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PROFESSIONAL EDUCATION COMPETENCY NEEDS OF
TEACHERS OF VOCATIONAL-TECHNICAL PROGRAMS
IN POSTSECONDARY SCHOOLS

by

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CHAPTER I

Introduction

Increased opportunities for vocational and technical training at the postsecondary level resulted from passage of the Vocational Act of 1963 (P.L. 88-210). The Declaration of Purpose of the Act stated in the United States Statutes at Large (1964:403) gave a clear mandate that "persons of all ages in all communities... will have ready access to vocational training or retraining which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training."

Since 1963 the number of students enrolled in terminal occupational education courses at the postsecondary level has increased greatly. In addition, a more substantial growth is expected to occur. Davies (1970a:92) Associate Commissioner of Educational Personnel Development, U.S. Office of Education, in summarizing the annual report of the Education Professions Development Act for the Commissioner of Education stated, "whereas a little more than three percent of the 20-24 years age group was enrolled in postsecondary vocational schools in 1966, almost 14 percent of that age group will take postsecondary training in 1975."

Community colleges, one source of postsecondary occupational education, are presently increasing at the rate of about

one each week. The Carnegie Commission on Higher Education (1970:19) cited the existence of more than 1,000 two year colleges in the United States. The Commission reported the number of public community colleges more than doubled in the last decade and their average enrollment size increased about six percent each year. The Commission also commented "although enrollment in transfer programs was predominant throughout the 1960's, there was an increase in the proportion of students enrolled in occupational programs in the same period--from slightly more than a quarter of all students to perhaps one-third or more."

Another type of postsecondary institution in the public education sector which provides occupational training is the area vocational school. Worthington (1970:227) cited more than 850 area vocational schools were in existence in 1970 in the United States. Most of these schools were constructed with the help of funds made available through the Vocational Education Act of 1963.

Regarding the Kansas community junior college enrollment, Heinrich (1969:15) reported, "In 1966-67, there were over 1,300 students enrolled in vocational offerings which was approximately 15 percent of the total enrollment of all community junior colleges. Enrollments in these types of offerings increased 24 percent in 1967-68."

Although Kansas now has 14 area vocational technical schools, 19 community junior colleges and a technical institute, the Carnegie Commission on Higher Education (1970:37-38)

estimated that two to three new public community colleges are needed in the state. The Commission also calculated that 230 to 280 new public community colleges will be needed in the United States by 1980. These figures were based upon the assumption that all public two year institutions which did not have comprehensive terminal occupational programs would develop them. If they did not, the Commission estimated that 400 to 450 new community colleges would be needed by 1980 in the United States.

The Carnegie Commission (1970:37-38) estimated that by 1980 the number of students in community colleges in Kansas will increase by 45 percent to as much as 157 percent. The Commission's projected increase in enrollment in the United States was from 66 to 137 percent. The actual enrollment in Kansas in 1968 was 14,100 and in the United States in 1968 was 1,871,000.

The preceding discussion has some very important implications for teacher education programs. If the number of occupational education programs and the number of enrollees are to increase so markedly, a correspondingly large number of qualified occupational teachers must be available for employment. Several questions need to be answered. How many postsecondary teachers will be needed? From where will the teachers be recruited? Can present teacher education programs provide the most effective postsecondary occupational teacher?

An answer to the first question must be stated in terms of estimates and projections. Russo (1969:11) determined that there were 22,625 postsecondary occupational teachers in the

United States in 1967. He estimated that 47,200 occupational teachers would be needed in 1975. Russo's projection represented an increase of more than 162 percent in the number of teachers required for postsecondary occupational education in 1975 as opposed to those on the job in 1967.

A projection for the demand of pre-service and in-service education for prospective and employed Kansas postsecondary teachers in occupational education was located in the Kansas State Plan for Vocational Education (Kansas State Department of Education 1972:302).

	Current Status	1971- 1972	1972- 1973	1973- 1974	1974- 1975	1975- 1976
Pre-Service	55	70	80	100	120	125
In-Service	140	150	190	200	220	240

These figures show that from 1970-1971 through the school year 1975-1976, enrollment in pre-service and in-service educational programs must increase by 87 percent to adequately meet postsecondary occupational education program needs.

From where will teachers be recruited to fill vacated or new positions in postsecondary occupational education programs? To answer this question, it is helpful to look at the present practices of postsecondary institution administrators. Members of the Department of Higher Education at Indiana University, reported Kinker (1970:35), surveyed community and junior college administrators to determine the primary sources of occupational faculty acquisition. The greatest majority of the administrators

acquired vocational-technical instructors from business and industry. Their second main source was engineering schools. The third source was teacher preparation institutions. The fourth most frequently cited source was occupational programs in secondary schools. Administrators conceded that generally individuals from these four sources were not adequately qualified.

Hamlin (1969:124) said that colleges and universities, the principal sources of teachers for most vocational fields, have been slow to adapt to the needs of postsecondary institutions. He reported that persons from business, industry, and the Armed Forces are being recruited in large numbers, particularly for area vocational schools.

Cragun (1970) found that administrators of institutions offering postsecondary technical agriculture programs preferred to hire teachers with a bachelor's degree in agricultural education, master's degree in an area of specialization and specialist's degree in agricultural education plus (a) work experience in the area of specialization and (b) teaching experience in vocational agriculture. If this preference can be generalized to the majority of the other occupational areas, it would seem to imply that the majority of administrators prefer to have their vocational-technical instructors have a heavy college or university orientation.

Can present teacher education programs provide the most effective postsecondary vocational-technical teacher? An earlier statement cited Hamlin (1969:124) who in essence said

present teacher education programs are not producing the quantity or quality of postsecondary occupational teachers needed. Taylor (1967:3) expressed his concern about teacher education programs when he stated, "The improvement and expansion of teacher education programs becomes an activity of highest priority in a period when employment opportunities will be brightest for those who possess sound occupational preparation."

Logan (1967:34) indicated that the President's Panel of Consultants on Vocational Education in 1962 implied the importance of postsecondary vocational education must be recognized in view of requirements of the occupations for additional skills taught beyond the secondary school level.

In relation to the latter reference, Logan (1967:37) stated:

Consequently, the preparation of instructors for post-high school vocational-technical education programs must be given special attention. It is doubtful whether the same program of preparing high school vocational teachers can be used effectively for those who aspire to teach in the community college or the area technical school. It will be necessary to identify the unique skills and knowledges needed by these teachers and to plan a curriculum accordingly.

The need for competency studies relevant to postsecondary occupational teacher education has been recognized and encouraged by other leaders in vocational education.

Miller (1967:22) reported the lack of teacher education programs for technical teachers is a serious factor contributing to the shortage of technical teachers. He stated, "One reason for the lack of an adequate number of programs is the absence

of a rather clearly defined program for the preparation of technical teachers." Miller added that the profession should identify the characteristics of a successful teacher in relation to the skills, knowledge, attitudes, and abilities needed.

Birkholz (1970:54) addressed himself to the topic "Teacher Preparation for the Community College." However, his comments were pertinent to the preparation of vocational-technical teachers in all postsecondary institutions. He stated:

The lack of available and experienced teaching personnel suggests a need to prepare instructors specifically for positions in the community college. Before this can be accomplished, the elements of necessary background and training for the successful community college instructor must be defined. Integrating these elements into teaching programs in order to meet the problems as quickly as possible is imperative.

Samson (1968:416) stated that for the profession to obtain a sharper focus on the problem of occupational teacher education, future studies need to ascertain preparation requirements of new staff, including occupational experience, subject matter knowledge, and competence in educational technology, and assess the nature of the assignment of staff and needs for in-service education.

Fritschel (1967:347-348) rejected the trait approach to identify good teachers as well as the concept that minimum competency can be measured in terms of teacher characteristics. Instead he proposed, teacher education programs must be competency based. Fritschel said that competencies must be defined in terms of what the teacher does, what action he performs, what role he

plays, and how he carries out his responsibilities. He indicated that there were four areas of desirable competence.

1) The fundamental role of the teacher is, and will continue to be, that of a director of learning. 2) A second role of the teacher revolves around the concept of human relations. 3) A third area of competency is predicated on the assumption that the teacher should become an agent for change. 4) The teacher must develop professional competency in carrying out his changing role.

Fritschel added that many teacher education programs are designed in terms of certification requirements rather than the actual needs of teachers as defined by competencies.

Statement of the Problem

The central purpose of this study was to determine the professional education competency needs of postsecondary occupational education teachers in Kansas. Four features were designed to contribute to the central purpose:

1. To determine the level of proficiency of selected planning, implementing, and evaluating competencies considered to be necessary for success by postsecondary occupational education teachers in six occupational areas.

2. To determine the level of proficiency of selected planning, implementing, and evaluating competencies which postsecondary occupational education teachers in six occupational areas considered themselves to possess.

3. To determine significant differences between the level of proficiency required and possessed for certain planning, implementing, and evaluating competencies by teachers in each occupational area.

4. To determine the type of educational setting in which planning, implementing, and evaluating competencies may best be attained as expressed by postsecondary occupational teachers.

Hypotheses to be Tested

Four hypotheses stated in the null form served as the basis for this study.

1. There are no significant differences in the level of proficiency of selected professional education competencies considered to be necessary for success by postsecondary occupational education teachers in different occupational areas.

2. There are no significant differences in the level of proficiency of selected professional education competencies which the postsecondary occupational education teachers in different occupational areas considered themselves to possess.

3. There are no significant differences between the level of proficiency required and possessed for certain professional education competencies in each occupational area.

4. There are no significant differences among teachers in various occupational areas regarding their opinions of the type of educational setting in which each professional education competency may best be attained.

Delimitations

The study was limited to occupational education teachers in area vocational technical schools and community junior colleges

in Kansas. The study took into consideration 45 professional education competencies selected as a result of a comprehensive survey of the literature and a review by a panel of experts.

The findings of this study will apply only to this sample of 120 teachers. No inferences will be implied to other groups which were not a part of this study.

Significance and Goals of the Study

It was anticipated that this study would assist teacher educators in the planning and modification of educational programs designed to prepare occupational education teachers for postsecondary institutions of learning. The study should help teachers, educators, and administrators of teacher education programs answer these questions: What professional education competencies should be attained by postsecondary occupational education instructors and in what depth? What are the in-service needs of present postsecondary occupational education teachers in relationship to professional education competencies? In what type of educational settings can these competencies best be attained? Are some competencies common to more than one occupational area?

This study should be especially helpful to those responsible for vocational-technical teacher education programs in Kansas since the project is limited to the boundaries of that state. It is hoped that present postsecondary occupational education instructors as well as future teachers and especially the students of these teachers will benefit greatly from this research.

Definitions of Terms

For the purpose of this study, certain terms were identified and defined as they had special significance. The definitions given in this section are not necessarily those customarily used.

Analysis of Variance -- Statistical procedure used to test the hypothesis that two or more independent samples were drawn from populations having equal means (Roscoe 1969:230).

Area Vocational School -- Any vocational education school which is organized and approved by the state board and is operated under an elected board of education of a school district, or a board of trustees of a community junior college (AVA 1971:104) which provides vocational or technical education to persons who have completed or left high school and are available for full-time study (AVA 1971:9).

Chi Square Test of Independence -- Statistical procedure used to determine whether two or more populations are distributed in the same fashion with respect to the criterion (Roscoe 1969:196).

Community College -- A public supported, two-year, post-secondary institution which adapts its instruction to the needs of the local community (AVA 1971:13). Offerings include transfer and/or terminal (vocational and technical) programs at the post-secondary instructional level as well as adult education programs.

Comprehensive Educational Setting -- Courses, internships, in-service activities, etc., designed to prepare all potential

teachers and/or experienced teachers regardless of their subject matter areas. For example, general, academic, non-academic, and vocational-technical teachers would be learning together in one class, workshop, seminar, etc.

Comprehensive Occupational Area Setting -- Courses, internships, in-service activities, etc., designed to prepare all potential teachers and/or experienced vocational-technical teachers regardless of their occupational area affiliation. For example, agriculture, business and office, distributive, health, home economics, and trade and industrial education teachers would be learning together in one class, workshop, seminar, etc.

Occupational Areas -- This terminology is used to describe the six broad categories of instruction offered in vocational-technical education: agriculture education, business and office education, distributive education, health occupations, home economics, and trade and industrial education.

Occupational Education -- An organized sequence of learning experience on a regular or systematic basis consisting of occupational theory, practice and skill development for students (AVA 1971:47). Occupational education programs at the postsecondary level are either classified as vocational or technical.

Postsecondary Teachers -- Instructors who are employed by community junior colleges or area vocational technical schools to teach youth and adults who have completed or left the secondary school program.

Professional Education Competencies -- The knowledge, ability, understanding, and appreciation in areas other than technical fields which enable teachers to meet certification requirements, to advance in teaching positions, and to be successful in their teaching endeavors and related activities.

Specific Occupational Area Setting -- Courses, internships, in-service activities, etc., designed to prepare all potential and/or experienced teachers in one occupational area. For example, only teachers in health occupations would participate in and benefit from the class, workshop, seminar, etc.

Technical Education -- The branch of education devoted to instruction and training in occupations above the craftsman or trade levels, but generally not professional in nature. Instruction may not be baccalaureate in content but is evaluated usually by credit criteria rather than by clock hours. The courses qualify persons for employment in paraprofessional positions and as technicians, engineering aids, and production specialists (AVA 1971:67).

T-Test for Related Samples -- Statistical procedure used to test a hypothesis about the difference between the means of two related samples in relation to one criterion variable or one sample in relation to two criterion variables (Roscoe 1969:171).

Tukey Test for Multiple Comparisons -- Statistical procedure used when the overall hypothesis of equal means is rejected by the analysis of variance to determine between which pairs of means significant differences occur (Myers 1969:334).

Vocational Education -- Vocational or technical training or retraining which is given in schools or classes (including field or laboratory work and remedial or related academic and technical instruction incident thereto) and is conducted as part of a program designed to prepare individuals for gainful employment as semiskilled or skilled workers or technicians or subprofessionals in recognized occupations and in new and emerging occupations, or to prepare individuals for enrollment in advanced technical education programs (AVA 1971:73).

Vocational-Technical Education -- Terminology used to describe programs that have the objectives of both vocational and technical education.

Theoretical Framework

Fritschel (1967:347-348) said teacher education programs must be competency based. He added that competencies must be defined in terms of teacher action, the role of the teacher, and how he carried out his responsibilities. Others advocating the identification of competencies to improve teacher preparation were Miller (1967:22), Birkholz (1970:54), and Samson (1968:416).

Pautler (1971:108) wrote about the conceptual framework for occupational curriculum development, however, this researcher believed his statements were applicable to occupational teacher education curriculum restructuring also. He stated that teachers and instructors cannot be separated from curriculum. Vocational-technical education teachers in all occupational areas must be involved in the curriculum development effort.

"The first step in the curriculum development process needs to be the specification of the role for which training is to be provided," stated Moss and Smith (1971:130-133). They wrote further, "After specifying the role, that is, putting boundaries around the total domain of concern for a given curriculum, it is then possible to identify the specific tasks that comprise the role. Tasks are groups of activities that generally occur together and which have a common purpose which is valuable in and of itself." Moss and Smith reported that a successful technique of inventorying tasks and activities is to submit a check list to workers in the appropriate role (job). They inferred that the subsequent data obtained is valid and reliable. They added, "experience with the technique has shown that it is far superior to asking supervisors and former students about the value of prior training."

The review of literature helped the researcher establish the conceptual framework for the study on the following page.

The study involved the identification of professional education competencies considered useful and necessary for post-secondary occupational education teachers and development of a research instrument to allow respondents to rate the importance of the items, assess their own capabilities, and designate the type of educational setting where proficiency in the competency could best be attained.

The "importance" factor in the diagram would be ascertained by determining the level of proficiency of the selected competencies considered by the postsecondary occupational education

Conceptual Framework

Identification of Professional Education Competencies	Importance	Determines whether competencies are important enough to include in a teacher education program and if so, the degree of emphasis that should be placed on each.	Implications for Modifications in Teacher Education
	Self-Assessment	Reveals proficiency in the competencies which may provide evidence that in-service courses are needed.	Programs for Postsecondary Occupational
	Where Taught	Provides evidence that certain competencies may or may not be common to certain occupational areas.	Education Teachers

teachers to be necessary for success in their jobs. The data could then be used to determine whether the selected competencies were important enough to be included in a teacher education program. If certain competencies were designated as necessary, the data could also be used to determine the degree of emphasis that should be placed on each.

"Self-assessment" would involve the teachers rating their own level of proficiency in relation to each of the selected competencies. This data would be compared to the data discussed in the previous paragraph to identify significant differences in proficiency required and proficiency possessed. The self-assessment would help determine whether certain in-service activities are needed and which occupational areas would benefit greatest from them.

The "where taught" factor would be accomplished by asking the respondents to check the type of educational setting in which the competency could best be attained. Inferences could be drawn from these data to determine whether selected competencies were common to two or more occupational areas or were unique to a single occupational area.

The summation of all data and their analyses should provide various implications for the development or the modification of teacher education programs for postsecondary occupational education teachers.

Summary

There has been a tremendous increase in postsecondary occupational education programs and enrollment in the last decade. The large demand for this type of education has prompted a critical shortage of qualified instructors. As a result, personnel were recruited from business and industry, engineering schools, vocational departments in secondary schools and postsecondary institutions, and teacher education institutions. Many of these individuals have not had any or adequate formal or informal instruction regarding professional teaching competencies. Therefore, teacher education institutions must provide appropriate pre-service and in-service programs to qualify postsecondary occupational teachers for their instructional tasks.

