A STUDY OF THE INDUSTRIAL COOPERATIVE TEACHER EDUCATION DELIVERY SYSTEMS USED IN THE UNITED STATES

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CHAPTER I

INTRODUCTION

Industrial cooperative education is one of the original forms of cooperative education in the American secondary school. The provisions of the trade and industrial sections of the Vocational Act of 1917, the Smith-Hughes Act, definitely established the character of the industrial cooperative education program. One aspect of this act was the requirement of the State Plan, a contractual relationship between the federal and state governments to promote and design vocational education so that each state could develop its vocational programs with due regard to its own geographical, educational, economic, and social conditions (Mason and Haines, 1972).

Industrial cooperative teacher education was implemented through the state plan for vocational education. Since each state is responsible for its own industrial cooperative teacher education plan, the result has been a variety of industrial cooperative teacher education programs throughout the United States.

Statement of the Problem

This study is concerned with the industrial cooperative delivery systems utilized in each state for teacher education. Currently no source in the United States provides this information for all of the states. Each state is responsible for the teacher education of its

own Industrial Cooperative Education teachers. There is no formal mechanism to disseminate these procedures to other states or to acquire input into their own processes for teacher education.

Purpose of the Study

The purpose of this research is to provide an in-depth assessment of the delivery system used in Industrial Cooperative Education in the United States. New delivery systems of teacher education may be identified that possibly have been overlooked by any one particular state.

Objectives

To provide an in-depth assessment of the teacher education of Industrial Cooperative Teachers, the following objectives were developed:

1. To determine what agency provides the Industrial Cooperative Teacher Education program.

2. To determine when the Industrial Cooperative Education courses are offered in each particular state.

3. To determine minimum education requirements of the local education agency to employ an Industrial Cooperative Education Teacher.

4. To determine the minimum teacher preparation requirements before the Industrial Cooperative Education teacher is issued a permanent teaching certificate.

5. To determine who pays the tuition for the Industrial Cooperative education teacher to take the required courses.

6. To determine other areas of vocational education which are taught in joint session with Industrial Cooperative teacher education.

7. To determine the minimum work experience requirements for the local education agency to employ an Industrial Cooperative teacher.

8. To determine the delivery system employed to prepare Industrial Cooperative Education teachers to teach the disadvantaged student, the handicapped student, sex stereotyping, and Vocational Industrial Clubs of America (VICA).

Basic Assumptions

For the purpose of this study, the following assumptions are accepted:

1. The questionnaire developed by Sheppard (1980) is valid and reliable.

2. That the respondents provide accurate responses pertaining to each respective state.

3. That the data gathering instrument provided the necessary information to study the Industrial Cooperative Teacher Education Delivery System in each state.

Scope and Limitations

The data for this study was collected by using a questionnaire mailed to each state Supervisor/Consultant responsible for the delivery of Industrial Cooperative Teacher Education in the United States. The identification of each state Supervisior/Consultant was provided by a directory furnished by the United States Department of Education,

Office of Vocational and Adult Education, Washington, D. C.

The instrument used to obtain the data was a modification of a questionnaire developed by Shepperd (1980). The term "Trade and Industrial" on the original instrument was changed to read "Industrial Cooperative", and other changes were made in the instrument to better adapt it for the specific questions of the study.

Definitions

Cooperative Vocational Education: Knowledge, abilities, and attitudes learned in school through a job situtation and correlated study for workers in a given occupational field (Mason and Haines, 1972).

Delivery System: Process by which a person may acquire teacher education to meet qualifications and standards determined by the state agency for vocational education.

Industrial Cooperative Education: Wanat and Snell (1980) identified this phase of vocational education into two basic models:

> One involves a program where the students are assigned to a daily block of periods in a given shop area for specific in-school instruction. These students are placed directly from their shop class to an on-the-job experience for which they were specifically trained. The other model consists of a period each day of related class instruction for a group of students who are employed in a variety of diversified occupations. These students receive their specific training on the job and are released from school on either a half day basis or a week about arrangement. The instruction in this program is individualized to the unique needs of each student (pp. 11, 12).

State Plan: The Vocational Act of 1963, defined the state plan as follows:

> SEC 123. (a) A State which desires to receive its allotments of Federal funds under this part shall submit through its

> State board to the Commissioner a State plan, in such detail as the Commissioner deems necessary, which. . .
>
> (7) provides minimum qualifications for teachers, teacher-trainers, supervisors, directors, and others having responsibilities under the State plan (Roberts, 1971, pp. 468, 470).

Teacher-Coordinator: Mason and Haines (1972) have defined this person as

> . . . a person employed by the school district to operate the cooperative education program. He possesses the technical education, professional education, and business or industrial experience necessary to the success as a vocational teacher. He teaches the daily vocational class at the school and coordinates the employment learning experiences with the school learning experiences of each student-learner. He may handle adult education in the community (p. 106).

