258 58033, 1969), pp. 40-43.

implementing, coordinating, and evaluating an agricultural education program such as an instructor of vocational agriculture or a county extension agent.

The Design of Study

A theoretical model as presented in Figure 1 was developed from various models of curriculum development,² program evaluation,³ program development,⁴ and a change model for learning.⁵ This model provided the framework for the development of the five categories that depict the process followed from planning through evaluation of an agricultural education program. The model as illustrated delineates the educational process into five overlapping categories assuming those competencies that were similar to all groups fell into a center core and those competencies that were only common to one group fell outside the center core.

²Galen J. Saylor and William M. Alexander, Curriculum Planning for Modern Schools (New York: Holt, Rinehart and Winston, Inc., 1966), pp. 272-73.

³Einar R. Ryden, "Designing a Staff Development Procedure," Report presented at Cornell University, Ithaca, New York (1969), p. 4. (Mimeographed.)

⁴Lincoln David Kelsey and Cannon Childs Hearne, Cooperative Extension Work (Ithaca, New York: Comstock Publishing Associates, 1964), Appendix 2 by J. Paul Leagans, pp. 481-82.

⁵Ronald Lippitt et al., The Dynamics of Planned Change (New York: Harcourt, Brace and World, Inc., 1958), pp. 122-23.

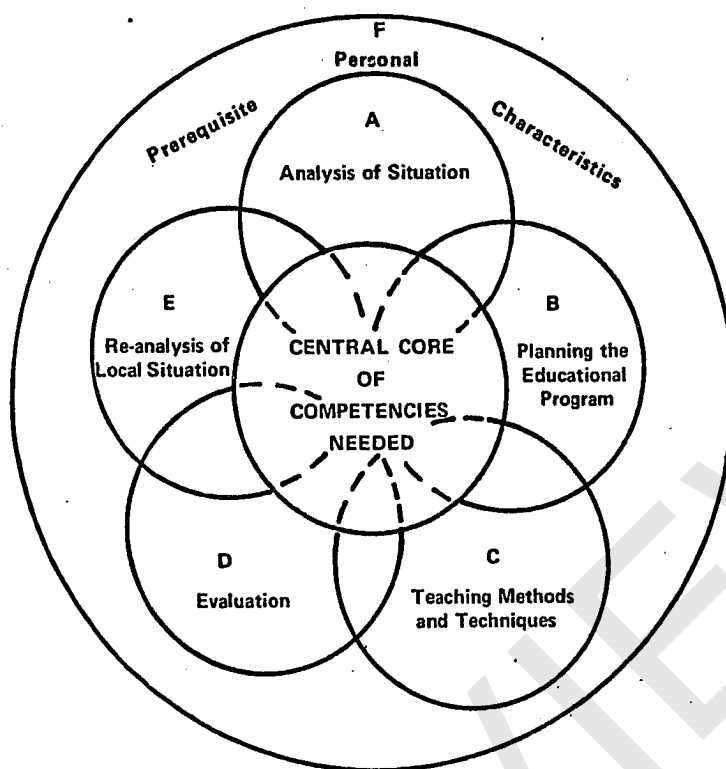


Figure 1

A Theoretical Framework for Determining Competencies of Professional Agricultural Educators

A. Analysis of Situation

Data inventory. Identification of total resources within the community including economic, sociological, natural, human, etc. Base line data.

B. Planning the Educational Program

Defining the problems and priorities of the educational program. Determining objectives and possible alternatives in view of the resources available. Long range and short range goals and analysis of problems. Determination of the difference between what is and what should be.

C. Teaching Methods and Techniques

Which method or combination of methods should be used? Determination of which methods or techniques to be used in view of the objectives and resources available.

D. Evaluation

Assessment of what has been accomplished by the objectives and standards which were determined in step B. Did the educational program accomplish the objectives sought?

E. Re-Analysis of Local Situation

What needs to be done or repeated to accomplish the original objectives or to accomplish new objectives which have been derived from the educational program or normal change? Determine how the situation has changed. Re-examine the goals — Re-establish objectives and repeat the planning process.

F. Prerequisite Personal Characteristics

Those personal traits necessary for the development of other competencies.

Assumptions

The model was developed on the premise that agricultural education programs were derived through a similar sequential process illustrated in the theoretical model. It was further assumed that all professional educators had some similar responsibilities for agricultural education programs and were proficient in the technical agricultural subject matter necessary to perform their jobs.

It was further assumed that the agricultural educator on the job would be an excellent person to determine those competencies needed to perform his job and that certain personal characteristics were necessary for the development of the competencies needed by an agricultural educator.