Various educators and researchers have advocated that pre-service and in-service teacher education programs be based on competencies needed in the profession rather than by courses required for certification. Several national institutes and seminars have been concerned with developing greater proficiency in the teaching process. Research studies have concentrated on both technical and professional education competencies required by vocational and technical educators at the secondary level and by postsecondary teachers in specific occupational areas. The following chapter consists of a review of literature related to the problem of determining the professional education competency needs of postsecondary occupational education teachers in Kansas.

CHAPTER II

Review of Related Literature

Accountability is a frequently used word in education. Davies (1970b:96) stated that accountability calls for revamping much of the thought regarding the roles of educational personnel and educational institutions of all kinds at all levels. He stated that three tremendously large problem areas existed. (1) Planning ahead for future personnel needs. "We know we're going to have to double our vo-ed teaching force over the next five years just to stay even with increasing enrollments." said Davies. (2) Developing and maintaining advantageous pre-service and in-service educational development programs. Davies stated, "The need to maintain up-to-date knowledge and skills is perhaps even more essential to the vocational-technical educator than to any other." (3) Recruitment of qualified staff is essential. "New approaches to staff recruitment for vocational-technical education must be explored. Programs that provide realistic career opportunities must be developed. New sources of personnel must be tapped." stated Davies.

The three problem areas enumerated by Davies provided further rationale for conducting this study. The need to identify appropriate professional education competencies and incorporate them into teacher education programs is associated with each of the three areas discussed by Davies.

Kinker (1970:11) found the greatest number of junior college administrators hired their occupational education teachers from industry. Their second most popular source was engineering schools. Their third most frequently tapped supply was teacher preparation institutions. Therefore, it was not surprising that less than 40 percent of the junior colleges studied by Kinker required prior teaching experience before employment. It was evident that a great percentage of the personnel hired had not had adequate training in teaching methods and other necessary teaching competencies.

Kinker (1970:8) pointed out that many engineers failed to discern clearly the objectives of technical-terminal programs because of their occupational orientation and preparation. He stated there was danger that the methods and course content they used could be better suited to the preparation of engineers than of technicians. Similar problems were evident among other personnel hired to teach vocational-technical programs that lacked preparation in teaching techniques.

Cheney (1970:28) stated that occupational proficiency was necessary for all postsecondary technical instructors. However, he also related that personnel hired out of industry must have developed pedagogical competencies to be successful. Colleges and universities must accept the challenge and develop programs or modify those in existence to provide a relevant pre-service and in-service educational experience.

The Ford Foundation (Hill and Tolle 1971:1-9) recognized the problem of preparing teachers for postsecondary occupational

education positions by funding a five year, \$500,000 internship program. The project conducted jointly by the Junior College District of St. Louis and Southern Illinois University was designed to prepare three specific groups for teaching positions.

One group was recruited from persons graduating from two-year postsecondary programs. The program was referred to as the "three year masters" and was designed to allow graduates of occupational programs to build on successfully completed related course work with little or no loss of credit.

A second group of participants was made up of persons enrolled in graduate programs from several departments of the university.

A third group was composed of older individuals who had already completed the necessary academic qualifications for teaching in a community college and who had a number of years of professional or occupational experience, but little or no teaching experience.

Hutkin (Hill and Tolle 1971:85-87) evaluated the internship experiences of the participants in a doctoral dissertation. He found that the non-teaching internship activities were highly effective in helping interns develop a better understanding and appreciation of occupational programs. In addition, the teaching internship activities were highly effective in preparing interns to teach in postsecondary occupational curricula. These activities were slightly more effective than the non-teaching experiences.

While it is considered essential to have internships and programs to prepare teachers for postsecondary occupational education teaching responsibilities, such offerings must be based upon the competency needs of the clientele to be served. Several studies have been made to determine professional education competencies which were important to secondary and/or postsecondary teachers in each of the six occupational areas. They served as a basis in the development of this research project.

Review of Literature in Agricultural Education

Zurbrick (1965) sought to determine the educational preparation of individuals teaching agriculture on the junior college level in eleven Western states and their opinions regarding the educational preparation needed by persons preparing to teach in junior colleges. Nearly 99 percent of the respondents had received a bachelor of science degree and 84 percent received the master of science degree. The junior college teachers believed their primary responsibility was teaching. More than 95 percent of the teachers felt that student teaching and methods of teaching were necessary or desirable.

As part of a doctoral dissertation study, McGhee (1967) identified some of the professional needs of vocational agriculture teachers in West Virginia. Respondents to the questionnaire included teachers, state staff in teacher education, and supervisors and principals in schools having vocational agriculture.

Professional areas of performance rated above average in importance to the vocational agriculture program were: instructional activities, supervised work experience, instructional materials, organization and planning, FFA, off-farm agricultural occupations, relationship to school, young and adult programs, and public relations.

Feck (1971) ascertained the perceptions held by post-secondary teachers, administrators, and state supervisors of vocational agriculture concerning the importance of 117 professional education competencies. Teachers, administrators, and supervisors most frequently rated competencies 3.5 (on a 4 point scale) or above within the areas of planning for instruction, teaching, and public and human relations. The professional education competencies rated highest in importance by teachers, administrators, and supervisors were: motivating within the student a desire to learn; developing curriculum and course content; teaching students to think critically and independently; formulating lesson objectives; up-dating, revising, and improving curriculum based upon follow-up data; evaluating techniques and methods of teachings; promoting an environment which is conducive to student requests for an "open door" policy regarding counseling; and determining student needs or goals.

Stroller (1971) sought to determine whether a common core of professional competencies for agricultural educators could be identified. Questionnaires containing 147 professional education competencies were administered to secondary and post-

secondary instructors of vocational agriculture and agricultural extension agents. Seventy-four of the competencies were identified and assigned to the central or common core of competencies essential for all respondent groups studied. Common competencies were identified from the following major areas: analysis of the situation in your community; planning the educational program; methods and techniques; evaluation of local program; re-analysis of local situation; and personal characteristics.

Review of Literature in Business and Office Education

The 1963 Vocational Education Act gave birth to a new occupational area eligible for federal reimbursement; business and office education. Local, regional, and national clinics were organized to determine guidelines to be used in the development of vocational business and office teacher education programs. Cook (1966:68) reported that 323 business educators participated in the development of 19 guidelines which described qualities and competencies which business and office teachers should possess. Four guidelines dealt with specialized education; ten with professional education; one with general education; and four with institutional responsibility. The ten professional education guidelines stated that a teacher should:

1. Have experiences that will develop interest in and dedication to the education of students for occupational proficiency.

2. Have an understanding of and competency in the teaching-learning process.
3. Be proficient in the use of instructional procedures, media, and techniques for developing office skills and concepts.
4. Understand the principles of curriculum and course development.
5. Understand the principles and philosophy of vocational education.
6. Understand, appreciate and keep abreast innovation, experimentation, and research in education and office technology.
7. Have the student teaching experience in the occupational program for which he is being prepared to teach.
8. Understand the relationship of the office occupational program to the total program of the school and other educational agencies.
9. Be prepared to work with students of varying needs, abilities, and ages.
10. Be prepared to assist students who are or might be interested in office employment as a career objective to make appropriate educational and vocational choices.

A questionnaire study concerned with curriculum planning, personnel services, and teaching methodology was made by the National Business Education Quarterly (1963:43-72). The 154 member schools of the National Association for Business Teacher Education responded to the importance of selected competencies that should be developed through student teaching and other professional laboratory experiences. Seventy-five percent or more of the 154 respondents rated as essential: understanding and skill necessary for effective human relations; appropriate personal qualities; ability to plan effective learning experiences; and skill necessary for effective classroom management.

The State Department of Education in Michigan funded a project to develop a vocational competency examination for preparatory teachers and teacher coordinators in vocational business and office education. Weber and Everett (1970) found

that teachers must know how to develop programs to educate and train workers from a base of national, state, and local manpower needs, job descriptions, and job analyses. The authors stated, "This means development of a relevant program, the determination of facilities and equipment, and the methodology through which education and training can best be accomplished" (Weber and Everett 1970:12). In addition, the investigation revealed that vocational teachers needed guidance and counseling information. Meshed with occupational information, this area of education and training dealt with the assessment of student interests, abilities, aptitude, attitudes, and achievement as they related to occupations.

Weber and Everett (1970:13) indicated that another essential activity of the business and office education teacher was the coordination of cooperative occupational training programs. This included setting up a program or entering an ongoing program; public relations and information services; working with an advisory committee; selecting students and training stations; developing training plans; legislation; designing related instruction; evaluation techniques and procedures; serving youth groups; and engaging in professional activities of teacher coordinators.

Review of Literature in Distributive Education

The Council for Distributive Education (1964) surveyed 29 distributive teacher educators in regard to ranking items of

importance in developing teacher education programs. The respondents felt that the following should receive immediate attention: student teaching experience in coordination, various phases of adult education; work experience in management; development of technical courses; and development and use of criteria for selecting prospective coordinators. In addition, the teacher educators stated that the required qualifications and training for teacher-coordinators must be determined on the junior college level.

Lucas and Weber (1970) studied the improvement of evaluation proficiencies of high school distributive education teachers. Their study was based on indications from measurement experts that the most important factor which characterized the kinds of learning that occurred in schools was the system of evaluation used. Students had a tendency to learn the educational matter on which they had been formally or informally tested. A special conference for distributive education teachers provided the setting for instruction in constructing and preparing evaluation units.

Crawford (1967) conducted an extensive study of professional and technical competencies required by distributive education teacher-coordinators. Two of her objectives were to determine the critical tasks in the job of the distributive education teacher-coordinator and to determine the professional competencies needed to perform these tasks. Out of 187 critical tasks under consideration, 179 were deemed "critical" by

respondents. These were tasks which were rated 2.50 or above on a 5 point scale (5 being most important). Forty-eight of the critical tasks were associated with the teaching function; 39 in the coordination function; 33 in the operation and administration function; 29 in the public relations area; 25 in the guidance area; and 5 in the total school function. The population for this study was all distributive education state supervisory and teacher education personnel in the United States and its territories.

Review of Literature in Health Occupations

A look at the panel topics of the Workshop for Teachers of Vocational Nursing in Fresno, California in April, 1963 provided insight to some major concerns of health educators. Lawrence (1963) reported that the workshop focused upon teaching techniques, implementing the curriculum, program evaluation, and selection of students.

White (1961) described the type of preparation that community college chief administrators, nurse administrators, and nurse instructors thought should be given to instructors of nursing in pre-service programs. The findings were that a competent nurse must be an expert practitioner of nursing; be skilled in the techniques of interpersonal relations; have a broad general education background; and be skilled in teaching. Nurse administrators felt that evaluation devices were important while the instructors believed teaching methods were more necessary in the preparation program.

Kinsella (1967) studied the competency needs of community college nursing faculties. Administrators indicated their teachers encountered a broad range of instructional problems, the most important being a lack of understanding concerning the philosophy and objectives of a community college. These misunderstandings were apparent in specific problems reported in the area of evaluation, selection of content, choice of learning experiences, and definition of competencies to be achieved by students. The nursing faculty reported appropriate selection of content and difficulties in evaluation as their most difficult problems.

Holloway (1969) reported the results of an institute for new health occupations education teachers. The participants completed a self-rating inventory over their teaching ability on the first and last days of the three week institute. The findings showed significant growth in their perceived teaching abilities. The institute was designed to achieve the following objectives: make decisions based upon knowledge of the learning process; write and use behavioral objectives; select appropriate types of learning experiences; plan effective lessons; become familiar with a variety of instructional methods; make effective classroom presentations; become familiar with a variety of instructional media; and construct valid classroom tests.

Holloway (1970) reported the proceedings of a national institute where health education leaders met to discuss the the development of programs of short term teacher education for

health specialists who were needed to instruct supportive level health workers. The workshop group developed guidelines and made presentations which were intended to aid participants and other interested persons as they worked to increase the availability of teacher education activities for health occupations personnel. Six modular units of instruction were developed: Supportive Personnel in the Changing Health Industry; Defining and Describing the Educational Product; The Learner and Learning; Designing Learning Programs; Evaluation in the Education Process; and The Education Process.

Review of Literature in Home Economics

Lee and Howell (1966) reported the proceedings of a national seminar for leaders in home economics education. A discussion of ways to select and prepare teachers for teaching in occupational programs brought out the question, what are the basic competencies required of teachers who teach for gainful employment? The answers were:

1. Attitude-desire to help.
2. Sensitivity to forces hindering human development.
3. Proficiency in supervising and coordinating programs.
4. Performance efficiency through occupational internships or job experience.
5. Resourcefulness in getting information.
6. Articulation in correlating learning experiences with job skills.
7. An overall perspective of varying phases of occupational education as well as variations in value systems of ethnic groups.
8. Ingenuity in organizing and restructuring courses and programs to prepare students for occupational opportunities in local communities; alert to changes.
9. Feeling of adequacy in assuming teaching and leadership roles.

Brennan (1963) studied the beliefs and practices of 176 home economics educators relative to 76 generalizations in teacher education. Teacher educators, supervising teachers, and state and city supervisors were asked to select the most important generalizations related to the effectiveness of teaching home economics. Seven areas were considered very important by 90 percent of the participants. Four areas were concerned with program planning and one each with; the role of the teacher, the relation of subject matter to families, and evaluation.

An institute for home economics teachers was held to initiate, develop, and evaluate programs at the postsecondary level to prepare food service supervisors and assistants to directors of child care services (University of Georgia 1967). The primary topics of concern dealt with competency areas considered to be essential to the operation of such programs. The main topics pertained to: becoming acquainted with procedures for initiating occupational education programs; gaining up-to-date knowledge about child care services and food services; developing skill in planning programs; developing resource material and instructional aids; and becoming acquainted with procedures for evaluating occupational programs and developing evaluation devices.

Gorman (1966) reported the proceedings of an institute designed for clothing, child development, and foods teachers. Instruction in job analysis, course outline development, and program implementation was stressed.

Review of Literature in Trade and Industrial Education

Walsh (1960) identified competencies required by trade and industrial education teachers and appraised the relative importance of the needed abilities. The most important competencies according to teachers, state and local supervisors, and teacher educators were: the ability to develop student attitudes toward safe practices and safety consciousness in job performance; the ability to demonstrate skills; a knowledge of methods of teaching shop subjects; an understanding of the objectives of trade and industrial education; a knowledge of methods of teaching related subjects; the ability to arrange questions in instructional order; and the ability to motivate students to acquire skills and knowledge.

Robertson (1965:43-45) pointed out that the industrial instructor must be capable of setting specific, attainable goals as objectives to be achieved by the learner in order to plan effectively and implement the program.

The major purpose of Gunderson's (1971) study was to determine the common professional education competencies needed by community college instructors of trade and industrial education. Gunderson used a mail survey composed of 99 professional education competencies to allow instructors to respond to the level of proficiency necessary for each item in relation to their job. The factor analysis technique showed that nine of the ten highest mean ranked professional education competencies

in the study were clustered under instructional strategies. The highest mean ranked competency was to motivate students in the classroom, shop, and laboratory.

Other Literature Pertinent to the Research Problem

Miller (1971) studied the importance of professional education competencies of selected vocational business and distributive education teachers in community colleges. The factor analysis of the data revealed that the business and office education and distributive education instructors resembled one another in their responses and demonstrated that it is possible to generate factors containing clusters of common professional education competencies. Instructors rated competencies clustered under the factors of instructional management and teaching-learning process as requiring the highest level of proficiency.

Harris (1965) studied the effective and ineffective critical requirements for office education and distributive education teacher-coordinators. An analysis and classification of the critical incidents resulted in the formation of eight major categories of job activities common to office education and distributive education teacher-coordinators. They were (Harris 1965:356):

1. Discipline and control of students.
2. Selection of training stations and placement activities.
3. Evaluation and selection of students.

4. Personal and professional relationships.
5. Adjusting student training station performance problems.
6. Adjusting student problems.
7. Direction of in-school learning activities.
8. Development and promotion of the program.

Spaziani (1972) conducted a study to assist in structuring an empirically based vocational teacher preparatory program by determining the hierarchical levels of common professional education competencies needed by community college and secondary school vocational instructors. The competencies were combined with a six point ordinal scale corresponding to Bloom's cognitive taxonomy. Competencies clustered under instructional process and preparation for instruction were judged by the respondents to have the highest domain levels. The findings suggested that vocational teacher preparation programs should place greater emphasis on: the individualization of instruction; teaching at individual learning rates; writing of performance objectives; evaluation of instruction; and interpreting the goals and objectives of vocational education.

Meyer (1970) determined the competencies needed and the competencies possessed by vocational education administrators. A second portion of his study ascertained the significant differences of competencies needed and competencies possessed by administrators at the following levels: top management, middle management, and supervisory management. A third part of the study determined where administrators of vocational education believed they acquired their competencies. In this study

competencies were defined as understandings of principles and the ability to demonstrate and perform skills.

Ray (1966) studied behaviors used most frequently and effectively in teaching engineering technology courses. He used the critical incident technique and defined a total of 274 behavioral acts. He found that instructional activities associated with the presentation of instruction ranked the highest in importance.

Wroot (1970) designed a study to determine the need for pedagogical training as perceived by practicing instructors and academic administrators in postsecondary technical and vocational education at the two Alberta institutes of technology. Competencies determined important to an instructor were: communication skills; classroom, laboratory, and shop organization and management; testing and evaluating techniques; and the development and maintenance of discipline in class.

A study designed to determine the common training requirements of secondary level vocational teachers from the agriculture, home economics, trade and industry, distributive, and business occupational areas was reported by Courtney and Halfin (1969). The verimax rotation method was used to develop core curriculum for vocational teachers at the secondary level. The technique extracted 14 groupings of competencies. The means of the 31 competencies which were extracted into the 14 groups tended to be high, indicating that they were regarded as being necessary to the vocational teacher's role.