CHAPTER II

REVIEW OF THE LITERATURE

The review of literature has been divided into three parts: (1) historical background of cooperative vocational education, (2) uniqueness of cooperative vocational teacher education, and (3) studies which are related to the qualifications and competencies of the Cooperative Vocational Education Teacher Coordinator.

Historical Background

Elements of cooperative vocational education can be found in education for over a century. In 1824, an orphanage was established in Potsdam for educating orphans of soldiers. The orphans were taught a number of trades, with each boy permitted to select his own trade. Some were permitted to work in town as a means of learning a trade. The Red Hill Farm in England was one of the first training programs that developed the idea of a cooperative arrangement. Boys performed farm labor at a reform school, spent about three hours on alternate days in study and the remainder of time in occupations related to industry (Roberts, 1971).

Coopertative Vocational Education served as a program whereby the students work part-time in an occupation and study in a formal classroom using related instruction pertaining to their training. The genesis of this program came from Cincinnati University at the turn of

the century and was related primarily to engineering students. This concept of cooperative education was further expanded by Evans and Herr (1978): i.e., a better education could be gained if the students spent part of their school career working and if the school program were related to what they had learned on the job. From this early beginning, cooperative education moved rather slowly into public education in the United States.

A chronological history of cooperative education related to secondary education in the United States prior to the Smith-Hughes Act of 1917, as identified by the National Society for the Study of Education (1964), is as follows:

> 1909 - High school program of work experience education established at Fitchburg, Massachusetts, in cooperation with the General Electric Company.
>
> 1910 - High school cooperative courses established in the Cincinnati, Ohio public schools.
>
> 1911 - Experimental high school cooperative program established at York, Pennsylvania.
>
> 1914 - High school cooperative instruction established at Dayton Cooperative High School, Dayton, Ohio.
>
> 1915 - High School cooperative programs established in ten New York City schools (p. 200).

The foregoing milestones of cooperative education contributed substantially to the support of legislation for cooperative education programs in the United States.

With the passage of the Smith-Hughes Act of 1917, Public Law 347, 64th Congress, permanent appropriations were provided for vocational education in agriculture, trades and industry, home economics, and vocational teacher training. This was the first Federal support for vocational education at the secondary level of education. According

to Roberts (1971, p. 270), "this law resulted in the organization of vocational industrial programs of some nature in every state during its first year of operation." Even though the Smith-Hughes Act served as an incentive to many states to start vocational industrial programs in the public secondary schools, it was almost twenty years later, according to Evans and Herr (1978), that cooperative vocational education in secondary schools in the South adopted a plan for their secondary school students. Burt (1967) noted that the reimbursement of coordinators' salaries from Federal funds goes back at least to 1936. Burt further stated:

> Federal funds appropriated for the reimbursement of salaries of trade and industrial teachers may be used for the reimbursement of the salaries of coordinators for all-day, part-time, or evening trade and industrial classes, providing that plans for each type of coordination are designated in the State plan. The provisions set forth in the state plan should include: (1) the plan for each type of coordination, and (2) duties and qualifications for the coordinator (p. 458).

Although cooperative vocational education programs were mentioned in the trade and industrial section of the Smith-Hughes Act, they were slow to materialize as an equal force in trade and industrial education. Wanat and Snell (1980, p. 3) state that "although some school systems offered programs much earlier, most schools began their cooperative vocational programs in the 1960's."

Cooperative vocational education grew rapidly during the 1960's and 1970's, with the passage of the Vocational Education Acts of 1963 and 1968. According to Evans and Herr (1978), cooperative vocational education at the secondary level grew in enrollment from zero in 1930 to over one-quarter million in 1972. Wentzel, in Wanat and Snell (1980, p. v), reported the growth of cooperative vocational education

had increased to three-quarter million by 1977. He predicted that "cooperative vocational education will reach the two million mark by 1985." Wanat and Snell (1980) gave further insight into the growth of cooperative vocational education by stating that the central purposes of the Vocational Act of 1963 as follows:

> (1) To assist states to maintain, extend, and improve existing programs of vocational education. (2) To develop new programs of vocational education. (3) To provide part-time employment for youths who need such employment in order to continue their vocational training on a full-time basis. (4) To provide instruction so that persons of all ages in all communities will have ready access to vocational training or retraining that is of high quality realistic in relation to employment, and suited to the needs, interests, and ability of the persons concerned. Such persons were identified as--a. those in high school; and b. those who have completed or discontinued formal education (p. 6).