Hypothesis

The following null hypothesis was assumed.

1. There are no differences in the professional competencies needed by instructors of vocational agriculture at the secondary or postsecondary level and county extension agents.

Design and Procedure

A checklist type of questionnaire with one hundred forty-seven competencies was developed and mailed to a randomized sample of instructors of vocational agriculture at both the secondary and postsecondary level, and county extension agents. Respondents from

both Kansas and Nebraska were used for the study. In addition, a sample of college professors and department heads of agricultural education and extension education from a number of states within the United States were included in the sample population. All respondents were asked to check one of three measurements for each competency listed. These measurements were: (1) not needed for my job, (2) need to know but not essential, and (3) essential for my job.

Analysis of Data

The results of all respondent groups were tabulated with frequencies shown. Chi Square, a measure of nonparametric statistics, was used to test whether significant differences existed. The data were reported in both tabular and narrative form.

Organization of the Study

This study is divided into five chapters. Chapter I presents an introduction and purpose, the definitions of terms, a theoretical framework for the study, the hypothesis upon which the study was based, a brief description of the sample population, and how the data were analyzed.

Chapter II presents a review of selected literature and current research as it related to this study.

Chapter III includes a detailed discussion of the method and procedures used to develop the study instrument and how the sample

population was identified and selected. It also provides descriptive data about the sample population and the methods used for the analysis of the data.

Chapter IV reports the findings of the investigation. It includes a detailed narrative and tabular form of the statistical analysis of the data.

Chapter V presents a summary, conclusions and recommendations based on this study.

The appendices provide a copy of the individual frequency tables, the study questionnaire, and cover letters for this study.

PREVIEW

CHAPTER II

REVIEW OF SELECTED LITERATURE

The review of literature provides the rationale for this study. It includes (1) an overview of competency studies as a need for planning teacher preparation programs, (2) a review of federal legislation that has influenced preparation programs for teachers of agriculture, also confirming the need for this study, and (3) an overview of the needs of agricultural educators as prescribed by professional agricultural educators in the field.

Rationale for a Study of Teacher Competencies

Mager and Beach summarized succinctly the problems encountered when determining the desirable qualities for identifying successful teachers. They listed qualities such as sincerity, efficiency, courage, resolution, energy, tact, personality, and several others as part of a seemingly endless list and felt that no one is really certain of how the list should be used.¹ All of these traits may be considered as part of those elements desirable for certain competencies.

On the other hand, Timbers presented a clear case to support the theory that competencies must be identified and defined. He

¹Robert F. Mager and Kenneth M. Beach, Jr., Developing Vocational Instruction (Palo Alto, California: Fearon Publishers, 1967), pp. 5-8.

felt that:

Training that is directed toward specific and clearly identified needs is more efficient and economical, because there is less wasted time and hours consumed in accomplishing the organizations' training mission. By defining training needs before commencing training both long and short term objectives can clearly be accomplished. Training becomes purposive. It can move toward a predetermined target at a definite speed and unnecessary and irrelevant needs will have become jettisoned Defining training needs, therefore, is signally important as a prerequisite to the commencement of a successful training program.²

In 1967, college professors from twenty-six colleges and universities in the Northwest Region of the United States launched an area planning consortium to develop specifications for a model teacher education program for elementary teachers. They responded to a nationwide request from the U.S. Office of Education to participate in the development of model programs. Their model, one of nine, that was developed was entitled, A Competency Based, Field Centered Systems Approach to Elementary Teacher Education. Their model has many commonalities for all areas of teacher preparation and is based upon the competencies teachers actually needed in the field. The conceptual philosophy underlying the model included the following:

1. that the objectives of a teacher education program should be specified in terms of the competencies needed by teachers to bring about the outcomes desired in pupils;

²Edwin Timbers, "Defining Training Need," Training Directors Journal, XIX (February, 1965), 17.

2. that overt behavior acceptable as evidence of given teaching competencies should be specified;

3. that systems' design principles should be used in development of instructional experiences to bring about the mastery of teaching competencies;

4. that there should be evidence that professional competencies are integrated into a unique and personal "teaching style," and that a student should be able to be provided a rationale for the application of that style in any given situation; and

5. that the desired teaching competencies should be demonstrated under laboratory conditions prior to the assumption of supervised responsibility for the learning of children in the schools, and that they should be demonstrated to criterion under classroom conditions prior to assuming full responsibility.³

Another study reported by the U.S. Office of Education asserted that:

Competencies in instruction must always be thought of in terms of the ability to bring about specific outcomes for the specific child or set of children who have specific characteristics and who are operating in a specific instructional setting.⁴

One of the reasons stated for the concern for field-centered, competency-based teacher education programs was explained in the model for elementary teachers' final report. It stated:

Teacher education is seen increasingly out of touch with reality because of missing links between preservice

³H. Del Schalock and James R. Hole, A Competency Based, Field Centered, Systems Approach to Elementary Teacher Education, U.S. Government Department of Health, Education and Welfare, Final Report, Project No. 89022, Vol. I (Washington: U.S. Government Printing Office, 1968), pp. 1-18.