Cotrell (1970) served as the principal investigator in the "Model Curricula for Vocational and Technical Teacher Education Project" which was designed to develop, implement, and test curricula for the preparation and in-service education of all types of vocational-technical teachers. As part of this project, the pedagogical aspects of teaching were studied to determine the performance requirements of teachers in each of the occupational areas including technical education. The staff conducted a career analysis of vocational teachers in the seven occupational areas. The study resulted in the identification of 390 performance elements or competencies. Some of these competencies were unique to an occupational area or a few areas. Some were unique to teacher-coordinators of cooperative programs regardless of their occupational area affiliation. Some were common to all vocational-technical teachers.

Lindall (1971) studied the common professional training needs and proficiency requirements of selected community college instructors in agriculture, home economics, health occupations, and service occupations. The results generated by the R-technique factor analysis revealed clusters of common professional education competencies that had a logical relationship to one another. Further examination revealed that the 29 competencies in Factor 1, titled Instructional Management, were rated by the 160 respondents as requiring the highest levels of proficiency. The study provided evidence that high proficiency is needed in the areas of

teaching and guidance strategies, curriculum development, and evaluation.

Summary of the Review of Literature

The review of literature provided evidence that several studies had been made to identify and determine the importance of technical and professional education competencies required in single occupational areas. Other studies had been conducted to determine whether a common core of competencies existed between two or more selected occupational areas. Some of the studies concentrated upon competencies required by secondary occupational teachers while others emphasized postsecondary requirements or a combination of both.

A search of the literature substantiated that no study had been made which compared the proficiency level attainment of postsecondary vocational-technical teachers in regard to various professional education competencies with the level of attainment they felt was required. While studies had been made to determine professional education competencies that were common to two or more occupational areas, none had sought direct responses from teachers regarding the type of educational setting in which they believed such competencies could best be attained. Therefore, this researcher concluded that a study with the following purposes would be useful:

1. To determine the level of proficiency of selected professional education competencies considered to be necessary for success by postsecondary occupational education teachers.

2. To determine the level of proficiency of selected professional education competencies which the postsecondary occupational education teachers considered themselves to possess.

3. To determine significant differences between the level of proficiency required and possessed for certain professional education competencies for each occupational area.

4. To determine the type of educational setting in which each competency could best be attained as expressed by postsecondary occupational education teachers.

CHAPTER III

Methods and Procedures

This study was designed to determine the professional education competency needs of postsecondary occupational education teachers in Kansas. Following a review of literature, it was ascertained that the primary objective of the study could be fulfilled by obtaining the answers to three questions. What levels of proficiency in selected professional education competencies are required by postsecondary occupational education teachers to be successful? What levels of proficiency in selected professional education competencies do postsecondary occupational education teachers consider themselves to possess? In which type of educational settings do postsecondary occupational education teachers believe selected professional education competencies can most appropriately be attained?

Development of the Instrument

The first draft of the research instrument was made by this researcher after a thorough review of the literature and of professional education competency studies in each of the six occupational areas pertinent to this study. The first draft was then submitted to the directors in the State Department of Education and selected teacher educators¹ having a background

¹See Appendix A

of responsibility related to each of the six occupational areas. A second draft which included suggestions was then submitted to the researcher's supervisory committee for further refinement. A third draft was distributed to individuals who had previously taught occupational education courses at the postsecondary level to determine clarity and appropriateness. Since the content of the third draft was unaltered by the respondents, it became the final form of the research instrument.

It was decided that the reliability of the instrument would be determined using the odd-even technique and the IBM 360/50 computer. In addition, an item analysis for attitude scales would be performed to determine the correlation of the item score with the total score. This analysis provides an index of item consistency with the total scale content, and may be used as an index of item validity.

The research instrument consisted of two parts. Part I was concerned with personal information, while Part II was composed of the 45 professional education competencies which represented the dependent variables.

Part I of the instrument sought the following information from each respondent: verification of occupational area, age, educational background, years of postsecondary teaching experience, and experience in prior jobs. It was anticipated that the information obtained from this section would be used to describe certain characteristics of the total research population and of each occupational area sample.

Part II was divided into three sections: Planning for Instruction, Implementing Instruction, and Evaluating the Instruction. Fifteen competencies were grouped under Planning for Instruction. Twenty were categorized under Implementing Instruction. Ten competencies were clustered under Evaluating the Instruction.

A questionnaire was constructed with a five-point Likert type scale which permitted the postsecondary teachers in agriculture, business and office education, distributive education, health occupations, home economics, and trade and industrial education to designate the level of proficiency required and the level of proficiency possessed for each of the 45 competencies.

The levels of proficiency were designated by the numbers one through five which were defined as follows:

- 1 - Zero to 20 percent of maximum proficiency attainment
- 2 - 21 to 40 percent of maximum proficiency attainment
- 3 - 41 to 60 percent of maximum proficiency attainment
- 4 - 61 to 80 percent of maximum proficiency attainment
- 5 - 81 to 100 percent of maximum proficiency attainment

The postsecondary teachers were asked to check the type of educational setting in which they believed each competency could best be attained. The three settings were defined as:

Comprehensive educational setting -- courses, internships, in-service activities, etc., designed to prepare all potential teachers or experienced teachers regardless of their subject

matter areas. For example, general, academic, non-academic, and vocational-technical teachers would be learning together in one class, workshop, etc. Some of the course settings might include; Human Growth and Development, Educational Psychology, Principles of Secondary Education, and Junior College. Workshop settings might include comprehensive curriculum development workshops, audio visual instruction workshops, etc.

Comprehensive occupational area setting -- courses, internships, in-service activities, etc., designed to prepare all potential and/or experienced vocational-technical teachers regardless of their occupational area affiliation. For example; agriculture, business and office, distributive, health, home economics, and trade and industrial education teachers would be learning together in one class, workshop, etc. Some of the settings may include; Principles and Philosophy of Vocational Education, Job Analysis for Vocational Educators, etc. Other settings may include; vocational-technical teacher education workshops and professional development seminars in vocational-technical education.

Specific occupational area setting -- courses, internships, in-service activities, etc., designed to prepare all potential and/or experienced teachers in one occupational area. For example, only teachers in health occupations would participate in the class, workshop, etc. Some course settings for the various occupational areas could be: Methods of Teaching Agriculture, Curriculum Development in Home Economics, Youth Organizations

in Business and Office Education, and Course Construction in Industrial Education. Workshop settings might include a Curriculum Workshop in Distributive Education, a Workshop in Health Occupations, etc.

Sampling Procedures

Six populations served as the basis for this study. The populations were postsecondary occupational education teachers in agriculture, business and office education, distributive education, health occupations, home economics, and trade and industrial education. To identify individuals within these populations, a directory of teachers was acquired from each of the directors in the State Department of Education who were responsible for the six occupational areas previously mentioned.

It was decided that the Simple Analysis of Variance statistical treatment would be used to determine whether the various populations differed in respect to the level of proficiency required. This technique could be used to help identify commonalities or uniquenesses among the occupational areas. However, to determine where the significant differences existed, a test of multiple comparisons would be necessary. Myers (1969: 336-337) stated that the Tukey approach provided a more narrow confidence interval and consequently a more powerful test of the contrast when only two treatments at one time were indicated. It was therefore decided to use Tukey's multiple comparison method.

One restriction the researcher using the Tukey procedure is confronted with is that samples must be of equal size. Since there were a maximum of 25 teachers of home economics and 27 distributive education teachers on the postsecondary lists, it was decided that it would be practical to select samples of size 20 which would be randomly selected from each of the six populations. Therefore, questionnaires were mailed to the total population of agriculture (30); distributive education (27); business and office education (40); and home economics education (25). Questionnaires were sent to 36 trade and industrial education teachers. Trade and industrial education instructors were randomly selected by putting every seventh name in the directory into the sample. Thirty-two health occupations teachers were randomly chosen by identifying every third teacher listed in the health occupations teacher directory.

It was decided that should more than 20 usable questionnaires be returned per occupational area, duplications of the code numbers written on the instruments would be made and using the fishbowl technique numbers would be extracted from the samples until 20 remained.

Data Collection

Questionnaires and instructions were sent to the 190 postsecondary teachers described above.¹ This researcher

¹See Appendix A

requested the teachers to complete and return the questionnaires within one week. The questionnaires were coded to allow a follow-up mailing to those who had not responded within five days after the initial mailing. At this time, a reminder notice was mailed to those individuals who had not returned their questionnaires. In the event 20 responses were not received in each occupational area after the follow-up mailing, a telephone call requesting the return of the completed questionnaire would be made to individuals selected at random in the deficient occupational area or areas.

Statistical Treatment

The Analysis of Variance statistical method was used to test the first two hypotheses. Hypothesis Number One stated, "There are no significant differences in the level of proficiency of selected professional education competencies considered to be necessary for success by postsecondary occupational education teachers in different occupational areas." Hypothesis Number Two stated, "There are no significant differences in the level of proficiency of selected professional education competencies which the postsecondary occupational education teachers in different occupational areas considered themselves to possess." The Tukey test for multiple comparisons was used to determine the occupational areas between which significant deviations between mean scores occurred.

Hypothesis Number Three was tested through the use of the T-test for Related Samples. This hypothesis stated, "There are no significant differences between the level of proficiency required and possessed for certain professional education competencies for each occupational area."

The Chi Square Test for Independence was used to test Hypothesis Number Four. This hypothesis stated, "There are no significant differences among teachers in various occupational areas regarding their opinions of the type of educational setting in which each professional education competency may best be attained."

CHAPTER IV

Report of Findings

The central purpose of this study was to determine the professional education competency needs of postsecondary occupational education teachers in Kansas. A questionnaire was developed as part of this study to ascertain biographical information as well as the respondents' opinions regarding the level of proficiency required for success in their teaching position in relation to 45 selected competencies and the level of proficiency they considered themselves to possess. The instrument also permitted the respondents to indicate the type of educational setting in which each competency might best be attained.

Instrument Reliability

The correlation of item scores with total scores are exhibited in Table I. The data represented an index of item consistency with the total scale content. The correlation coefficients indicated that the responses to three items varied considerably from the total frequency distribution.¹ The three items which had lower correlation coefficients were in the attained section. They were: determine learning experiences

¹See Appendix B for reliability and item analysis tables.

TABLE I

Item Consistency for Professional Education Competencies
for Planning, Implementing and Evaluating Instruction

Competency Number	Correlation with Total	
	Required	Attained
Planning Competencies		
1	0.6106	0.5403
2	0.6901	0.6203
3	0.5949	0.5084
4	0.5782	0.4373
5	0.6801	0.5909
6	0.5608	0.6180
7	0.7311	0.5206
8	0.5954	0.5567
9	0.6127	0.5678
10	0.6840	0.3555
11	0.6483	0.5854
12	0.6463	0.6026
13	0.6817	0.6109
14	0.6223	0.5199
15	0.6999	0.4699
Implementing Competencies		
16	0.5993	0.4606
17	0.6598	0.6184
18	0.6589	0.5236
19	0.6144	0.5781
20	0.6957	0.6462
21	0.7278	0.4988
22	0.7153	0.6032
23	0.5922	0.5028
24	0.5320	0.6581
25	0.6378	0.6187
26	0.7119	0.6714
27	0.6684	0.5407
28	0.5034	0.3678
29	0.7398	0.6883
30	0.5284	0.3870
31	0.5764	0.4370
32	0.7284	0.5083
33	0.6164	0.4672
34	0.7404	0.6167
35	0.7144	0.5474

TABLE I (Continued)

Competency Number	Correlation with Total	
	Required	Attained
Evaluating Competencies		
36	0.7421	0.5907
37	0.6965	0.6773
38	0.7325	0.5740
39	0.7252	0.6689
40	0.5777	0.5665
41	0.7628	0.7020
42	0.7755	0.6976
43	0.7381	0.5919
44	0.7576	0.5816
45	0.7431	0.6136

Corrected reliability correlation was 0.9740 for proficiency required.

Corrected reliability correlation was 0.9546 for proficiency possessed.

applicable in the classroom or laboratory which provide for the individual differences of students; conduct demonstrations involving manipulative skills related to your area of instruction; and develop and implement safety procedures.

The odd-even method using Pearson Product Moment Correlation and Spearman-Brown Prophecy Formula was chosen to determine the reliability of the research instrument. The corrected reliability correlation for proficiency required was 0.9740. The corrected reliability correlation for proficiency possessed was 0.9546. These high correlation coefficients provided evidence that the instrument was highly reliable and would consistently measure that for which it was designed.

Personal Information

The age of the overall population for each of the six occupational areas is exhibited in Table II. The highest percentage of postsecondary occupational education teachers were 30 through 39 years of age. Individual occupational areas varied considerably in some instances from the overall frequencies in the five age categories. Health occupation teachers were relatively younger than teachers in the total population. Sixty-five percent of the health occupation teachers were less than 30 to 40 years of age compared to 52.5 percent of all teachers in the study. Thirty percent of the home economics and trade and industrial education teachers were 50 or more years of age contrasted with 22.5 percent in that age group in the total population.

The maximum levels of education for the total population are given in Table III. This data indicated 105 of the research participants (87.5 percent) had obtained at least the bachelor's degree. Sixty percent or 72 teachers had received at minimum the master's degree. Forty percent of the trade and industrial education teachers terminated their formal education before receiving the bachelor's degree compared with 12.5 percent of all teachers in the study. Eighty-five percent of the distributive education teachers and 95 percent of the business and office education teachers had obtained at least the master's degree compared to 60 percent of all teachers in the study.

TABLE II
Age of Population by Occupational Areas

Years of Age	Occupational Areas ¹											
	AG		B & O		DE		HO		HE		T & I	
	N	%	N	%	N	%	N	%	N	%	N	%
29 or less	3	15	5	25	3	15	7	35	5	25	5	25
											28	23.3
30-39	6	30	7	35	5	25	6	30	5	25	6	30
											35	29.2
40-49	10	50	4	20	7	35	2	10	4	20	3	15
											30	25.0
50-59	1	5	2	10	5	25	4	20	3	15	5	25
											20	16.7
60 or more			2	10			1	5	3	15	1	5
											7	5.8
Totals	20	100	20	100	20	100	20	100	20	100	20	100
											120	100.0

¹Abbreviations used in tables are: AG for agriculture; B & O for business and office education; DE for distributive education; HO for health occupations; HE for home economics; and T & I for trade and industrial education.

The mean number of years of postsecondary teaching experience for teachers in the six occupational areas are displayed in Table IV. The mean number of years of postsecondary teaching experience for the total population was 4.64.

TABLE IV

Mean Number of Years of Postsecondary Teaching
Experience by Occupational Areas

Occupational Areas	Mean Number of Years
Agricultural Education	3.75
Business and Office Education	5.95
Distributive Education	4.15
Health Occupations	4.20
Home Economics	4.65
Trade and Industrial Education	5.15

The types of prior job experiences for the total population are presented in Table V. Former vocational teaching experience in secondary and/or postsecondary schools was indicated by 12 of the agriculture teachers (60 percent); 10 of the business and office teachers (50 percent); 13 of the distributive education teachers (65 percent); five of the health occupations teachers (25 percent); 13 of the home economics teachers (65 percent); and seven of the trade and industrial education teachers (35 percent). Fifty percent of all teachers in the study had former vocational teaching experience.

TABLE V
Prior Job Experiences of Population
by Occupational Areas

Prior Job Experiences	Occupational Areas											
	AG		B & O		DE		HO		HE		T & I	
	N	%	N	%	N	%	N	%	N	%	N	%
H.S. ¹ Voc. Teacher	4	20	3	15	5	25			7	35	1	5
P.S. ² Voc. Teacher			2	10			3	15			3	15
Other Experiences	8	40	10	50	7	35	15	75	7	35	13	65
H.S. and P.S. Vocational Teacher			1	5	1	5					2	1.7
P.S. Voc. Teacher & Other Experiences	1	5			1	5	2	10	2	10	2	10
H.S. Voc. Teacher & Other Experiences					1	5			2	10	1	5
H.S. & P.S. Voc. Teacher & Other Experiences	7	35	4	20	5	25			2	10		
Totals	20	100	20	100	20	100	20	100	20	100	20	100
											120	100.0

¹H.S. used to denote high school.

²P.S. used to denote postsecondary.

Required and Attained Levels of Proficiency

The mean scores for the level of proficiency required and level of proficiency attained for postsecondary teachers in each occupational area for "Planning the Instruction" competencies are exhibited in Table VI. Five competencies in the proficiency required section received an overall mean of 4.5 or higher. They were: select and use a variety of teaching techniques and methods (4.608); establish the evaluative criteria for a lesson, unit, and/or course (4.550); determine student needs or goals (4.541); plan an educational program consistent with agreed upon objectives (4.516); and initiate and provide for "on-the-job" learning experiences (4.508). The competency which received the lowest overall mean in the required section was "ascertain the handicapped and disadvantaged persons to be served in the community who require special programs or emphasis" (3.525).

The highest overall mean score for "Planning for Instruction" competencies in the attained section was a 4.341 for "select and use a variety of teaching techniques and methods." The lowest overall mean in this section belonged to the competency, "ascertain the handicapped and disadvantaged persons to be served in the community who require special programs or emphasis" (2.933).

The largest discrepancy (.70) between the required and attained means in the agriculture column in Table VI was recorded for two competencies: "determine manpower needs and

employment patterns related to the program" and "ascertain the handicapped and disadvantaged persons to be served in the community who require special programs or emphasis." The smallest mean difference (.15) in the agriculture column was also recorded for two competencies; "identify and incorporate technological change that influences the curriculum" and "determine the facilities essential to the success of the program."