Wanat and Snell (1980) showed that the Vocational Amendments of 1968 as it related to the development of cooperative vocational education programs indicated the following:

1. Authorizations of money for vocational education were greatly increased.
2. Earmarked funds were set aside for the disadvantaged, postsecondary, and handicapped.
3. Work study and cooperative progams were given increased visibility and support.
4. Consumer education was authorized as a legitimate vocational expenditure.
5. Certain programs (disadvantaged) have waived the matching fund concept.
6. Earmarked funds were authorized for new and expanded cooperative vocational education programs (p. 6).

Wanat and Snell (1980, p. 7) further related effects on cooperative vocational education with the passage of Public Law 94-482, "Educational Amendments of 1976: 'The commissioner could make grants to higher education institutions for the purpose of planning, establishing, and expanding cooperative vocational education programs'."

Since no new legislation has been passed dealing with cooperative vocational education, and the present legislation has been only a continuation of the education amendments of 1976, the future of cooperative vocational education at the higher education level seems uncertain at this time. Furthermore, Wentzel's (in Wanat and Snell, 1980) prediction of two million cooperative vocational students at the secondary level by 1985 may be in jeopardy because of proposed cutbacks by the federal government. In the January/February issue of Update, the present administration was quoted as favoring a 41 percent cut in federal funding for FY 1983. That is not to say that cooperative vocational education funding will be cut by a total of 41 percent as the exact amount has not been determined, but it is certain that reduction will affect cooperative education.

Even though all vocational education programs are having funding difficulty, this is a general economic problem and not a problem with program quality. According to Evans and Herr (1978, p. 236), "Studies of the economics of vocational education have shown higher rates of return on investments in cooperative vocational education programs than in any other type of vocational education."

Teacher Education

Vocational education legislation served as an incentive to many states to start cooperatve education programs. The passage of the Smith-Hughes Act of 1917 specifically includes the mention of teacher education. This act was one of the earliest legal documents in the United States containing teacher education for trade and industrial education in which industrial cooperative education is synonymous, in

terms of occupational employment in trades.

According to Roberts (1971), the enactment of this law has given each state the responsibility to provide teacher education that includes the following six functions: (1) recruitment, preservice education, and placement; (2) in-service education; (3) follow-up; (4) preparation of instructional aids; (5) improvement of vocational courses required for vocational teachers; (6) research and development of vocational programs. He further stated:

> . . . teacher education in vocational education includes those activities needed for assisting teachers or prospective teachers to secure the professional knowledge, ability, understanding, and appreciation for employment or advancement (p. 141).

The delivery system for vocational teacher education in the United States varies from state to state. Teacher education offered by the various states differs according to Evans and Herr (1978, p. 280) in variations of recruiting practices, teacher education programs, and teacher certification practices. They also noted that "these variations still exist, not only from state to state, but also from one occupational field to another within each state."

According to Barlow (1971), the two main objectives of in-service teacher education are those of keeping the teacher up-to-date in his subject matter and that of keeping him abreast of new developments in teaching and learning. He also suggested that vocational teachers could further develop their teaching skills for contributions in research and in innovative methods of teaching.

One method utilized was in-service training for cooperative vocational education coordinators in the form of individualized instruction during the school year by state supervisors who visited the

school and provided training directly. Another type of in-service training was conducted at summer conferences for coordinators. These conferences often precede the opening of the fall term of school, usually during the last two weeks in August. Some states conduct such conferences each year. This type of in-service training may vary from state to state, but almost all such conferences represent a cooperative effort of a state institution and the state board (Hawkins, Prosser and Wright, 1967).

Cotrell and Miller (1969) noticed in the past only vocational agriculture and vocational home economics produced any quantity of teachers through college programs. Teachers for trade and industrial and technical education came from business and industry beginning with only experiences in their trade or technical background. These teachers were given a limited amount of preservice training before entering the classroom. Once in a teaching position, they were required to take in-service courses to meet certification requirements. Preservice and in-service requirements for vocational teachers in different service areas and in different states revealed a great diversity of requirements.

The National Research Center for Vocational Education at Ohio State University (1972) identified 100 competencies believed essential to all vocational instructors. From this list of 100 competencies, Andreyka and Clark (1976) were able to identify eight functional areas in competency-based industrial teacher education:

> (1) orientation to vocational teaching, (2) preparation for instruction, (3) presentation for instruction, (4) application of learning, (5) evaluation, (6) classroom/laboratory management, (7) human relations, and (8) foundations of vocational education (p. 3).

From the 100 competencies in the eight functional areas 57 competencies were identified as being necessary for a successful competency-based industrial vocational teacher education program.