⁴U.S. Department of Health, Education and Welfare, Analytic Summaries of Specifications for Model Teacher Education Programs (Washington: U.S. Government Printing Office, 1970), p. 106.

and inservice training, between school systems and colleges of education, between faculty and students, between college and community, and among colleges of education and innovators. These linkages are seen to diagnose performance needs of teachers and to develop appropriate curricula. There is a need to utilize human relations' laboratory training, theory, methods, and knowledge in creating models for collaborative planned improvement. Concern has been expressed over the discrepancies between current teacher education practice of "what might be" if available knowledge about human behavior and organization and community development were utilized.⁵

Amidon and Hunter identified seven descriptors essential for a good teacher. They felt effective teaching involves more than a knowledge of subject matter. They contended that every teacher or would-be teacher must engage in a study of teaching and acquire the genuine "how" of teaching. They suggested teachers' behaviors should be examined in terms of their ability for: motivating, planning, informing, leading discussions, disciplining, counseling, and evaluating.⁶

A statement by Houle at the fifth National Administrative Workshop in Madison, Wisconsin, reflected an emerging need for teachers of adults such as extension workers. It suggests insight into the psychological process of man:

Facts and skills must be taught, but we are coming to believe that we should not aim directly at them but at

⁵Schalock and Hole, op. cit., p. 16.

⁶Edmund Amidon and Elizabeth Hunter, Improving Teaching, The Analysis of Classroom Verbal Interaction (New York: Holt, Rinehart and Winston, 1966), pp. 1-7.

what lies behind them: insight, attitudes, and appreciation.⁷

Miller concluded in a competency study that teacher educators and supervisors of industrial arts strongly agreed that competencies related to the area of teaching methods and techniques were more important than those pertaining to course content. He also found that teacher educators and supervisors agreed that competencies related to personal qualities and behavioral characteristics were generally the most important competencies needed by the instructors.⁸

Feck determined that competencies rated most important for postsecondary teachers in the United States were in the areas of planning instruction, teaching, and public and human relations. Those competencies related to work in student organizations and the new audiovisuals were most frequently rated the lowest of importance by the teacher respondents. More than fifty percent of the teacher respondents indicated a desire to enroll in inservice courses in the areas of planning for instruction, teaching, evaluating instruction, guidance, management, and public and human relations.⁹

⁷Cyril Houle, Some Essentials in Program Development, Co-operative Extension Administration--Report of Fifth National Administrative Workshop (Madison, Wisconsin: National Agricultural Extension Center for Advanced Study, University of Wisconsin, 1956), p. 35.

⁸James Arthur Miller, "Functional Competencies Needed by Industrial Arts Instructors to Adequately Perform in Contemporary Industrial Arts Laboratory/Classrooms" (unpublished Doctor's dissertation, University of Northern Colorado, 1971).

⁹Vincent Joseph Feck, "Characteristics and Professional Competency Needs of Teachers of Agriculture in Two Year Technical Institutes or Colleges in the United States" (unpublished Doctor's dissertation, The Ohio State University, Columbus, 1971).

Influence on Federal Legislation on Agricultural Education Preparation Programs

Beginning in the second decade of the twentieth century, a small portion, approximately four percent of the money spent on public education in the United States, was collected through taxes and redistributed by the federal government. The authorization provided funds primarily for vocational education for rural areas by the Smith-Hughes and Smith-Lever Acts. The character and rate of funds for public education channeled through the federal government changed little from 1920 to 1958. Faced with a new generation of problems and increased public concern for education, Congress responded this past decade by passing a number of bills authorizing broader programs and additional federal funds for public education. Federal support for education nearly doubled between 1958 and 1970.

Departments of Agricultural Education at many universities with the aid of federal funds have for many years been responsible for the preparation of instructors of vocational agriculture at the secondary school level. In recent years many of these same departments have been given broader responsibilities to include the preparation of county extension agents and instructors of postsecondary agriculture.

Swanson and Persons emphasized that little research has been done in the area of changing preparation programs and curricula