The greatest variation between the required and attained means for postsecondary business and office education teachers in Table VI was expressed for the competency, "ascertain the handicapped and disadvantaged persons to be served in the community who require special programs or emphasis" (.95). The smallest disagreement between means for business and office was associated with; "determine the facilities essential to the success for the program" (.25).

"Formulate performance based objectives related to the occupational program" drew the greatest difference (.90) between required and attained means for postsecondary distributive education teachers. A zero difference was reported for the required and attained means for distributive education teachers for "select and use a variety of teaching techniques and methods" in Table VI. Postsecondary teachers of distributive education considered themselves as a group to possess a higher level of proficiency than necessary for the competency, "identify community and other non-school resources relating to the program."

The largest variation between required and attained means for postsecondary health occupations teachers was found for the competency, "conduct a local survey and organize data for community needs analysis" (1.20). The smallest discrepancy between proficiency required and attained of .15 existed for two competencies: "determine learning experiences applicable in the classroom or laboratory which provide for the individual differences of students" and "initiate and provide for 'on-the-job' learning experiences." The health occupations teachers considered themselves to have attained a higher level of proficiency than necessary for the competency, "formulate performance based objectives related to the occupational program."

"Organize and use representative advisory groups vitally interested in decisions that effect their community" showed the greatest deviation (.95) between required and attained means for postsecondary home economics teachers. The least difference between required and attained means in the home economics column was a .35 reported for "identify and incorporate technological change that influences the curriculum" and "establish the evaluative criteria for a lesson, unit and/or course."

The largest discrepancy for postsecondary trade and industry education teachers between mean required and attained scores was exhibited by the competency "ascertain the handicapped and disadvantaged persons to be served in the community who require special programs or emphasis." This competency showed a difference of .50 which was relatively small when compared to

the greatest mean score deviations in the other five occupational areas. There was no difference between the required and attained means in the trade and industrial education column for two competencies: "determine learning experiences applicable in the classroom or laboratory which provide for the individual differences of students" and "initiate and provide for 'on-the-job' learning experiences." Trade and industrial education teachers considered themselves as a group to be slightly more proficient than was expressed as necessary in 3 of the 15 competencies associated with "Planning for Instruction." They were: identify community and other non-school resources relating to the program; determine the facilities essential to the success of the program; and select and use a variety of teaching techniques and methods.

Significant differences between proficiency required and attained for the "Planning for Instruction" competencies for each occupational area are recorded in Table VI.¹ Twelve of the 15 comparisons between required and attained means for agricultural teachers were significant at the .01 level or .05 level. Thirteen significant differences were recorded for business and office education teachers; 10 for distributive education teachers; 4 for health occupations teachers; 13 for home economics teachers; and 3 for trade and industrial education teachers.

¹See Table XX in Appendix B for T-statistic values.

TABLE VI
Proficiency Level Required and Attained for "Planning for Instruction"
Competencies Reported According to Occupational Areas

Competency	R or A ¹	Occupational Areas					
		AG	B&O	DE	HO	HE	T&I
1. Identify community and other non-school resources relating to the program.	R A	4.15 **2 3.55	4.25 * 3.85	3.85 4.10	4.20 ** 3.70	4.15 ** 3.55	3.85 3.90
2. Determine manpower needs and employment patterns that are related to the program.	R A	4.30 ** 3.60	4.50 ** 4.05	4.25 4.10	4.15 ** 3.55	3.80 ** 3.15	3.95 * 3.70
3. Identify and incorporate technological change that influences the curriculum.	R A	4.60 4.45	4.40 ** 3.80	4.10 * 3.80	4.15 3.90	4.00 3.65	4.35 * 4.00
4. Ascertain the handicapped and disadvantaged persons to be served in the community who require special programs or emphasis.	R A	3.45 ** 2.75	4.10 ** 3.15	3.60 ** 2.90	3.25 3.05	3.25 * 2.75	3.50 * 3.00
5. Conduct a local survey and organize data for community needs analysis.	R A	3.90 3.55	4.15 ** 3.40	3.50 * 3.10	3.45 ** 2.25	3.60 * 2.95	3.35 3.25
6. Organize and use representative advisory groups vitally interested in decisions that effect their community.	R A	4.45 ** 4.05	4.50 ** 3.80	4.45 ** 3.65	3.30 3.05	4.30 ** 3.35	4.25 4.00

TABLE VI (Continued)

Competency	R or A ¹	Occupational Areas					
		AG	B&O	DE	HO	HE	T&I
7. Formulate performance-based objectives related to the occupational program.	R	4.45	4.70	4.50	4.15	4.40	4.35
	A	* 4.00	* 4.40	** 3.60		** 3.80	4.20
8. Determine the facilities essential to the success of the program.	R	4.35	4.70	4.45	4.15	4.55	4.35
	A			* 4.15		** 4.10	4.40
9. Plan an education program consistent with agreed upon objectives.	R	4.55	4.65	4.60	4.40	4.50	4.40
	A	* 4.25		** 4.05			4.35
10. Determine learning experiences applicable in the classroom or laboratory which provide for the individual differences of students.	R	4.55	4.80	4.05	4.40	4.70	4.10
	A	** 3.95	** 4.10			** 4.10	4.10
11. Develop original instructional materials; e.g. individualized related assignment sheets, transparencies, charts, etc.	R	4.45	4.40	4.90	4.25	4.00	4.30
	A	* 4.05	** 4.00	** 4.55		** 3.50	4.20
12. Determine student needs and/or goals.	R	4.45	4.85	4.50	4.45	4.65	4.35
	A	* 4.00	** 4.50	* 4.25		** 3.90	4.15

TABLE VI (Continued)

Competency	R or A ¹	Occupational Areas					
		AG	B&O	DE	HO	HE	T&I
13. Select and use a variety of teaching techniques and methods.	R	4.70 **	4.85 **	4.65	4.40	4.60 **	4.50
	A	4.20	4.40	4.65	4.00	4.15	4.65
14. Initiate and provide for "on-the-job" learning experiences.	R	4.55 **	4.65 *	4.85 *	4.40	4.40 **	4.20
	A	4.10	4.15	4.60	4.25	3.80	4.20
15. Establish the evaluative criteria for a lesson, unit and/or course.	R	4.70 **	4.75 *	4.55	4.30 *	4.55 **	4.45
	A	4.25	4.30	4.50	3.75	4.20	4.35

¹R denotes required means; A denotes attained means.

²Asterisks denote significant difference between required and attained means.

** Significant difference at .01 level.

* Significant difference at .05 level.

No competency in Table VI received significant differences between required and attained means for all six occupational areas. Five of the occupational areas showed a significant difference between mean required and attained scores at the .05 or .01 level in relationship to two of the competencies. Those competencies were "determine manpower needs and employment patterns that are related to the program" and "ascertain the handicapped and disadvantaged persons to be served in the community who require special programs or emphasis."

The mean scores for the level of proficiency required and the level of proficiency attained for postsecondary teachers in six occupational areas for "Implementing Instruction" competencies are displayed in Table VII. A 4.5 or higher overall mean score was recorded for three competencies categorized in the proficiency required section. They were: motivate within students a desire to learn (4.666); maintain effective learning environment during teaching-learning situations (4.591); and use various kinds of teaching methods effectively (4.550). The competency, "correlate related and technical instruction with student's occupational (on-the-job) experience," had a rating of 4.491. The lowest overall mean score in Table VII in the proficiency required section was, "maintain a student organization as an extra-curricular activity that relates to the occupational program" (3.583).

None of the 20 "Implementing Instruction" competencies in the proficiency attained section received an overall mean of

4.5 or higher. The highest overall mean was found in relationship to "conduct demonstrations involving manipulative skills related to your area of instruction" (4.291). The lowest overall mean was reported for "maintain a student organization as an extra-curricular activity that relates to the occupational program" (3.191). A second competency which recorded an exceedingly low mean score in relation to the other 18 competencies in the proficiency attained section was "provide remedial instruction in reading, writing, arithmetic, etc.," (3.241).

The largest difference between proficiency required and attained means for agricultural instructors in Table VII was .70 which was associated with the "motivate within students a desire to learn" competency. The smallest difference (.10) was reported with the competency, "plan, organize, and conduct field trips with groups and/or individuals."

Maximum variation between proficiency required and attained means for postsecondary business and office education teachers was .85 for the competency, "provide situations or activities that challenge the abilities of the gifted student." Four competencies in the business and office education column received the smallest disparity (.25) between required and attained means. They were: recognize each student's background and experience; use programmed materials and other individualized learning techniques; conduct demonstrations involving manipulative skills related to your area of instruction; and involve "on-the-job" supervisors in evaluating the student's performance.

Two competencies reported the largest diversity (.50) between required and attained means in the distributive education column. They were: "motivate within students a desire to learn" and "provide situations or activities that challenge the abilities of the gifted student." No variance was reported between mean required and attained scores for postsecondary distributive education teachers for "involve 'on-the-job' supervisors in evaluating the student's performance." The distributive education teachers rated their proficiency attainment higher than that considered necessary for three competencies: plan, organize, and conduct field trips with groups and/or individuals; develop and implement safety procedures; and correlate related and technical instruction with student's occupational (on-the-job) experience.

Three competencies exhibited the maximum dissimilarity between required and attained means for health occupations instructors. A variation of .65 was recorded for: schedule educational programs and activities into the course to effect greater student accomplishment; select and use audio-visual materials and equipment properly; and reinforce learning through proper educational techniques. The least disagreement (.10) between required and attained means for postsecondary health occupations teachers was found for two competencies: "perform appropriate guidance counseling activities on an informal basis" and "provide remedial instructions in reading, writing, arithmetic, etc."

The largest divergence between required and attained mean scores for postsecondary home economics teachers existed for the competency "coordinate and supervise occupational experience (on-the-job) programs for students" (1.45). "Plan, organize, and conduct field trips with groups and/or individuals" was the competency which had the least difference (.05) between required and attained means for home economics teachers. This group of instructors reported that they considered themselves to possess slightly more proficiency than needed to "conduct demonstrations involving manipulative skills related to your area of instruction"

The largest discrepancy (.55) between required and attained means in the trade and industrial column in Table VII was recorded for "involve 'on-the-job' supervisors in evaluating the student's performance." A zero difference between required and attained means was located for two competencies for trade and industrial education teachers. They were: "plan, organize, and conduct field trips with groups and/or individuals" and "provide remedial instructions in reading, writing, arithmetic, etc." Teachers in this occupational area regarded themselves as possessing slightly more proficiency than necessary to "conduct demonstrations involving manipulative skills related to your area of instruction."

T-statistic significant differences for comparisons between proficiency required and attained mean scores for "Implementing Instruction" competencies are presented in Table VII. Fifteen of the 20 comparisons for agricultural teachers

were significant at the .05 or .01 level. Nineteen significant differences were found for business and office education teachers; 7 for distributive education teachers; 8 for health occupations teachers; 17 for home economics teachers; and 10 for trade and industrial education teachers.

A significant difference at the .05 or .01 level between required and attained means existed for each of the six occupational areas in relationship to the competency, "reinforce learning through proper educational techniques." Five of the occupational areas had a significant difference between required and attained means in relation to six competencies in Table VII. They were: motivate within students a desire to learn; use various kinds of teaching methods effectively; schedule educational programs and activities into the course to effect greater student accomplishment; select and use audio visual materials and equipment properly; involve 'on-the-job' supervisors in evaluating the student's performance; and provide situations or activities that challenge the abilities of the gifted student.

In one out of the 270 t-statistic comparisons in Tables VI, VII and VIII, an occupational area received a significant difference at the .05 level for a proficiency attained mean that was larger than the proficiency required mean. Distributive education teachers reported a significantly larger attained mean for the competency, "plan, organize, and conduct field trips with groups and/or individuals."

TABLE VII

Proficiency Level Required and Attained for "Implementing Instruction"
Competencies Reported According to Occupational Areas

Competency	R or A ¹	Occupational Areas						
		AG	B&O	DE	HO	HE	T&I	
16. Motivate within students a desire to learn.	R A	4.85 **2 4.15	4.70 ** 4.00	4.65 ** 4.15	4.45 4.15	4.85 ** 4.15	4.50 * 4.05	
17. Involve planning groups and other resources in implementing the occupational program.	R A	4.25 ** 3.70	4.35 * 3.90	3.70 3.65	3.60 3.45	3.80 ** 3.25	3.90 ** 3.45	
18. Use various kinds of teaching methods effectively.	R A	4.70 ** 4.15	4.80 ** 4.30	4.65 * 4.35	4.30 4.00	4.35 ** 4.00	4.50 ** 4.20	
19. Construct and use objective testing techniques.	R A	4.30 ** 3.95	4.45 * 4.10	4.60 4.40	4.15 ** 3.55	3.65 * 3.35	4.35 4.20	
20. Schedule educational programs and activities into the course to effect greater student accomplishment.	R A	4.45 ** 3.90	4.35 ** 3.90	4.45 ** 4.15	4.10 ** 3.45	4.10 ** 3.60	3.95 3.90	
21. Select and use audio visual materials and equipment properly.	R A	4.60 * 4.30	4.60 ** 3.85	4.65 * 4.35	4.20 * 3.55	4.60 * 4.20	4.15 3.95	
22. Recognize each student's background and experience.	R A	4.50 4.35	4.60 * 4.35	4.80 4.65	4.20 * 3.80	4.50 ** 4.10	4.05 * 3.70	

TABLE VII (Continued)

Competency	R or A ¹	Occupational Areas					
		AG	B&O	DE	HO	HE	T&I
23. Plan, organize and conduct field trips with groups and/or individuals.	R A	4.25 4.15	4.20 3.80	4.45 4.70	3.35 3.10	4.40 4.35	3.60 3.60
24. Use programmed materials and other individualized learning techniques.	R A	3.80 3.30	4.25 4.00	4.25 4.20	3.80 3.35	3.95 3.55	3.45 3.20
25. Maintain effective learning environment during teaching-learning situations.	R A	4.70 4.15	4.70 4.20	4.55 4.45	4.55 4.15	4.60 3.80	4.45 4.10
26. Perform appropriate guidance counseling activities on an informal basis.	R A	4.45 4.10	4.55 4.00	4.60 4.45	3.85 3.75	4.20 3.80	4.15 3.85
27. Coordinate and supervise occupational experience (on-the-job) programs for students.	R A	4.35 3.85	4.60 4.10	4.75 4.60	4.70 4.25	4.25 2.80	4.10 3.90
28. Conduct demonstrations involving manipulative skills related to your area of instruction.	R A	4.60 4.30	4.60 4.35	3.95 3.90	4.35 4.20	4.40 4.50	4.40 4.50
29. Reinforce learning through proper educational techniques.	R A	4.55 4.05	4.60 4.20	4.35 4.05	4.30 3.65	4.30 3.85	4.35 4.10

TABLE VII (Continued)

Competency	R or A ¹	Occupational Areas					
		AG	B&O	DE	HO	HE	T&I
30. Develop and implement safety procedures.	R	4.80 **	4.40 *	3.70	4.35	4.15	4.35
	A	4.40	3.95	3.85	4.05	4.00	4.25
31. Maintain a student organization as an extra-curricular activity that relates to the occupational program.	R	3.55	4.00 **	4.00	3.25	3.50 **	3.20 *
	A	3.15	3.40	3.85	2.95	3.05	2.75
32. Correlate related and technical instruction with student's occupational (on-the-job) experience.	R	4.45	4.60 **	4.65	4.50	4.50 **	4.25
	A	4.25	4.05	4.70	4.15	3.20	4.05
33. Involve "on-the-job" supervisors in evaluating the student's performance.	R	4.25 *	4.45 *	4.45	3.65 *	4.40 **	4.10 **
	A	3.85	4.20	4.45	3.25	3.25	3.55
34. Provide situations or activities that challenge the abilities of the gifted student.	R	4.35 *	4.60 **	4.35 *	4.20 *	4.20 **	4.35
	A	3.85	3.75	3.85	3.70	3.40	4.10
35. Provide remedial instructions in reading, writing, arithmetic, etc.	R	3.80	4.30 **	3.40	3.25	3.75 **	3.50
	A	3.35	3.65	3.15	3.15	2.65	3.50

¹R denotes required means; A denotes attained means.²Asterisks denote significant difference between required and attained means.

** Denotes significance at the .01 level. * Denotes significance at the .05 level.

Mean scores for the level of proficiency required and level of proficiency attained for postsecondary teachers in each of the six occupational areas for "Evaluating the Instruction" competencies are displayed in Table VIII. The overall mean scores in this table were neither excessively high or low when compared to the overall mean scores in Tables VI and VII. None of the ten competencies associated with proficiency required received an overall mean score of 4.5 or higher. The highest mean score related to proficiency required was reported for the competency, "ascertain objectively student performance in the classroom and school laboratory" (4.475). "Devise self-evaluation techniques for use by students," received the lowest overall mean of 3.958 in the proficiency required section.

The highest overall mean for proficiency attainment in the evaluation section was for the competency, "appraise students' efforts, accomplishments, and/or products according to standards of the occupation" (4.208). The lowest overall mean for proficiency attainment in Table VIII was associated with the competency, "devise self-evaluation techniques for use by students" (3.466).

The greatest difference between required and attained means in the agriculture column in Table VIII was .55 which existed for two competencies: "conduct and maintain placement and follow-up studies" and "analyze the feedback (public or community acceptance and/or rejection) about your program out-

side the educational setting." The smallest variation between means for proficiency required and attained for agriculture teachers was recorded for "appraise students' efforts, accomplishments, and/or products according to standards of the occupation" (.10).