Unfortunately, no accepted method for determining whether or not vocational education teacher-coordinators have mastered the identified competencies has been developed. There is some disagreement among teacher educators as to what criteria is to be used for evaluation and how much emphasis should be placed on each of these various criteria. Further research is needed in the area of competency evaluation methods and techniques (Andreyka and Clark, 1976).

Related Studies

Even though the previous section of this chapter centered on the uniqueness of industrial cooperative teacher education, it should be noted industrial cooperative education shares many of the same teacher education characteristics of trade and industrial teacher education.

A study conducted by Walsh (1960) served as an aid to those in teacher education by providing an inventory of competencies selected by teachers, teacher edcuators, and supervisory personnel for keeping pace with developing professional standards, advancing certification requirements, and changing technology. Even though cooperative teacher education competencies were not mentioned specifically in this study, they were interwoven with certain competencies that all vocational education teachers need.

In 1969, as reported in the Minnesota Guide for Cooperative Vocational Education, participants in the National Conference on Cooperative Vocational Education listed three areas of concern that would be

essential for a teacher-coordinator to operate a quality program: (1) competencies, (2) understandings, and (3) personal qualifications (Stadt and Gooch, 1977).

In 1972, The National Center for Research in Vocational Education conducted a research project entitled "Model Curricula for Vocational Teacher Education." The first phase of this project, determined the pedagogical performance requirements for teachers of conventional vocational education programs. The second phase of the project identified the pedagogical performance requirements for coordinators. A very comprehensive listing of performance elements was identified in relation to the duties and responsibilities of the teacher-coordinator. The two phases resulted in the identification of 384 performance elements important to the successful perfomance of vocational teachers and teacher coordinators. These were classified under (1) program planning, development, and evaluation; (2) instructional planning (3) execution of instruction; (4) evaluation of instruction; (5) management; (6) school and community relations; (7) student organizations; (8) guidance; (9) professional development; and (10) coordination activities (Cotrell, 1972).

According to Smith (1969), Industrial Cooperative Training teachers in North Carolina ranked ten qualifications as deemed necessary to operate a quality cooperative education program. They were as follows: (1) communication, (2) good judgment, (3) initiative, (4) organization and development, (5) awareness of duties, (6) program improvement, (7) ability to work with people, (8) leadership ability, (9) a college degree, and (10) two year's work experience.

Huffman (1969, p. 16) maintained for a quality program in cooperative vocational education the "key" person is the Teacher-Coordinator. He suggested that the teacher-coordinator should be trained in coordination techniques, have occupational experience, and professional preparation to meet certification requirements. He further stated, "the success of cooperative programs hinges on the skill and professionalism of the teacher-coordinator."

Mitchell (1977) expanded on the importance of the Teacher-Coordinator as a key factor in the operating of the quality cooperative education program. He stated:

> . . . the most important factor in the successful operation of cooperative vocational education programs is the teacher-coordinator, and accordingly the selection of a qualified person for the position is of great significance (p. 8).

He further suggests that, in most cases, state certification requirements for teacher-coordinators in reimbursable programs will include a Bachelor of Science degree, occupational competence, and at least two years of successful teaching experience.

According to Mason and Haines (1972), teacher-coordinators must fulfill certain academic requirements, including graduation from an approved four-year institution. They further stated:

> . . . the professional education requirements are similar for all cooperative vocational education areas. For initial certification, most states require professional preparation of at least six to nine semester hours . . . (p. 136).

In a recent study conducted by Shepperd (1980), the minimum teacher preparation requirements needed before a trade and industrial teacher could be issued a permanent teaching certificate ranged from ten to eighteen semester hours of course work at an approved teacher preparation institution.

According to Wanat and Snell (1980):

> . . . many states have provisions to enable teacher-coordinators to participate in a directed work experience internship supervised through a college program. The length of time for the directed internship is of shorter duration than the self-obtained occupational work experience. The recognized rationale is one hour of directed work experience for each four hours of self-obtained work experience. This provision allows potential teacher-coordinators to overcome the traditional requirement of one to three years work experience in addition of teaching experience (p. 80).

Summary

In the first part of this chapter, an attempt has been made to analyze the beginning of cooperative vocational education and to possibly determine why it was slower in being accepted and promoted than some other types of vocational education. According to Evans and Herr (1978, p. 239), "A primary difficulty up to now has been the shortage of teacher-coordinators." The Vocational Education Acts of 1963 and 1968 provided funds for the training of teacher/coordinators and has resulted in an apparent increase of cooperative vocational education programs, reaching 750,000 students enrolled in 1977 and having a projected enrollment of 2,000,000 by 1985. One big problem in cooperative vocational education has not been solved--turnover rate. Trained teacher-coordinators move into administrative positions or leave the public schools for more lucrative private employment. Obviously this situation creates a constant demand for qualified teacher-coordinators.