The largest diversity between required and attained means for the evaluation competencies for business and office education teachers was .65 for "devise self-evaluation techniques for use by students." The least discrepancy (.25) between required and attained means was recorded for two competencies in the business and office education column. They were: "ascertain objectively student performance in the classroom and school laboratory" and "construct and use performance-based evaluation instruments."

"Devise self-evaluation techniques for use by students" drew the greatest difference (.45) between required and attained means for postsecondary distributive education teachers. No discrepancy was found between the required and attained means for distributive education in relationship to "ascertain objectively student performance in an occupational experience (on-the-job) program." Postsecondary distributive education teachers considered themselves to possess slightly more proficiency than needed for three competencies. They were: construct and use performance-based evaluation instruments; recognize policies and practices that may prevent the accomplishment of stated objectives in your community; and interpret students' evaluation of instruction.

The greatest variation between required and attained means for postsecondary health occupation teachers in Table VIII was found for the competency, "conduct and maintain placement and follow-up studies" (.80). No difference between required and attained means existed for health occupations teachers for the competency, "appraise students' efforts, accomplishments, and/or products according to standards of the occupation."

"Ascertain objectively student performance in an occupational experience (on-the-job) program" showed the greatest variance (1.20) between required and attained means for postsecondary home economics teachers. The least difference between required and attained means for home economics was .30 recorded for "ascertain objectively student performance in the classroom and school laboratory."

The largest disagreement between mean required and attained scores for postsecondary trade and industrial education teachers was found for "devise measurement devices and systems for evaluating the educational program" (.45). No differences between required and attained mean scores existed for trade and industrial education for the competency, "interpret students' evaluation of instruction." Trade and industrial education teachers considered themselves as a group to be slightly more proficient than needed to "appraise students' efforts, accomplishments, and/or products according to standards of the occupation."

Significant differences between proficiency required and attained mean scores for "Evaluating the Instruction" competencies

are exhibited in Table VIII. Six of the ten comparisons for postsecondary agriculture teachers were significant at the .05 or .01 level. Seven significant differences were isolated for business and office education teachers; two for distributive education teachers; eight for health occupations teachers; ten (which was 100 percent) for home economics teachers; and two for trade and industrial education teachers.

None of the competencies in Table VIII received significant differences between required and attained means for all six occupational areas. However, five of the occupational areas exhibited significant differences at the .05 or .01 level between required and attained mean scores in relationship to two competencies. There were: "devise measurement devices and systems for evaluating the educational program" and "ascertain objectively student performance in the classroom and school laboratory."

Significant differences between the level of proficiency required or the level of proficiency attained and the six occupational areas are presented in Table IX. Competencies were entered in the table when the F-ratio was large enough to be significant at the .05 or .01 level. The last column on the right shows the occupational areas between which significant differences at the .05 or .01 level occurred for each competency.

The Analysis of Variance technique and the Tukey test of multiple comparisons was used to establish significant differences for the level of proficiency required to determine

TABLE VIII

Proficiency Level Required and Attained for "Evaluating the Instruction"
Competencies Reported According to Occupational Areas

Competency	R or A ¹	Occupational Areas						
		AG	B&O	DE	HO	HE	T&I	
36. Devise measurement devices and systems for evaluating the educational program.	R	4.20 **2	4.30 **	3.95	3.95 **	4.15 **	4.00 *	
	A	3.70	3.75	3.85	3.35	3.30	3.55	
37. Conduct and maintain placement and follow-up studies.	R	4.10 *	4.65 *	4.40	3.75 **	3.95 **	3.90	
	A	3.55	4.25	4.25	2.95	2.95	3.85	
38. Ascertain objectively student performance in the classroom and school laboratory.	R	4.35 *	4.80	4.60 **	4.30 **	4.60 *	4.20 *	
	A	4.05	4.55	4.25	3.75	4.30	3.95	
39. Ascertain objectively student performance in an occupational experience (on-the-job) program.	R	4.15	4.65	4.60	4.40 **	4.50 **	4.20	
	A	3.75	4.30	4.60	3.90	3.30	4.00	
40. Construct and use performance-based evaluation instruments.	R	4.05 *	4.35 *	4.25	4.05 **	4.00 **	4.30	
	A	3.65	4.10	4.35	3.40	3.40	4.10	
41. Recognize policies and practices that may prevent the accomplishment of stated objectives in your community.	R	4.10 *	4.30 *	4.25	3.75 **	3.90 **	3.70	
	A	3.60	3.90	4.30	3.20	3.00	3.55	

TABLE VIII (Continued)

Competency	R or A ¹	Occupational Areas					
		AG	B&O	DE	HO	HE	T&I
42. Analyze the feedback (public or community acceptance and/or rejection) about your program outside the educational setting.	R	4.50 **	4.30 *	4.05	3.85 *	4.00 **	4.05
	A	3.95	3.95	3.75	3.15	3.15	3.95
43. Appraise students' efforts, accomplishments, and/or products according to standards of the occupation.	R	4.35	4.60	4.45	4.20	4.40 **	4.40
	A	4.25	4.30	4.30	4.20	3.70	4.50
44. Devise self-evaluation techniques for use by students.	R	3.95	4.30 *	3.80	3.65 *	4.00 **	4.05
	A	3.55	3.65	3.35	3.25	3.20	3.80
45. Interpret students' evaluation of instruction.	R	4.10	4.30 *	3.85	3.90	4.35 *	3.85
	A	3.85	3.75	4.00	3.50	3.90	3.85

¹R denotes required means; A denotes attained means.

²Asterisks denote significant difference between required and attained means.

** Denotes significance at the .01 level.

* Denotes significance at the .05 level.

the feasibility of teaching selected professional education competencies to one or more occupational areas through a single class or instructional effort.

The competency "organize and use representative advisory groups vitally interested in decisions that effect their community" received the largest F-ratio in the "Planning Competencies" section. The extreme right column indicated that there were significant differences for proficiency required mean scores between health occupations and agriculture; health and business and office education; health and distributive education; health and home economics; and health and trade and industrial education. Each of the combinations listed was significant at the .01 level with the exception of health occupations and trade and industrial education which was significant at the .05 level. The findings indicated the level of proficiency needed in relationship to organizing and using advisory councils was considerably less for health occupations teachers (refer to Table VI) than for instructors in each of the other five occupational areas.

Significant differences for proficiency attainment among the six occupational areas are disclosed in Table IX. The F-ratios for 20 of the 45 professional education competencies were large enough to be significant at the .05 or .01 level. Five of the significant differences were found among "Planning for Instruction" competencies. Nine of the "Implementing Instruction" competencies exhibited significant differences

TABLE IX

Significant Differences Between Level of Proficiency
Required or Attained and Occupational Areas

Competency Number	F-Ratio	Significant Differences Between Occupational Areas
Planning Competencies		
2 (A) ¹	3.9491**	(HE with DE and B&O)**
5 (A)	2.8388*	(HO with AG and B&O)*
6 (R)	5.3104**	(HO with AG, B&O, DE & HE)** (HO with T&I)*
7 (A)	2.4333*	(DE with B&O)*
10 (R)	3.2121*	(B&O with DE and T&I)*
11 (R)	2.8272*	(HE with DE)*
11 (A)	3.2518*	(HE with DE)**
13 (A)	2.7150*	(HO with DE and T&I) ²
Implementing Competencies		
19 (R)	2.5462*	(HE with DE)*
19 (A)	3.6558**	(DE with HO)* (DE with HE)** (T&I with HE)*
21 (A)	2.6843*	(HO with AG and DE)*
22 (A)	4.9238**	(T&I with AG & B&O)* (T&I with DE)** (HO with DE)**
23 (R)	4.4592**	(HO with AG)* (HO with DE and HE)**
23 (A)	7.3518**	(HO with AG, DE & HE)** (DE with B&O)* (DE with T&I)**
24 (A)	3.0193*	(DE with T&I)*
27 (A)	6.9702**	(HE with AG & T&I)* (HE with B&O, DE & HO)**
32 (A)	7.3932**	(HE with AG, DE & HO)** (HE with B&O & T&I)*
33 (A)	4.0702**	(DE with HO and HE)**
35 (A)	2.4537*	(HE with B&O)*
Evaluating Competencies		
37 (A)	5.5789**	(DE with HO & HE)** (B&O with HO & HE)**
38 (A)	2.8402*	(HO with B&O)*
39 (A)	3.8735**	(HE with DE)** (HE with B&O)*
40 (A)	3.7204**	(DE with HO and HE)*
41 (A)	4.7883**	(DE with HO and HE)** (HE with B&O)*
42 (A)	2.8295*	(HO with AG, B&O & T&I) ² (HE with AG, B&O and T&I) ²

1 (A) denotes data for level of proficiency attained.

(R) denotes data for level of proficiency required.

2 The highest Studentized Range Statistic recorded as a result of the Tukey pairwise comparisons was not significant at the .05 level. However, it can be concluded that there is a significant difference between the extreme high and low mean scores.

**Denotes significant difference at the .01 level.

*Denotes significant difference at the .05 level.

among the proficiency attained means for occupational areas. Six significant differences were found among "Evaluating the Instruction" competencies.

Educational Settings for Competency Attainment

The percentage of respondents in each occupational area that advocated the type of educational setting in which the 15 "Planning for Instruction" competencies might best be attained are denoted in Table X. It was the opinion of at least 50 percent of the participants that the competency "select and use a variety of teaching techniques and methods" could be best attained in a comprehensive educational setting. They indicated that six competencies might best be attained in specific occupational area settings. The remaining eight competencies in Table X did not exhibit a majority response for any of the three types of educational settings.

The Chi Square Test of Independence verified that there was significant disagreement between occupational areas in relation to the type of educational settings in which proficiency might best be attained for five of the "Planning for Instruction" competencies. They were: identify community and other non-school resources relating to the program; identify and incorporate technological change that influences the curriculum; formulate performance-based objectives related to the occupational program; determine facilities essential

TABLE X
Educational Settings in Which "Planning for Instruction" Competencies
Might Best be Attained Reported According to Occupational Areas by Percentage

Competency	Educational Setting ¹	Occupational Areas						Total
		AG	B&O	DE	HO	HE	T&I	
1. Identify community and other non-school resources relating to the program.	Comp. Ed.	15	30	0	25	10	30	18.33
	Comp. Occup.	50	25	10	50	45	30	35.00**
	Spec. Occup.	35	45	90	25	45	40	46.67
2. Determine manpower needs and employment patterns that are related to the program.	Comp. Ed.	10	15	0	5	10	15	9.17
	Comp. Occup.	30	40	20	55	40	25	35.00
	Spec. Occup.	60	45	80	40	50	60	55.83
3. Identify and incorporate technological change that influences the curriculum.	Comp. Ed.	0	25	5	5	10	15	10.00
	Comp. Occup.	15	30	35	40	5	35	26.67*
	Spec. Occup.	85	45	60	55	85	50	63.33
4. Ascertain the handicapped and disadvantaged persons to be served in the community who require special programs or emphasis.	Comp. Ed.	60	45	25	40	35	40	40.83
	Comp. Occup.	30	30	60	40	30	30	36.67
	Spec. Occup.	10	25	15	20	35	30	22.50
5. Conduct a local survey and organize data for community needs analysis.	Comp. Ed.	40	35	10	30	20	30	27.50
	Comp. Occup.	40	30	50	50	40	30	40.00
	Spec. Occup.	20	35	40	20	40	40	32.50
6. Organize and use representative advisory groups vitally interested in decisions that effect their community.	Comp. Ed.	5	20	5	20	20	15	15.00
	Comp. Occup.	65	45	40	35	35	25	40.83
	Spec. Occup.	30	35	55	45	45	55	44.17

TABLE X (Continued)

Competency	Educational Setting ¹	Occupational Areas						Total
		AG	B&O	DE	HO	HE	T&I	
7. Formulate performance-based objectives related to the occupational Program.	Comp. Ed. Comp. Occup. Spec. Occup.	0 30 70	15 35 50	25 10 65	50 20 30	5 40 55	10 15 75	17.50 25.00** 57.50
8. Determine the facilities essential to the success of the program.	Comp. Ed. Comp. Occup. Spec. Occup.	0 15 85	15 35 50	5 40 55	25 25 50	0 15 85	10 50 40	9.17 30.00* 60.83
9. Plan an education program consistent with agreed upon objectives.	Comp. Ed. Comp. Occup. Spec. Occup.	20 15 65	25 30 45	25 35 40	50 20 30	10 10 80	30 30 40	26.67 23.33 50.00
10. Determine learning experiences applicable in the classroom or laboratory which provide for the individual differences of students.	Comp. Ed. Comp. Occup. Spec. Occup.	30 15 55	20 50 30	35 10 55	35 25 40	10 15 75	25 35 40	25.83 25.00 49.17
11. Develop original instructional materials; e.g. individualized related assignment sheets, transparencies, charts, etc.	Comp. Ed. Comp. Occup. Spec. Occup.	30 10 60	35 10 55	30 20 50	45 25 30	40 25 35	25 35 40	34.17 20.83 45.00
12. Determine student needs and/or goals.	Comp. Ed. Comp. Occup. Spec. Occup.	10 40 50	35 30 40	30 25 45	55 20 25	35 40 25	35 25 40	33.33 30.00 36.67

TABLE X (Continued)

Competency	Educational Setting ¹	Occupational Areas						Total
		AG	B&O	DE	HO	HE	T&I	
13. Select and use a variety of teaching techniques and methods.	Comp. Ed.	30	50	55	65	60	50	51.67
	Comp. Occup.	30	15	20	10	15	30	20.00
	Spec. Occup.	40	35	25	25	25	20	28.33
14. Initiate and provide for "on-the-job" learning experiences.	Comp. Ed.	0	10	0	15	0	5	5.00
	Comp. Occup.	10	25	0	20	30	35	20.00*
	Spec. Occup.	90	75	100	65	70	65	75.00
15. Establish the evaluative criteria for a lesson, unit and/or course.	Comp. Ed.	15	35	45	60	45	35	39.17
	Comp. Occup.	35	20	0	15	15	25	18.33
	Spec. Occup.	50	45	55	25	40	40	42.50

¹Comp. Ed. denotes comprehensive education.

Comp. Occup. denotes comprehensive occupational areas.

Spec. Occup. denotes specific occupational areas.

** Denotes significance at .01 level (Chi Square Test).

* Denotes significance at .05 level (Chi Square Test).

to the success of the program; and initiate and provide for 'on-the-job' learning experiences.

The percentage of respondents for each of the six occupational areas who indicated the type of educational setting in which "Implementing Instruction" competencies may best be obtained was revealed in Table XI. Fifty percent or more of the respondents reported that nine of the 20 competencies could best be attained in a comprehensive educational setting and six could possibly be obtained most appropriately in specific occupational area settings. A majority response was not reported for any of the three types of educational settings for the remaining five competencies in this section.

There was less disagreement between occupational areas in regard to the type of educational settings where proficiency in "Implementing Instruction" competencies might best be attained. Significant differences at the .05 level or .01 level was established for three of the 20 competencies in this section.

The percentage of respondents in each occupational area who suggested the type of educational setting that "Evaluating the Instruction" competencies might best be attained are shown in Table XII. "Devise measurement devices and systems for evaluating the educational program" received a majority of responses favoring the development of proficiency in the

TABLE XI

Educational Settings in Which "Implementing Instruction" Competencies
Might Best be Attained Reported According to Occupational Areas by Percentage

Competency	Educational Setting ¹	Occupational Areas						Total
		AG	B&O	DE	HO	HE	T&I	
16. Motivate within students a desire to learn.	Comp. Ed.	35	65	45	65	70	40	53.33
	Comp. Occup.	15	20	15	20	15	25	18.33
	Spec. Occup.	50	15	40	15	15	35	28.33
17. Involve planning groups and other resources in implementing the occupational program.	Comp. Ed.	5	10	5	0	0	30	8.33
	Comp. Occup.	60	65	30	50	55	35	49.17**
	Spec. Occup.	35	25	65	50	45	35	42.50
18. Use various kinds of teaching methods effectively.	Comp. Ed.	35	65	70	60	40	55	54.17
	Comp. Occup.	20	15	5	20	15	25	16.67
	Spec. Occup.	45	20	25	20	45	20	29.17
19. Construct and use objective testing techniques.	Comp. Ed.	45	65	80	75	75	50	65.00
	Comp. Occup.	35	20	0	15	15	25	18.33
	Spec. Occup.	20	15	20	10	10	25	16.67
20. Schedule educational programs and activities into the course to effect greater student accomplishment.	Comp. Ed.	20	35	50	55	25	60	40.83
	Comp. Occup.	20	25	15	25	20	10	19.17
	Spec. Occup.	60	40	35	20	55	30	40.00
21. Select and use audio visual materials and equipment properly.	Comp. Ed.	50	65	60	65	65	65	61.67
	Comp. Occup.	30	25	5	25	15	20	20.00
	Spec. Occup.	20	10	35	10	20	15	18.33
22. Recognize each student's background and experience.	Comp. Ed.	45	40	25	40	60	55	44.17
	Comp. Occup.	15	35	15	30	20	25	23.33
	Spec. Occup.	40	25	60	30	20	20	32.50

TABLE XI (Continued)