The second part of this chapter examined the unique qualifications necessary in order to become certified as a cooperative vocational education teacher-coordinator. According to Mitchell (1977), most state certification requirements included: (1) a Bachelor of

Science degree or higher, (2) occupational competency, which requires from one to three years of work experience in the occupation or a closely related occupation, and (3) at least two years of successful teaching experience. These qualifications also eliminate many potential teacher coordinators, since those with occupational competency will seldom have teaching experience, and those with teaching experience may not have occupational competency, even though both may possess the Bachelor of Science degree.

The aforementioned somewhat general requirements differ in amount of professional preparation. As Mason and Haines (1972, p. 136) point out: "It is well for prosepective teacher-coordinators to check the certification standards of their own state board of vocational education, since the state requirements vary considerably." Evans and Herr (1978, p. 280) also noted that "these variations still exist, not only from state to state, but from one occupational field to another within each state."

To aid in the professional development of those who meet the necessary certification requirements, all states have devised a plan for in-service or preservice training, but as Schill (1967) notes, there are 50 different states and thus 50 different delivery methods for this training. Though all states use the same guidelines when developing these plans, the method of delivery and the plan for cooperative vocational teacher education has been the responsibility of the state department of vocational education for that particular state.

Part three of this chapter has been devoted to a review of studies related to identification of the qualities needed by successful teacher-coordinators and how these qualities were to be

incorporated into the delivery system for cooperative vocational teacher edcuation. As noted by Mitchell (1977) the selection of qualified personnel is a significant factor in the successful operations of a cooperative vocational education program. Hoffman (1969, p. 17) echoes Mitchell's words when he states that "the success of cooperative programs hinges on the skill and professionalism of the teacher-coordinator."

It can be seen throughout this chapter that the difficulty in training and retraining teacher-coordinators is paramount, compounded by the fact that there are no national certification standards nor are there any provisions for developing a delivery system which is acceptable to all states.

CHAPTER III

METHODOLOGY

The purpose of this study was to provide an in-depth assessment of the delivery system used in Industrial Cooperative Teacher Education in the United States.

This chapter includes a description of the procedures used in this study as well as the development of the questionnaire used to collect data, the collection process, and the design for the analysis of the data. Specifically the following sections are discussed: (1) type of research, (2) population, (3) instrument, (4) data collection, and (5) treatment of the data.

Type of Research

Ary, Jacobs and Razavieh (1972) relate descriptive research as an attempt to answer the questions about what exists:

> Descriptive research studies are designed to obtain information concerning the current status of phenomena. They are directed toward determining the nature of the situation as it exists at the time of the study. There is no administration of control of a treatment as found in experimental research. Their aim is to describe what exists with respect to variables or conditions in a situation (p. 286).

Van Dalen (1979) further describes this type of research as an attempt to solve problems by the use of surveys to collect detailed descriptions of existing phenomena with the intent of using the data more intelligently for improving current conditions and practices.

Gay (1976) noted that descriptive research is not controlled but measures what exists, he further notes, that descriptive type studies only report the way things operate. Turney and Robb (1971) suggest that this type of research was an attempt to answer the question

> Does the research deal with what is? If it does, then it is descriptive research. Descriptive research is that process that is concerned with characterizing the features of situations, objectives, or practices. It allows one to find out pertinent information about an existing situation. Descriptive research usually is thought of as an effort to determine current practice or status so that we may develop guidelines for future practices (p. 8).

The Population

The population of this study was the State Supervisors/Consultants of each state in the United States responsible for the delivery of Industrial Cooperative Teacher Education. A directory of the respondents was secured from the United States Office of Education, Division of Vocational and Adult Education, Washington, D. C.

Development of the Instrument

The questionnaire used in this study (see Appendix B) for the collection of data consisted of eight questions each with a listing of several options to be checked "yes" or "no" by the respondent. Each question also allowed for additional comments by the State Supervisors/Consultants.

The instrument used to obtain the data was a modification of a questionnaire developed by Shepperd (1980). The term "Trade and Industrial" on the original instrument was changed to read "Industrial Cooperative", and other changes were made in the instrument to better adapt it for the specific questions of the study. The Trade and

Industrial Research Council of the American Vocational Association, served as advisors to this study (see Appendix C). This Council was given copies of a preliminary questionnaire and asked to contribute changes, corrections, or suggested additional information.

Collection of Data

During the spring of 1982, the questionnaires and cover letters were sent by mail to the State Supervisors/Consultants responsible for Industrial Cooperative Teacher Education in each state. A stamped, addressed, return envelope was included. A follow-up questionnaire was mailed two weeks later asking for those who had not responded to do so within two weeks. Respondents who did not answer the follow-up questionnaire were contacted by phone one week later.

Analysis of the Data

The data requested on the questionnaire included the identification of the state, the type of Industrial Cooperative Education program, and the State Supervisor/Consultant's name.

Tabulation of data from the descriptive survey resulted in tables showing the number and percentage of states responding to each item in the survey. Unmarked replies were tabulated as "no response."

CHAPTER IV

PRESENTATION OF FINDINGS

Introduction

The purpose of this study was to provide an in-depth inquiry into the delivery system used in industrial cooperative teacher education in the United States. To accomplish this purpose, the following specific objectives were formulated:

1. To determine what agency provides the Industrial Cooperative Teacher Education programs.

2. To determine when the industrial cooperative education courses are offered in each particular state.

3. To determine minimum education requirements of the local education agency to employ an industrial cooperative education teacher.

4. To determine the minimum teacher preparation requirements before the industrial cooperative education teacher is issued an permanent teaching certificate.

5. To dermine who pays the tuition for the industrial cooperative education teachers to take the required courses.

6. To determine other areas of vocational education which are taught in joint session with industrial cooperative teacher education.

7. To determine the minimum work experience requirements for the local education agency to employ an industrial cooperative teacher.

8. To determine the delivery system employed to prepare industrial cooperative education teacher to teach the disadvantaged student, the handicapped student, sex stereotyping, and Vocational Industrial Clubs of America (VICA).

Personnal Data

The participants were asked to supply three items of information: (1) the name of the state, (2) the name of the state Industrial Cooperative Supervisor/Consultant, and (3) the identification title of Industrial Cooperative Education offered in each state. The states were then grouped into the ten regions corresponding to the Department of Education Regions for comparison (see Appendix D). The identification title of Industrial Cooperative Education in each state were listed according to the particular program title (see Appendix E). California, Iowa, Michigian, Nevada, Rhode Island, Texas, Utah, Vermont, Washington and West Virgina did not respond and were, therefore, not included in this study.

Analysis of the Objectives

Responses to the questionnaire were tabulated and placed in tables, with each table pertaining to at least one of the objectives. The tabled data represents the number and percentage of states responding "yes" to each item in the question. Additional columns in each of the tables represent the number and percentage of reponses within the Department of Education Regions from the 40 responding states.

Objective I

In relation to objective I, item I requested identification of the agencies providing the industrial cooperative teacher education. As indicated in Table I, 33 of the states provided teacher education by way of colleges through an agreement with the state education agency. This agency was prevalent in most regions with the exception of Regions IX and X. Hawaii, in Region IX, reported that the state department of education for secondary schools provides teacher education. In Alaska and Idaho, Region X, cooperative education does not exist.

Thirty-two of the states used on-campus courses, with Region VI reporting only two of the four using on-campus courses. Seven of the eight responding states in Region IV reported using on-campus courses to train the Industrial Cooperative Teachers. In Region IX. one of two states reported using on-campus courses.

Twenty-six of the 40 states reported using college extension courses for teacher preperation. Regions II, VI , IX, and X reported less than a majority of their member states having extension courses. Regions II, VI, and IX reported 50 percent of the states having extension courses while member states in Region X reported "no" college extension courses.

Delaware, in Region I, reported courses taught by the state education agency with no college credit involved.

Only Alabama and Delware of the 40 states responded affirmaitively to using correspondence courses. This item represented less than a majority in every Department of Education Region.

Three of the 40 states indicated having other agencies than those

TABLE I

FREQUENCY AND PERCENTAGE OF AGENCIES PROVIDING
INDUSTRIAL COOPERATIVE TEACHER EDUCATION
BY REGION

Agency		Total States Responding** (N=40)	Number of States Responding "yes" by Department of Education Regions									
			I (N=4)	II (N=2)	III (N=4)	IV (N=8)	V (N=5)	VI (N=4)	VII (N=3)	VIII (N=5)	IX (N=2)	X* (N=3)
1.	Colleges with an agreement with the state education agency.	N 33	3	2	4	8	5	4	3	3	0	1
		% 82.5	75.0	100.0	100.0	100.0	100.0	100.0	100.0	60.0	0.0	33.3
2.	On-campus college courses	N 32	2	2	4	7	5	2	3	5	1	1
		% 80.0	50.0	100.0	100.0	87.5	100.0	50.0	100.0	100.0	50.0	33.3
3.	College extension courses	N 26	3	1	4	7	3	2	2	3	1	0
		% 65.0	75.0	50.0	100.0	87.5	60.0	50.0	66.7	60.0	50.0	0.0
4.	Courses taught by the state education agency with no college credit	N 1	0	0	1	0	0	0	0	0	0	0
		% 2.5	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.	Correspondence courses	N 2	0	0	1	1	0	0	0	0	0	0
		% 5.0	0.0	0.0	25.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0
6.	Other	N 3	2	0	0	0	0	0	0	0	1	0
		% 7.5	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0