Competency	Educational Setting ¹	Occupational Areas						Total
		AG	B&O	DE	HO	HE	T&I	
23. Plan, organize and conduct field trips with groups and/or individuals.	Comp. Ed.	20	40	5	40	25	35	27.50
	Comp. Occup.	35	10	30	20	30	15	23.33
	Spec. Occup.	45	50	65	40	45	50	49.17
24. Use programmed materials and other individualized learning techniques.	Comp. Ed.	40	55	45	65	50	60	52.50
	Comp. Occup.	25	15	20	20	10	15	17.50
	Spec. Occup.	35	30	35	15	40	25	30.00
25. Maintain effective learning environment during teaching-learning situations.	Comp. Ed.	30	60	65	65	50	45	52.50
	Comp. Occup.	25	25	10	15	15	35	20.83
	Spec. Occup.	45	15	25	20	35	20	26.67
26. Perform appropriate guidance counseling activities on an informal basis.	Comp. Ed.	45	50	40	55	65	55	51.67
	Comp. Occup.	35	25	30	20	15	20	24.17
	Spec. Occup.	20	25	30	25	20	25	24.17
27. Coordinate and supervise occupational experience (on-the-job) programs for students.	Comp. Ed.	15	10	0	0	5	5	5.83
	Comp. Occup.	20	25	30	35	40	40	31.67
	Spec. Occup.	65	65	70	65	55	55	62.50
28. Conduct demonstrations involving manipulative skills related to your area of instruction.	Comp. Ed.	0	10	10	15	0	10	7.50
	Comp. Occup.	5	10	15	20	10	20	13.33
	Spec. Occup.	95	80	75	65	90	70	79.17
29. Reinforce learning through proper educational techniques.	Comp. Ed.	45	70	60	55	65	55	58.33
	Comp. Occup.	25	10	5	20	15	20	15.83
	Spec. Occup.	30	20	35	25	20	25	25.83
30. Develop and implement safety procedures.	Comp. Ed.	5	35	25	20	20	30	22.50
	Comp. Occup.	35	25	0	25	25	40	25.00
	Spec. Occup.	60	40	75	55	55	30	52.50

TABLE XI (Continued)

Competency	Educational Setting ¹	Occupational Areas					Total
		AG	B&O	DE	HO	HE	T&I
31. Maintain a student organization as an extra-curricular activity that relates to the occupational program.	Comp. Ed. Comp. Occup. Spec. Occup.	20 25 55	20 35 45	5 20 75	15 35 50	15 20 65	20 15 20
							23.33 25.00** 51.67
32. Correlate related and technical instruction with student's occupational (on-the-job) experience.	Comp. Ed. Comp. Occup. Spec. Occup.	0 15 85	5 25 70	0 15 85	15 25 60	0 30 70	25 30 45
							7.50 23.33* 69.17
33. Involve "on-the-job" supervisors in evaluating the student's performance.	Comp. Ed. Comp. Occup. Spec. Occup.	10 20 70	5 40 55	0 15 85	0 30 70	10 40 50	15 35 50
							6.67 30.00 63.33
34. Provide situations or activities that challenge the abilities of the gifted student.	Comp. Ed. Comp. Occup. Spec. Occup.	15 40 45	55 15 30	65 10 25	45 15 40	60 10 30	40 20 40
							46.67 18.33 35.00
35. Provide remedial instructions in reading, writing, arithmetic, etc.	Comp. Ed. Comp. Occup. Spec. Occup.	75 15 10	65 10 25	75 5 20	70 20 10	80 5 15	70 20 10
							72.50 12.50 15.00

¹Comp. Ed. denotes comprehensive education.
Comp. Occup. denotes comprehensive occupational areas.
Spec. Occup. denotes specific occupational areas.

**Denotes significance at .01 level (Chi Square Test).
*Denotes significance at .05 level (Chi Square Test).

comprehensive educational setting. Fifty percent or more of the respondents reported that two of the "evaluating" competencies could best be attained in specific occupational area settings. They were: "ascertain objectively student performance in an occupational experience (on-the-job) program" and "recognize policies and practices that may prevent the accomplishment of stated objectives in your community."

It was determined through the use of the Chi Square Test of Independence that significant differences at the .05 level occurred among occupational areas in regard to the settings where two of the ten "evaluation" competencies could be attained. They were: "conduct and maintain placement and follow-up studies" and "construct and use performance-based evaluation instruments."

The types of educational settings in which the largest percentage of respondents considered the 45 competencies might best be attained are designated in Table XIII. The table is divided into three sections; comprehensive education, comprehensive occupational area, and specific occupational area. Competencies were placed in that section which designated the educational setting wherein attainment could best be accomplished as reported by the greatest number of participants.

The specific occupational area setting was considered by 79.17 percent of the respondents as being most appropriate to obtain competency in "conducting demonstrations involving manipulative skills related to your area of instruction."

TABLE XII

Educational Settings in which "Evaluating the Instruction"
Competencies Might Best be Attained
Reported According to Occupational Areas by Percentage

Competency	Educational Setting ¹	Occupational Areas						Total
		AG	B&O	DE	HO	HE	T&I	
36. Devise measurement devices and systems for evaluating the educational program.	Comp. Ed.	30	65	60	55	45	55	51.67
	Comp. Occup.	20	5	15	15	30	15	16.67
	Spec. Occup.	50	30	25	30	25	30	31.67
37. Conduct and maintain placement and follow-up studies.	Comp. Ed.	20	15	15	45	20	40	25.83
	Comp. Occup.	40	55	20	35	45	15	35.00*
	Spec. Occup.	40	30	65	20	35	45	39.17
38. Ascertain objectively student performance in the classroom and school laboratory.	Comp. Ed.	25	45	80	55	35	45	47.50
	Comp. Occup.	20	10	0	15	25	25	15.83
	Spec. Occup.	55	45	20	30	40	30	36.67
39. Ascertain objectively student performance in an occupational experience (on-the-job) program.	Comp. Ed.	0	10	0	15	0	20	7.50
	Comp. Occup.	20	30	15	25	25	30	24.17
	Spec. Occup.	80	60	85	60	75	50	68.33
40. Construct and use performance-based evaluation instruments.	Comp. Ed.	10	30	20	60	35	30	30.83
	Comp. Occup.	40	5	15	15	30	40	24.17**
	Spec. Occup.	50	65	65	25	35	30	45.00
41. Recognize policies and practices that may prevent the accomplishment of stated objectives in your community.	Comp. Ed.	5	15	25	45	35	25	25.00
	Comp. Occup.	35	35	40	25	40	25	33.33
	Spec. Occup.	60	50	35	30	25	50	41.67

TABLE XII (Continued)

Competency	Educational Setting ¹	Occupational Areas						Total
		AG	B&O	DE	HO	HE	T&I	
42. Analyze the feedback (public or community acceptance and/or rejection) about your program outside the educational setting.	Comp. Ed.	25	15	15	40	30	35	26.67
	Comp. Occup.	30	45	50	25	45	30	37.50
	Spec. Occup.	45	40	35	35	25	35	35.83
43. Appraise students' efforts, accomplishments, and/or products according to standards of the occupation.	Comp. Ed.	5	5	15	25	0	25	12.50
	Comp. Occup.	30	20	25	15	40	30	26.67
	Spec. Occup.	65	75	60	60	60	45	60.83
44. Devise self-evaluation techniques for use by students.	Comp. Ed.	30	45	30	40	30	50	37.50
	Comp. Occup.	40	25	10	35	20	20	25.00
	Spec. Occup.	30	30	60	25	50	30	37.50
45. Interpret students' evaluation of instruction.	Comp. Ed.	35	65	55	45	40	50	48.33
	Comp. Occup.	35	20	15	25	20	15	21.67
	Spec. Occup.	30	15	30	30	40	35	30.00

¹Comp. Ed. denotes comprehensive education.

Comp. Occup. denotes comprehensive occupational areas.

Spec. Occup. denotes specific occupational areas.

** Denotes significance at .01 level (Chi Square Test).

* Denotes significance at .05 level (Chi Square Test).

This was the largest percentage reported for all three educational settings for the 45 competencies. The Chi Square value indicated that no significant difference of opinions existed between occupational areas. Seventy-five percent of the total population recommended a specific occupational area setting for attaining proficiency in "initiating and providing for 'on-the-job' learning experiences." However, the Chi Square value suggested considerable disagreement between occupational areas.

The largest percentage of respondents (72.5 percent) considered a comprehensive educational setting for the most appropriate attainment of the competency "provide remedial instructions in reading, writing, arithmetic, etc." No significant differences of opinion between the six occupational areas were detected by the Chi Square analysis. The greatest number of participants who advocated the comprehensive occupational setting for proficiency attainment did so for the competency "involve planning groups and other resources in implementing the occupational program." Although 49.17 percent of the total population recommended the comprehensive occupational setting, the Chi Square value indicated significant differences of opinion existed between occupational areas.

TABLE XIII

Educational Settings Recommended for Competency Attainment
by the Largest Percentage of the Total Population

Competency	%	Chi Square Value
Comprehensive Education Setting		
4. Ascertain the handicapped and disadvantaged persons to be served in the community who require special programs or emphasis. (P) ₁	40.83	11.1746
13. Select and use a variety of teaching techniques and methods. (P)	51.67	8.3387
16. Motivate within students a desire to learn. (I)	53.33	13.5120
18. Use various kinds of teaching methods effectively. (I)	54.17	11.6703
19. Construct and use objective testing techniques. (I)	65.00	12.8853
20. Schedule educational programs and activities into the course to effect greater student accomplishment. (I)	40.83	14.2469
21. Select and use audio visual materials and equipment properly. (I)	61.67	9.3219
22. Recognize each student's background and experience. (I)	44.17	13.6554
24. Use programmed materials and other individualized learning techniques. (I)	52.50	5.9045
25. Maintain effective learning environment during teaching-learning situations. (I)	52.50	12.3614

TABLE XIII (Continued)

Competency	%	Chi Square Value
Comprehensive Education Setting		
26. Perform appropriate guidance counseling activities on an informal basis. (I)	51.67	4.3114
29. Reinforce learning through proper educational techniques. (I)	58.33	6.0579
34. Provide situations or activities that challenge the abilities of the gifted student. (I)	46.67	15.6234
35. Provide remedial instructions in reading, writing, arithmetic, etc. (I)	72.50	6.8460
36. Devise measurement devices and systems for evaluating the educational program. (E)	51.67	9.7691
38. Ascertain objectively student performance in the classroom and school laboratory. (E)	47.50	17.7464
44. Devise self-evaluation techniques for use by students. (E)	37.50 ²	12.1333
45. Interpret students' evaluation of instruction. (E)	48.33	7.3625
Comprehensive Occupational Setting		
5. Conduct a local survey and organize data for community needs analysis. (P)	40.00	9.2727
17. Involve planning groups and other resources in implementing the occupational program. (I)	49.17	23.7962**

TABLE XIII (Continued)

Competency	%	Chi Square Value
Comprehensive Occupational Setting		
42. Analyze the feedback (public or community acceptance and/or rejection) about your program outside the educational setting. (E)	37.50	8.0992
Specific Occupational Setting		
1. Identify community and other non-school resources relating to the program. (P)	46.67	26.2857**
2. Determine manpower needs and employment patterns that are related to the program. (P)	55.83	11.9554
3. Identify and incorporate technological change that influences the curriculum. (P)	63.33	19.8421*
6. Organize and use representative advisory groups vitally interested in decisions that effect their community. (P)	44.17	10.8687
7. Formulate performance-based objectives related to the occupational program. (P)	57.50	28.9664**
8. Determine the facilities essential to the success of the program. (P)	60.83	23.0900*
9. Plan an education program consistent with agreed upon objectives. (P)	50.00	17.7678
10. Determine learning experiences applicable in the classroom or laboratory which provide for the individual differences of students. (P)	49.17	18.0146

TABLE XIII (Continued)

Competency	%	Chi Square Value
Specific Occupational Setting		
11. Develop original instructional materials; e.g. individualized related assignment sheets, transparencies, charts, etc. (P)	45.00	9.2165
12. Determine student needs and/or goals. (P)	36.67	11.4424
14. Initiate and provide for "on-the-job" learning experiences. (P)	75.00	19.9666*
15. Establish the evaluative criteria for a lesson, unit and/or course. (P)	42.50	15.7073
23. Plan, organize and conduct field trips with groups and/or individuals. (I)	49.17	12.4695
27. Coordinate and supervise occupational experience (on-the-job) programs for students. (I)	62.50	8.5624
28. Conduct demonstrations involving manipulative skills related to your area of instruction. (I)	79.17	9.4447
30. Develop and implement safety procedures. (I)	52.50	17.0921
31. Maintain a student organization as an extra-curricular activity that relates to the occupational program. (I)	51.67	28.8461**
32. Correlate related and technical instruction with student's occupational (on-the-job) experience. (I)	69.17	19.7189*

TABLE XIII (Continued)

Competency	%	Chi Square Value
Specific Occupational Setting		
33. Involve "on-the-job" supervisors in evaluating the student's performance. (I)	63.33	13.2719
37. Conduct and maintain placement and follow-up studies. (E)	39.17	19.2921*
39. Ascertain objectively student performance in an occupational experience (on-the-job) program. (E)	68.33	14.4788
40. Construct and use performance-based evaluation instruments. (E)	45.00	24.9671**
41. Recognize policies and practices that may prevent the accomplishment of stated objectives in your community. (E)	41.67	13.8800
43. Appraise students' efforts, accomplishments, and/or products according to standards of the occupation. (E)	60.83	13.8229
44. Devise self-evaluation techniques for use by students. (E)	37.50	12.1333

¹(P) denotes planning competency.

(I) denotes implementing competency.

(E) denotes evaluating competency.

²This Competency also received 37.50 percent in Specific Occupational Area Setting.

** Denotes significance at the .01 level.

* Denotes significance at the .05 level.

Summary

Data were collected and analyzed for the purpose of testing Hypothesis Number One. This hypothesis, stated in the null form, was "There are no significant differences in the level of proficiency of selected professional education competencies considered to be necessary for success by post-secondary occupational education teachers in different occupational areas."

The Analysis of Variance technique was used to determine significant differences in the level of proficiency deemed to be necessary for success by teachers in the six occupational areas. The null hypothesis was retained for 40 of the 45 selected competencies in this study. In the five instances where the null hypothesis was rejected, the Tukey's multiple comparisons test was used to determine between which occupational areas significant differences existed.

Hypothesis Number Two, stated in the null form read, "There are no significant differences in the level of proficiency of selected professional education competencies which the postsecondary occupational education teachers in different occupational areas consider themselves to possess.

The Analysis of Variance technique was used to test the second hypothesis. The level of proficiency teachers in each of the six occupational areas considered themselves to possess was approximately the same for 25 competencies. Therefore, the null hypothesis was retained at the .05 level of significance

for 25 of the 45 professional education competencies. The Tukey test of multiple comparisons was used to determine between which occupational areas significant differences occurred for the 20 competencies that rejected the null hypothesis.

Data used to test Hypothesis Number One and Hypothesis Number Two was used to evaluate Hypothesis Number Three. The third null hypothesis was "There are no significant differences between the level of proficiency required and possessed for certain professional education competencies by postsecondary teachers in each occupational area."

The T-test for Related Samples was used to test Hypothesis Number Three. A summary of the t-statistics for comparisons between proficiency required and attained for the 45 professional education competencies for each occupational area showed post-secondary occupational education teachers indicated a need for in-service education. Thirty-three of the 45 comparisons were significant at the .05 or .01 level for agriculture teachers. Thirty-nine significant differences were found for business and office education teachers; 19 for distributive education teachers; 20 for health occupations teachers; 40 for home economics teachers; and 15 for trade and industrial education teachers.

The Chi Square Test of Independence was used to test Hypothesis Number Four. This hypothesis stated in the null form was, "There are no significant differences among teachers in various occupational areas regarding their opinions of the type of educational setting in which each professional education competency may best be attained."

Chi Square scores indicated that there were significant differences of opinion between the occupational areas in regard to educational settings for 10 of the 45 professional education competencies. The most frequent disagreement was found to exist in relationship to the "Planning for Instruction" competencies. The level of significance was set at the .05 level. The teachers as a group were somewhat undecided about the type of educational settings in which professional education competencies might best be attained.

CHAPTER V

Summary, Conclusions, and Recommendations

It was anticipated that this study would assist teacher educators in planning and implementing educational programs designed to prepare occupational education teachers for postsecondary institutions. The study was designed to help teacher educators and administrators of teacher education programs answer pertinent questions such as: What professional education competencies should be possessed by postsecondary occupational education instructors? What are the expressed in-service education needs of present postsecondary occupational education teachers in relationship to professional education competencies? In what type of educational settings could these competencies best be attained? Are competencies common to more than one occupational area?

The Problem

The central purpose of this study was to determine the professional education competency needs of postsecondary occupational education teachers in Kansas. Postsecondary teachers in six occupational areas were included in the study. Four factors were developed to supplement the central purpose as follows:

1. To determine the level of proficiency of selected planning, implementing, and evaluating competencies considered

to be necessary for success by postsecondary occupational teachers

2. To determine the level of proficiency of selected planning, implementing, and evaluating competencies which the postsecondary occupational teachers considered themselves to possess.

3. To determine significant differences between the level of proficiency required and possessed for certain planning, implementing, and evaluating competencies for postsecondary occupational teachers.

4. To determine the type of educational setting in which planning, implementing, and evaluating competencies may best be attained as expressed by postsecondary occupational teachers.

The Instrument

The study involved the development of an instrument which was based on a review of literature and suggestions made by teacher educators and state supervisory personnel. The final draft of the instrument contained 45 professional education competencies which were categorized into three groups: Planning for Instruction, Implementing Instruction, and Evaluating the Instruction. A five-point Likert type scale was used to allow respondents to indicate the level of proficiency required for success in their jobs and the level of proficiency they considered themselves to possess. In addition, columns representing three different types of educational settings were

incorporated in the instrument to allow the respondents to indicate where each competency might best be attained.

The odd-even method was used to test the reliability of the instrument. The corrected reliability correlation for the proficiency required section was 0.9740. The corrected correlation for the proficiency possessed section was 0.9545. These high correlation coefficients indicated that the instrument was highly reliable.

Data Collection

Six groups served as a basis for this study. They were postsecondary occupational education teachers in agriculture, business and office education, distributive education, health occupations, home economics, and trade and industrial education.

Since the Tukey test of multiple comparisons was to be used with the Analysis of Variance technique, equal sample sizes were required. Random population samples of 20 postsecondary teachers for each of the six occupational areas responded to the questionnaires. An equal sample size of twenty for each occupational area was selected because of limited numbers in the home economics and distributive education areas.

Questionnaires and instructions were sent to 190 postsecondary teachers. A total of 135 instruments (71 percent) were returned. The fishbowl technique was used to extract questionnaires from the samples when more than 20 instruments were returned per occupational area.

Treatment of Data

The Analysis of Variance statistical method was used to determine whether significant differences in the level of proficiency considered necessary for success for the 45 professional education competencies existed among the six occupational areas. Likewise, the Analysis of Variance technique was used to locate significant differences in the level of proficiency of the selected competencies which the postsecondary teachers in the six occupational areas considered themselves to possess. The Tukey test of multiple comparisons was used to determine the occupational areas between which significant differences between level of proficiency required or attained existed.

The T-test for Related Samples was used to determine significant differences between the level of proficiency required and attained for the 45 professional education competencies for each occupational area.

The Chi Square Test for Independence was used to distinguish whether the responses of the six occupational areas were similar in regard to their opinions of the type of educational setting in which each competency could best be attained.

Results

This study was based upon four hypotheses which were stated in the null form. Hypothesis Number One was, "There are no significant differences in the level of proficiency of selected professional education competencies considered to be necessary for success by postsecondary occupational education

teachers in different occupational areas." The hypothesis was retained for 40 of the 45 selected competencies in this study.

The Tukey test for multiple comparisons revealed that each of the six occupational areas were represented in at least two of the 12 significant differences that occurred in the five competencies which rejected the null hypothesis. The frequency of significant differences located with the Tukey test within the five competencies was low; out of a possible 75 comparisons, 12 were considered significantly different. Those 12 significant differences resulted primarily from high or low scores from three different occupational areas; business and office education, health occupations, and home economics.

Hypothesis Number Two stated, "There are no significant differences in the level of proficiency of selected competencies which the postsecondary occupational education teachers in different occupational areas considered themselves to possess." The null hypothesis was retained for 25 of the 45 professional education competencies. The Tukey technique showed that each of the six occupational areas was represented in at least 12 of the 46 significant differences that were found in the 20 competencies that rejected the null hypothesis.

Hypothesis Number Three stated: "There are no significant differences between the level of proficiency required and possessed for certain professional education competencies by postsecondary teachers in each occupational area." Thirty-three of the 45 comparisons between proficiency required and proficiency

attained were significantly different at the .05 or .01 levels for agriculture teachers. Thirty-nine significant differences were established for business and office education teachers; 19 for distributive education teachers; 20 for health occupations teachers; 40 for home economics teachers; and 15 for trade and industrial education teachers.

Hypothesis Number Four stated, "There are no significant differences among teachers in various occupational areas regarding their opinions of the type of educational setting in which each professional education competency may best be attained." Chi Square scores showed that there were significant differences of opinions between occupational areas in regard to educational settings for 10 of the 45 professional education competencies. The most frequent disagreement was found to exist among "Planning the Instruction" competencies.

The 120 teachers as a group displayed a general consensus about the type of educational setting in which 25 of the competencies could most appropriately be attained. Fifty percent or more of the teachers responded that 11 of the competencies could best be attained in a comprehensive educational setting and 14 competencies in a specific occupational area setting.

The comprehensive educational setting was advocated as being most appropriate to attain proficiency in 18 of the 45 competencies by the largest percentage of respondents. Similarly, a comprehensive occupational setting was recommended for three competencies and a specific occupational area setting

for 25 competencies. One competency received a rating of 37.5 percent by the respondents favoring both the comprehensive education and specific occupational area settings for proficiency attainment. Therefore, one competency was tabulated twice in the above findings.

Conclusions

The findings of the study suggested that there were a large number of similarities in the levels of proficiency required by postsecondary occupational education teachers in regard to the 45 professional education competencies. It seemed, however, that the teachers did not consider "Evaluating the Instruction" competencies as important as "Planning the Instruction" and "Implementing Instruction" competencies.

Each of the 45 professional education competencies selected for this study received an overall mean score of 3.5 or higher for level of proficiency required. This was an indication to the researcher that all 45 of the competencies were important enough to be included in teacher education programs for postsecondary occupational education teachers. A mean score of 3.5 implied that 50 percent of maximum proficiency attainment was required for success.

The study suggested that the level of proficiency possessed by postsecondary teachers in different occupational areas was similar for the majority of the 45 competencies. The Tukey test isolated 46 pairwise comparisons that were significantly different within the 20 competencies that rejected the

null hypothesis. These significant differences were not considered critical by the researcher unless the level of proficiency possessed by the occupational area reporting the low mean was significantly lower than the level of proficiency required for success. At that point, the need for in-service education was considered evident.

The study suggested all occupational areas needed in-service education. The postsecondary occupational education teachers perceived their in-service education needs as being equally disbursed among "Planning for Instruction," "Implementing Instruction," and "Evaluating the Instruction" competencies. There appeared to be an inverse relationship between level of education attained and the perceived need for in-service education. Generally, those teachers with a higher level of formal education expressed a greater need for in-service education.

It appeared that teachers among the six occupational areas agreed in most instances about the types of educational settings in which the 45 competencies could best be attained. However, the researcher concluded that there was considerable disagreement by teachers within each occupational area. The teachers as a group were often undecided whether certain competencies could most advantageously be attained in a comprehensive educational setting, comprehensive occupational area setting, or specific occupational area setting.

The study suggested that there may be a relationship between the overall mean scores for proficiency required and

the type of educational setting in which the competency might best be attained. Frequently those competencies which had the higher overall mean scores were recommended for proficiency attainment in the specific occupational area setting. The comprehensive education and the comprehensive occupational education settings were frequently recommended by the teachers as the locations in which proficiency might best be attained for the competencies which received somewhat lower mean scores.

The researcher also concluded that the instrument developed as a part of the study was extremely reliable and will consistently measure that for which it was designed. The odd-even method using Pearson Product Moment Correlation and Spearman-Brown Prophecy Formula showed a corrected reliability correlation of 0.9740 for the proficiency attainment required section and 0.9546 for the attainment possessed section.

Recommendations

The findings of the study suggested the following recommendations:

1. It would be desirable if teacher educators responsible for preparing occupational education teachers consider the responses of postsecondary teachers as presented in the results of this study in relation to their teacher education pre-service and in-service programs.

2. State Department of Education staff members should provide leadership and finances to assist postsecondary occupational teachers in the field in narrowing the gap perceived by

teachers between levels of proficiency required and possessed for professional education competencies.

3. A study should be conducted to determine whether unique elements subordinate to the 45 professional education competencies identified in this study existed for any of the six occupational areas. The information should then be used to develop pre-service and in-service teacher education programs for post-secondary occupational areas.

4. Teacher education personnel from various institutions responsible for preparing occupational education instructors should cooperate when feasible to serve the professional education competency needs of postsecondary vocational-technical teachers.

5. A similar study should be made to determine the professional education competency needs of postsecondary occupational education teachers as perceived by the state supervisory staff, teacher educators, and postsecondary vocational and technical education administrators in Kansas.

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APPENDIX A

Panel of Experts

The panel of experts was composed of State Department of Education personnel and teacher educators who were responsible to the six occupational areas.

State Department Personnel
Division of Vocational Technical
Education
Topeka, Kansas

Teacher Education Personnel
College of Education
Kansas State University
Manhattan, Kansas

Mr. C. C. Eustace, Director
Vocational Agriculture

Dr. James Albracht
Agricultural Education

Mr. Don Strait, Director
Business Education*

Dr. Floyd Price
Business Education

Mr. Harold Anglin, Assistant Dir.
Business Education

Dr. Robert Scott
Industrial Education
(Former experience in Health
Occupations)

Dr. George Bridges, Director
Health Occupations

Mrs. Elizabeth Mettling, Director
Home Economics

Dr. Mary Evan Griffith
Home Economics

Miss Carol Oberle, Assistant Dir.
Home Economics

Mrs. Jan Wissman
Home Economics

Mr. R. B. Daniels, Director
Industrial Education

*Business education consists of business and office education and distributive education in Kansas.

Dear Vocational Educator:

You have been selected as one of the vocational educators to assist in a study of teaching competencies at the postsecondary level. Would you please take a few moments to complete the enclosed questionnaire?

You are asked to read a teaching competency and make three decisions in regard to it. (1) Rate the level of proficiency which should be attained for success in a position similar to yours. (2) Rate the level of proficiency in regard to the competency which you consider yourself to have attained. (3) Select the type of educational setting in which you believe the competency could most appropriately be attained. Your responses will be held in strictest professional confidence. The study will not identify persons or individual programs.

The results of this study will be used to assist with the planning of teacher preparation and professional development programs for post-secondary vocational-technical teachers. It is not an attempt to deal with technical subject matter, only teaching competencies necessary to perform your job as an educator.

Please complete the questionnaire as soon as possible and return it in the self-addressed envelope before January 19, 1972.

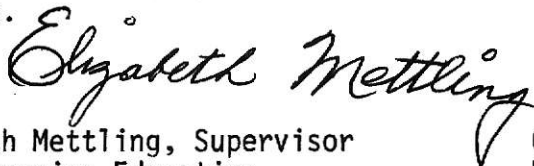
Sincerely yours,



Larry Erpelding, Instructor
Department of Adult & Occupational Education
Kansas State University

Approval and Endorsement:

I have discussed the value of this study with Mrs. Elizabeth Mettling and Miss Carol Oberle. They have recommended it very highly and feel it would be helpful in developing new educational programs for post-secondary home economics teachers.



Elizabeth Mettling, Supervisor
Home Economics Education
Division of Vocational Education
Kansas State Department of Education



Carol Oberle, Education Specialist
Home Economics Education
Division of Vocational Education
Kansas State Department of Education

PROFESSIONAL EDUCATION COMPETENCIES FOR TEACHERS OF VOCATIONAL - TECHNICAL PROGRAMS IN POST-SECONDARY SCHOOLS

Note: Your name and address are not necessary but would be helpful.

Name _____ Title of Position _____
School _____ Address _____

1. Occupational area taught (check one).

agricultural education _____
distributive education _____
health occupations _____
home economics _____
business and office education _____
trades and industrial education _____

2. Your age (check one).

under 30 years of age _____
30-39 _____
40-49 _____
50-59 _____
60 years or older _____

3. Your educational background (Please check in the "yes" column for each degree and diploma you have received and specify your major and minor fields of specialization where applicable.)

Level of Education	Degree or Diploma "yes"	Major	Minor
High School Diploma		XXX	XXX
Two Year Associate		XXX	XXX
Post-Secondary Diploma or Certificate			XXX
Bachelor's Degree			
Master's Degree			
Master's Degree plus 15 hours			XXX
Master's Degree plus 30 hours			
Others (Please Specify)			

4. Post-secondary teaching experience (Circle the appropriate number of years - consider the present school year as one year of teaching experience).

1 2 3 4 5 6 7 8 9 10 or more

5. Please indicate the years of experience in other jobs before your present job. Do not include your present job. (If none, omit this question.)

vocational instructor at high school level _____
vocational instructor at post-secondary level _____
other experiences (Please Specify) _____

Approximate
no. of years

Instructions

The following portion of the questionnaire lists 45 professional teaching competencies which are grouped into three categories; Planning for Instruction, Implementing Instruction and Evaluating Instruction. For each competency, decide the level of proficiency required for your present position. The five levels of proficiency are designated by the numbers one through five and are defined as follows:

- 1 - zero to 20% of maximum proficiency attainment is required
2 - 21 to 40%
3 - 41 to 60%
4 - 61 to 80%
5 - 81 to 100%

Secondly, check the level of proficiency in each competency which you consider yourself to possess. (All returns will be held in strictest confidence.) The same scale as used above will be used to describe your proficiency.

- 1 - zero to 20% of maximum proficiency has been attained
2 - 21 to 40%
3 - 41 to 60%
4 - 61 to 80%
5 - 81 to 100%

Thirdly, please check the type of educational setting in which you believe each competency might best be attained: comprehensive educational setting, comprehensive occupational area setting or specific occupational area setting. The three educational settings are defined as:

Comprehensive educational setting - courses, internships, inservice activities, etc., designed to prepare all potential teachers or experienced teachers regardless of their subject matter areas. For example, general, academic, non-academic, and vocational-technical teachers would be learning together in one class, workshop, etc. Some of the course settings might include; Human Growth and Development, Educational Psychology, Principles of Secondary Education, and Junior College. Workshop settings might include comprehensive curriculum development workshops, audio visual instruction workshops, etc.

Comprehensive occupational area setting - courses, internships, inservice activities, etc., designed to prepare all potential and/or experienced vocational-technical teachers regardless of their occupational area affiliation. For example, agriculture, distributive, health, home economics, business and office, and trades and industrial education teachers would be learning together in one class, workshop, etc. Some of the settings may include; Principles and Philosophy of Vocational Education, Job Analysis for Vocational Educators, etc. Other settings might be; vocational-technical teacher education workshops and professional development seminars in vocational-technical education.

Specific occupational area setting - courses, internships, inservice activities, etc., designed to prepare all potential and/or experienced teachers in one occupational area. For example, only teachers in health occupations would participate in the class, workshop, etc. Some course settings for the various occupational areas could be: Methods of teaching Agriculture, Curriculum Development in Home Economics, Youth Organizations in Business and Office Education, and Course Construction in Industrial Education. Workshop settings might include a Curriculum Workshop in Distributive Education, a Workshop in Health Occupations, etc.

January 18, 1972

Dear Educator:

On January 12, 1972, I sent you a questionnaire as part of a statewide study of professional education competencies required by postsecondary vocational and technical teachers. The purpose of the study was to determine the importance of certain competencies and the setting in which the knowledges and skills can best be attained.

If you have already returned the questionnaire, please consider this a special thank you for your prompt response. If you have not completed the questionnaire yet, please fill it out and return it today.

Thank you for your help.

Sincerely yours,

Larry Erpelding
P. O. Box 74
Manhattan, Kansas 66502

APPENDIX B

TABLE XIV
Reliability and Item Analysis for Proficiency Attainment
Required for "Planning for Instruction" Competencies

Competency	Correlation with Total	No. Giving Each Response				
		1	2	3	4	5
1. Identify community and other non-school resources relating to the program.	0.6106	1	1	23	58	37
2. Determine manpower needs and employment patterns that are related to the program.	0.6901	2	2	16	55	45
3. Identify and incorporate technological change that influences the curriculum.	0.5949	3	2	15	40	60*
4. Ascertain the handicapped and disadvantaged persons to be served in the community who require special programs or emphasis.	0.5782	9	14	29	41	27
5. Conduct a local survey and organize data for community needs analysis.	0.6801	9	10	23	49	29
6. Organize and use representative advisory groups vitally interested in decisions that effect their community.	0.5608	3	5	12	44	56
7. Formulate performance-based objectives related to the occupational program.	0.7311	3	0	10	37	70*
8. Determine the facilities essential to the success of the program.	0.5954	2	0	7	47	64*

TABLE XIV (Continued)

Competency	Correlation with Total	No. Giving Each Response				
		1	2	3	4	5
9. Plan an education program consistent with agreed upon objectives.	0.6127	2	2	7	30	79*
10. Determine learning experiences applicable in the classroom or laboratory which provide for the individual differences of students.	0.6840	1	3	9	37	70*
11. Develop original instructional materials; e.g. individualized related assignment sheets, transparencies, charts, etc.	0.6483	1	2	14	36	67*
12. Determine student needs and/or goals.	0.6463	1	1	8	32	78*
13. Select and use a variety of teaching techniques and methods.	0.6817	1	0	8	26	85*
14. Initiate and provide for "on-the-job" learning experiences.	0.6223	3	2	4	33	78*
15. Establish the evaluative criteria for a lesson, unit and/or course.	0.6999	2	0	2	42	74*

*Frequency of 50 percent or more.
(Composite reliability for Tables XIV, XV, and XVI was a corrected odd-even score of 0.9740).

TABLE XV

Reliability and Item Analysis for Proficiency Attainment Required
for "Implementing Instruction" Competencies

Competency	Correlation with Total	No. Giving Each Response				
		1	2	3	4	5
16. Motivate within students a desire to learn.	0.5993	1	0	3	30	86*
17. Involve planning groups and other resources in implementing the occupational program.	0.6598	5	4	18	60*	33
18. Use various kinds of teaching methods effectively.	0.6589	1	0	3	44	72*
19. Construct and use objective testing techniques.	0.6144	3	4	13	40	60*
20. Schedule educational programs and activities into the course to effect greater student accomplishment.	0.6957	1	5	15	43	56
21. Select and use audio visual materials and equipment properly.	0.7278	1	3	7	37	72*
22. Recognize each student's background and experience.	0.7153	2	3	5	40	70*
23. Plan, organize and conduct field trips with groups and/or individuals.	0.5922	6	3	16	50	45
24. Use programmed materials and other individualized learning techniques.	0.5320	8	6	19	42	45

TABLE XV (Continued)

Competency	Correlation with Total	No. Giving Each Response				
		1	2	3	4	5
25. Maintain effective learning environment during teaching-learning situations.	0.6378	1	0	6	33	80*
26. Perform appropriate guidance counseling activities on an informal basis.	0.7119	3	4	11	38	64*
27. Coordinate and supervise occupational experience (on-the-job) programs for students.	0.6684	3	3	10	24	80*
28. Conduct demonstrations involving manipulative skills related to your area of instruction.	0.5034	2	4	6	42	66*
29. Reinforce learning through proper educational techniques.	0.7398	1	2	9	43	65*
30. Develop and implement safety procedures.	0.5284	3	9	12	22	74*
31. Maintain a student organization as an extra-curricular activity that relates to the occupational program.	0.5764	9	15	24	41	31
32. Correlate related and technical instruction with student's occupational (on-the-job) experience.	0.7284	2	2	7	33	76*
33. Involve "on-the-job" supervisors in evaluating the student's performance.	0.6164	6	5	8	39	62*

TABLE XV (Continued)

Competency	Correlation with Total	No. Giving Each Response				
		1	2	3	4	5
34. Provide situations or activities that challenge the abilities of the gifted student.	0.7404	3	2	10	41	64*
35. Provide remedial instructions in reading, writing, arithmetic, etc.	0.7144	9	14	25	32	40

* Frequency of 50 percent or more.