* Alaska and Idaho reported they did not have an Industrial Cooperative Teacher Education Program.
** Do not total to 100 percent because of multiple responses.

listed providing industrial cooperative teacher education. These three respondents represented Regions I, II, and IX. Connecticut in Region I reported that the state education agency personnel could teach courses for credit. Also in Region I, Maine indicated that business and industrial experience could be subsituted in lieu of college courses. Hawaii in Region IX reported that the Department of Education Secondary Schools provided vocational industrial education teacher education courses for credit.

Objective II

The objective of this item was to determine when industrial cooperative teacher education courses were offered in each of the states. Table II showed 92.5 percent of the states offering semester or quarter length courses during the academic year. States in eight regions showed 100 percent of the states' course work was provided some time during the academic year, with the exception of Region I which had no states respond to item I.

Thirty-four of the 40 states reported courses being offered during the summer session(s) with full semester length courses. Only one of the two states in Region IV indicated they used this option. Pennsylvania in Region III did not list any summer session courses for their industrial cooperative teacher education program.

Sixteen states reported scheduled teacher education courses by workshop at various times during the year. Region II, VI, and IX reported no teacher education courses by workshops. Region V reported only two of the five states with this option, while one of the three states in Region X checked "yes" in this category. All of the other

TABLE II

TIMES INDUSTRIAL COOPERATIVE TEACHER EDUCATION COURSES ARE OFFERED BY NUMBER AND PERCENTAGE OF RESPONSE BY REGION

When courses are offered	Total States Responding** (N=40)	Number of States Responding "yes" by Department of Education Regions									
		I (N=4)	II (N=2)	III (N=4)	IV (N=8)	V (N=5)	VI (N=4)	VII (N=3)	VIII (N=5)	IX (N=2)	X* (N=3)
1. During the academic year with semester (or quarter) length courses	N 37	3	2	4	8	5	4	3	5	2	1
	% 92.5	75.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	33.3
2. During the summer session(s) with full session length courses	N 34	3	2	3	8	5	4	3	4	1	1
	% 85.0	75.0	100.0	75.0	100.0	100.0	100.0	100.0	80.0	50.0	33.3
3. By workshops scheduled at various times	N 16	2	0	2	4	2	0	2	3	0	1
	% 40	50.0	0.0	50.0	50.0	40.0	0.0	66.7	60.0	0.0	33.3
4. Other	N 1	1	0	0	0	0	0	0	0	0	0
	% 2.5	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

* Alaska and Idaho reported they did not have an Industrial Cooperative Teacher Education Program.
** Do not total to 100 percent because of multiple responses.

regions indicated 50 percent or more of their states presented the classes by workshops scheduled at various times.

Only Maine in Region I offered independent study courses during the year. No other regions indicated this type of course work.

Objective III

Table III shows the minimum education requirements for the local education agency to employ the industrial cooperative teacher. Since this objecive involved the "minimum", only one response per state applied. Sixteen of the 40 states reported that the cooperative teacher education minimum education requirements for employment was a baccalaureate degree in any discipline. Seventy-five percent of the states in Regions III and VI reported "yes" to this minimum requirement. Half of the states in Regions I and IV approved the baccalureate degree in any discipline as a minimum. Two of the five states in Region VIII reported the baccaureate in any discipline as the minimum requirement. Only one state in Regions V and VII approved of a baccalaureate degree in any discipline as a minimum requirement.

Only four states indicated the requirement of a baccalaureate degree in industrial cooperative education. They were: Region I (Connecticut), Region IV (North Carolina), Region V (Ohio), and Region VIII (Wyoming).

Eleven states responded "yes" to a baccalaureate degree in trade and industrial education with industrial cooperative education courses. Only Region II and VII showed a 50 percent or more response in this catagory of minimum requirements. All other regions were less than 50 percent.