(Composite reliability for Tables XIV, XV, and XVI was a corrected odd-even score of 0.9740).

TABLE XVI
Reliability and Item Analysis for Attainment Required
for "Evaluating the Instruction" Competencies

Competency	Correlation with Total	No. Giving Each Response				
		1	2	3	4	5
36. Devise measurement devices and systems for evaluating the educational program.	0.7421	7	3	15	42	53
37. Conduct and maintain placement and follow-up studies.	0.6965	5	11	11	30	63*
38. Ascertain objectively student performance in the classroom and school laboratory.	0.7325	3	1	7	34	75*
39. Ascertain objectively student performance in an occupational experience (on-the-job) program.	0.7252	3	2	12	28	75*
40. Construct and use performance-based evaluation instruments.	0.5777	1	3	21	45	50
41. Recognize policies and practices that may prevent the accomplishment of stated objectives in your community.	0.7628	3	6	24	42	45
42. Analyze the feedback (public or community acceptance and/or rejection) about your program outside the educational setting.	0.7755	3	4	20	41	52
43. Appraise students' efforts, accomplishments, and/or products according to standards of the occupation.	0.7381	2	2	10	38	68*

TABLE XVI (Continued)

Competency	Correlation with Total	No. Giving Each Response				
		1	2	3	4	5
44. Devise self-evaluation techniques for use by students.	0.7576	5	7	18	48	42
45. Interpret students' evaluation of instruction.	0.7431	4	5	20	42	49

* Frequency of 50 percent or more.

(Composite reliability for Tables XIV, XV, and XVI was a corrected odd-even score of 0.9740).

TABLE XVII

Reliability and Item Analysis for Proficiency Possessed
for "Planning for Instruction" Competencies

Competency	Correlation with Total	No. Giving Each Response				
		1	2	3	4	5
1. Identify community and other non-school resources relating to the program.	0.5403	1	8	31	57	23
2. Determine manpower needs and employment patterns that are related to the program.	0.6203	1	7	39	54	19
3. Identify and incorporate technological change that influences the curriculum.	0.5084	1	5	25	59	30
4. Ascertain the handicapped and disadvantaged persons to be served in the community who require special programs or emphasis.	0.4373	11	30	42	30	7
5. Conduct a local survey and organize data for community needs analysis.	0.5909	17	23	30	33	17
6. Organize and use representative advisory groups vitally interested in decisions that effect their community.	0.6180	6	17	25	37	35
7. Formulate performance-based objectives related to the occupational program.	0.5206	1	5	22	53	39
8. Determine the facilities essential to the success of the program.	0.5567	1	1	12	65*	41

TABLE XVII (Continued)

Competency	Correlation with Total	No. Giving Each Response				
		1	2	3	4	5
9. Plan an education program consistent with agreed upon objectives.	0.5678	0	5	12	60*	43
10. Determine learning experiences applicable in the classroom or laboratory which provide for the individual differences of students.	0.3555	0	2	22	64*	32
11. Develop original instructional materials; e.g. individualized related assignment sheets, transparencies, charts, etc.	0.5854	1	8	16	56	39
12. Determine student needs and/or goals.	0.6026	0	3	17	60	40
13. Select and use a variety of teaching techniques and methods.	0.6109	0	2	15	43	60*
14. Initiate and provide for "on-the-job" learning experiences.	0.5199	3	3	19	39	56
15. Establish the evaluative criteria for a lesson, unit and/or course.	0.4699	1	1	16	54	48

*Frequency of 50 percent or more.

(Composite reliability for Tables XVII, XVIII, and XIX was a corrected odd-even score of 0.9546).

TABLE XVIII

Reliability and Item Analysis for Proficiency Possessed
for "Implementing Instruction" Competencies

Competency	Correlation with Total	No. Giving Each Response				
		1	2	3	4	5
16. Motivate within students a desire to learn.	0.4606	0	1	19	66*	34
17. Involve planning groups and other resources in implementing the occupational program.	0.6184	3	13	36	49	19
18. Use various kinds of teaching methods effectively.	0.5236	0	1	18	61*	40
19. Construct and use objective testing techniques.	0.5781	3	9	18	54	36
20. Schedule educational programs and activities into the course to effect greater student accomplishment.	0.6462	0	9	28	59	24
21. Select and use audio visual materials and equipment properly.	0.4988	0	4	31	42	43
22. Recognize each student's background and experience.	0.6032	0	3	20	52	45
23. Plan, organize and conduct field trips with groups and/or individuals.	0.5028	5	6	22	44	43
24. Use programmed materials and other individualized learning techniques.	0.6581	4	16	33	38	29

TABLE XVIII (Continued)

Competency	Correlation with Total	No. Giving Each Response				
		1	2	3	4	5
25. Maintain effective learning environment during teaching-learning situations.	0.6187	0	1	15	70*	34
26. Perform appropriate guidance counseling activities on an informal basis.	0.6714	2	5	25	48	40
27. Coordinate and supervise occupational experience (on-the-job) programs for students.	0.5407	6	11	16	41	46
28. Conduct demonstrations involving manipulative skills related to your area of instruction.	0.3678	0	2	15	49	54
29. Reinforce learning through proper educational techniques.	0.6883	0	2	27	62*	29
30. Develop and implement safety procedures.	0.3870	1	3	23	51	42
31. Maintain a student organization as an extra-curricular activity that relates to the occupational program.	0.4370	13	21	36	30	20
32. Correlate related and technical instruction with student's occupational (on-the-job) experience.	0.5083	2	3	24	47	44
33. Involve "on-the-job" supervisors in evaluating the student's performance.	0.4672	7	11	25	38	39

TABLE XVIII (Continued)

Competency	Correlation with Total	No. Giving Each Response				
		1	2	3	4	5
34. Provide situations or activities that challenge the abilities of the gifted student.	0.6157	1	5	39	50	25
35. Provide remedial instructions in reading, writing, arithmetic, etc.	0.5474	4	25	44	32	15

* Frequency of 50 percent or more.

(Composite reliability for Tables XVII, XVIII, and XIX was a corrected odd-even score of 0.9546).

TABLE XIX

Reliability and Item Analysis for Proficiency Possessed
for "Evaluating the Instruction" Competencies

Competency	Correlation with Total	No. Giving Each Response				
		1	2	3	4	5
36. Devise measurement devices and systems for evaluating the educational program.	0.5907	4	14	35	42	25
37. Conduct and maintain placement and follow-up studies.	0.6773	9	14	23	40	34
38. Ascertain objectively student performance in the classroom and school laboratory.	0.5740	2	2	11	67*	38
39. Ascertain objectively student performance in an occupational experience (on-the-job) program.	0.6689	3	12	17	41	47
40. Construct and use performance-based evaluation instruments.	0.5665	2	8	34	40	36
41. Recognize policies and practices that may prevent the accomplishment of stated objectives in your community.	0.7020	5	11	35	46	23
42. Analyze the feedback (public or community acceptance and/or rejection) about your program outside the educational setting.	0.6976	6	12	27	48	27

TABLE XIX (Continued)

Competency	Correlation with Total	No. Giving Each Response				
		1	2	3	4	5
43. Appraise students' efforts, accomplishments, and/or products according to standards of the occupation.	0.5919	0	5	16	48	51
44. Devise self-evaluation techniques for use by students.	0.5816	5	21	31	39	24
45. Interpret students' evaluation of instruction.	0.6136	3	9	29	46	33

*Frequency of 50 percent or more.

(Composite reliability for Tables XVII, XVIII, and XIX was a corrected odd-even score of 0.9546).

TABLE XX

T-Statistics for Comparisons Between Proficiency Required and Proficiency Possessed for Professional Educational Competencies Reported by Occupational Areas

Competency Number	AG	B&O	DE	HO	HE	T&I
Planning the Instruction						
1	-3.269**	-2.373*	1.422	-2.939**	-3.943**	0.295
2	-3.907**	-3.327**	-0.900	-2.854**	-3.115**	-1.751*
3	-1.000	-3.559**	-2.042*	-0.865	-1.584	-1.789*
4	-4.273**	-3.442**	-3.036**	-0.890	-1.949*	-2.364*
5	-1.277	-2.881**	-2.027*	-3.835**	-2.459*	-0.384
6	-2.990**	-2.666**	-4.292**	-0.960	-4.254**	-1.422
7	-2.438*	-2.042*	-4.414**	0.188	-3.943**	-0.719
8	-0.825	-1.651	-2.042*	-1.422	-3.327**	0.438
9	-2.349*	-1.552	-3.584**	-1.577	-1.506	-0.438
10	-3.559**	-3.199**	-1.561	-0.529	-3.269**	0.0
11	-2.373*	-2.629**	-3.199**	-1.505	-2.939**	-0.525
12	-2.438*	-2.666**	-2.032*	-1.566	-4.682**	-1.710
13	-2.703**	-2.932**	0.0	-1.633	-3.327**	1.00
14	-2.651**	-2.127*	-2.517*	-0.719	-2.698**	0.0
15	-3.943**	-2.438*	-0.438	-2.238*	-2.666**	-0.809
Implementing the Instruction						
16	-5.480**	-4.273**	-3.684**	-0.972	-4.765**	-2.438*
17	-3.584**	-2.131*	-0.567	-0.567	-2.773**	-2.651**
18	-3.240**	-3.249**	-2.042*	-1.101	-2.666**	-2.854**
19	-2.666**	-2.101*	-1.453	-2.565**	-1.831*	-1.143
20	-3.584**	-2.651**	-2.854**	-2.557**	-3.684**	-0.326
21	-1.831*	-3.943**	-2.042*	-2.292*	-2.179*	-1.165
22	-0.900	-2.517*	-1.143	-1.798*	-2.629**	-2.101*
23	-0.698	-2.990**	2.032*	-1.157	-0.326	0.0

TABLE XX (Continued)

Competency Number	AG	B&O	DE	HO	HE	T&I
24	-3.249**	-1.157	-0.370	-1.484	-2.027*	-1.751*
25	-2.979**	-3.249**	-1.000	-1.710	-6.839**	-2.101*
26	-1.789*	-2.463*	-1.371	-0.384	-2.179*	-2.042*
27	-2.032*	-2.517*	-1.143	-3.943**	-4.529**	-1.453
28	-2.042*	-1.751*	-0.438	-0.767	0.698	0.623
29	-3.249**	-2.629**	-2.854**	-3.115**	-3.327**	-1.751*
30	-2.990**	-2.269*	0.767	-1.143	-0.767	-0.698
31	-1.566	-2.698**	-1.143	-1.000	-2.651**	-2.269*
32	-1.285	-3.240**	0.326	-1.437	-4.611**	-1.285
33	-2.179*	-1.751*	0.0	-2.027*	-3.708**	-2.773**
34	-2.517*	-4.677**	-2.127*	-1.949*	-4.660**	-1.314
35	-1.690	-3.577**	-1.157	-0.357	-3.399**	0.0
Evaluating the Instruction						
36	-3.249**	-2.979**	-0.525	-3.269**	-4.344**	-2.651*
37	-1.814*	-2.179*	-1.143	-3.760**	-3.979**	-0.271
38	-1.831*	-1.422	-2.666**	-3.584**	-2.349*	-2.032*
39	-1.710	-1.677	0.0	-2.939**	-4.329**	-1.165
40	-1.902*	-1.751*	0.698	-4.333**	-2.565**	-1.285
41	-2.127*	-2.373*	0.438	-2.604**	-3.327**	-0.825
42	-2.604**	-2.333*	-1.674	-2.483*	-3.655**	-0.623
43	-0.525	-1.552	-0.900	0.0	-3.199**	-.809
44	-1.633	-2.371*	-2.438*	-2.027*	-3.387**	-1.097
45	-1.157	-2.238*	0.900	-1.633	-2.269*	0.0

**Denotes significance at the .01 level.

*Denotes significance at the .05 level.

(Positive statistic indicates that the attained mean was larger than the required mean).

VITA

Vita

Lawrence H. Erpelding, Jr. was born in Atchison, Kansas, on June 26, 1943 to Mr. and Mrs. Lawrence H. Erpelding, Sr. who lived on a farm near Lancaster, Kansas. He graduated from elementary school in 1957 and from Atchison County Community High School in 1961. He married Donna M. Spachek from Lincolnvillle, Kansas. They have one daughter, Angela Marie.

In June of 1965, Mr. Erpelding graduated from Kansas State University with a Bachelor of Science degree in Agriculture Education. Immediately after graduation, he accepted a vocational agriculture teaching position at Newton High School and the Central Kansas Area Vocational Technical School in Newton, Kansas. In 1967, he took a position as regional advertising manager for The National Future Farmer magazine in Alexandria, Virginia.

In February of 1968, Mr. Erpelding enrolled in Graduate School at Kansas State University. He taught agricultural mechanics as an instructor in the Department of Agricultural Engineering at KSU from September, 1968 until June, 1969. He received the Master of Science degree in Agricultural Education in June, 1969.

Mr. Erpelding began study toward a Ph.D. degree in occupational education at Kansas State University in June, 1969, when he became a graduate teaching assistant in the Department of Adult and Occupational Education. In September of 1970, he

became an instructor in the Department of Adult and Occupational Education with primary responsibilities in agricultural teacher education. He became director of agricultural science and technology at Colby Community College on July 1, 1972.

He is currently a member of the American Vocational Association, National Vocational Agriculture Teachers' Association, American Association for Teacher Educators in Agriculture, Phi Delta Kappa, Kansas Vocational Association, Kansas Vocational Agriculture Teachers' Association, and the National FFA Alumni Association.

PROFESSIONAL EDUCATION COMPETENCY NEEDS OF
TEACHERS OF VOCATIONAL-TECHNICAL PROGRAMS
IN POSTSECONDARY SCHOOLS

by

LAWRENCE H. ERPELDING, JR.

B.S., Kansas State University, 1965
M.S., Kansas State University, 1969

AN ABSTRACT OF A DOCTORAL DISSERTATION

submitted in partial fulfillment of the

requirements for the degree

DOCTOR OF PHILOSOPHY

College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

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ABSTRACT

The primary purpose of this study was to ascertain the professional education competency needs of postsecondary occupational education teachers in Kansas. The study was limited to 120 occupational education teachers in area vocational technical schools and community junior colleges in Kansas. The occupational areas represented were: agricultural education, business and office education, distributive education, health occupations, home economics, and trade and industrial education.

The study involved the identification of 45 professional education competencies considered useful and necessary for postsecondary occupational education teachers. A research instrument was developed to allow respondents to rate level of proficiency required, proficiency attained, and designate the type of educational setting where proficiency in the competency might best be attained.

Four hypotheses served as the basis for the study.

They were:

1. There are no significant differences in the level of proficiency of selected professional education competencies considered to be necessary for success by postsecondary occupational education teachers in different occupational areas.

2. There are no significant differences in the level of proficiency of selected professional education competencies

which the postsecondary occupational education teachers in different occupational areas considered themselves to possess.

3. There are no significant differences between the level of proficiency required and possessed for certain professional education competencies for each occupational area.

4. There are no significant differences among teachers in various occupational areas regarding their opinions of the type of educational setting in which each professional education competency may best be attained.

The Analysis of Variance technique was used to test Hypothesis One and Two. Tukey's multiple comparison procedure was used to determine the occupational areas between which significant differences for proficiency level required or attained existed. The level of significance was set at the .05 level. Hypothesis One was retained for 40 of the 45 professional education competencies. These findings suggested that there were a large number of similarities in the levels of proficiency related to the 45 professional education competencies required for success by postsecondary teachers in the six occupational areas. Hypothesis Two was retained for 25 of the 45 competencies.

The T-test for Related Samples was used to test Hypothesis Three. The level of significance was established at the .05 level. The data indicated agriculture teachers perceived a need for in-service education for 33 of the 45 professional education competencies. Thirty-nine significantly lower mean

scores for proficiency possessed compared to the mean scores for proficiency attained were isolated for business and office education teachers; 19 for distributive education teachers; 20 for health occupations teachers; 40 for home economics teachers; and 15 for trade and industrial education teachers.

The Chi Square Test of Independence was used to test Hypothesis Four, and the level of significance was set at the .05 level. The study indicated that teachers among the six occupational areas agreed in most instances about the types of educational settings in which the 45 competencies could best be attained. Responses for ten competencies indicated significant disagreement between occupational areas. However, there was disagreement by teachers within each occupational area. The teachers as a group were often undecided whether certain competencies could most advantageously be attained in a comprehensive educational setting, comprehensive occupational area setting, or specific occupational area setting.

Recommendations were: teacher educators from various occupational areas should cooperate to serve the professional education competency needs of present and prospective post-secondary occupational education teachers; and State Department of Education staff should provide leadership and finances for the professional development of postsecondary occupational education teachers in the field.