TABLE III

MINIMUM EDUCATION REQUIREMENTS FOR THE LOCAL EDUCATION AGENCY TO EMPLOY THE INDUSTRIAL COOPERATIVE TEACHER BY REGION

Minimum Requirement	Total States Responding (N=40)	Number of States Responding "yes" by Department of Education Regions									
		I (N=4)	II (N=2)	III (N=4)	IV (N=8)	V (N=5)	VI (N=4)	VII (N=3)	VIII (N=5)	IX (N=2)	X* (N=3)
1. Baccalaureate degree in any discipline	N 16	2	0	3	4	1	3	1	2	0	0
	% 40	50.0	0.0	75.0	50.0	20.0	75.0	33.3	40.0	0.0	0.0
2. Baccalaureate degree in Industrial Cooperative Education	N 4	1	0	0	1	1	0	0	1	0	0
	% 10	25.0	0.0	0.0	12.5	20.0	0.0	0.0	20.0	0.0	0.0
3. Baccalaureate degree in T & I with Industrial Cooperative Education courses	N 11	0	1	0	3	2	1	2	2	0	0
	% 27.5	0.0	50.0	0.0	37.5	40.0	25.0	66.7	40.0	0.0	0.0
4. Other	N 7	1	1	1	0	1	0	0	0	2	1
	% 17.5	25.0	50.0	25.0	0.0	20.0	0.0	0.0	0.0	100.0	33.3

* Alaska and Idaho reported they did not have an Industrial Cooperative Teacher Education Program.

The following comments are from those states responding to the "other" catergory in the questionnaire:

New Hampshire - four years trade experience or 2 years with an associate degree.

New Jersey - baccalaureate degree in vocational education.

Maryland - baccalaureate degree in secondary plus course work in service area.

Wisconsin - baccalaureate degree with industrial education major.

Arizona - degree not required (;) only a valid trade and industrial certificate and the cooperative methods course.

Hawaii - industrial education teaching certificate required.

Oregon - baccalaureate degree not required.

Objective IV

Each state was asked to indicate the minimum teacher preparation requirements before the teacher/coordinator could be issued a permanent teaching certificate. The distribution is recorded in Table IV.

Seven states reported requiring no teacher preparation beyond the minimum employability requirements. Sixty percent of the states in Region VIII reported no teacher preparation requirement. All states in Regions II, III, V, VI, and X required no teacher preparation before the teacher/coordinator could be issued a permanent teaching certificate.

Only four states indicated that their minimum teacher preparation requirements before certification were from one to nine semester hours; no region showed more than 50 percent in this catagory.

Sixteen states also reported a 10 to 18 semester hour requirement before issuing a permanent teaching certificate. Seventy-five percent

TABLE IV

MINIMUM TEACHER PREPARATION REQUIREMENTS BEFORE THE TEACHER/COORDINATOR IS ISSUED A PERMANENT TEACHING CERTIFICATE BY NUMBER AND PERCENTAGE OF RESPONSE

Minimum Requirements	Total States Responding (N=40)	Number of States Responding "yes" by Department of Education Regions									
		I (N=4)	II (N=2)	III (N=4)	IV (N=8)	V (N=5)	VI (N=4)	VII (N=3)	VIII (N=5)	IX (N=2)	X* (N=3)
1. None	N 7	1	0	0	1	0	1	0	3	1	0
	% 17.5	25.0	0.0	0.0	12.5	0.0	25.0	0.0	60.0	50.0	0.0
2. 1-9 semester hours or equivalent	N 4	0	0	1	0	0	1	1	0	1	0
	% 10.0	0.0	0.0	25.0	0.0	0.0	25.0	33.3	0.0	50.0	0.0
3. 10-18 semester hours or equivalent	N 16	3	1	1	4	1	2	1	2	0	1
	% 40.0	75.0	50.0	25.0	50.0	20.0	50.0	33.3	40.0	00.0	33.3
4. Other semester hour requirement	N 3	0	0	0	2	1	0	0	0	0	0
	% 7.5	0.0	0.0	0.0	25.0	20.0	0.0	0.0	0.0	0.0	0.0
5. Clock hour requirement	N 2	0	1	0	0	0	0	1	0	0	0
	% 5.0	0.0	50.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	0.0
6. Other	N 6	0	0	2	1	3	0	0	0	0	0
	% 15.0	0.0	0.0	50.0	12.5	60.0	0.0	0.0	0.0	0.0	0.0

* Alaska and Idaho reported they did not have an Industrial Cooperative Teacher Education Program.

of the states in Region I indicated "yes" to this category. All other regions were 50 percent or less.

Kansas in Region VII indicated a teacher education requirement of 18 clock hours before issuing a permanent teaching certificate to a teacher coordinator. New Jersey in Region II reported using 32 credits in vocational education or trade and industrial courses as a minimum to issue a permanent teaching certificate.

The "Other" minimium requirements category six states reported the following comments:

Delaware - sixty semester hours either college credits or in-service credits.

Pennsylvania - three years (of) teaching experience.

Indiana - a masters degree.

Kentucky - a masters degree and five years teaching experience

Ohio - a master degree.

Wisconsin - no life license; must renew on (a) 5 year basis with occupational experience.

Objective V

Results determining who pays the tuition for the teacher/coordinator to take the required courses, the state supervisor/consultants are listed in Table V.

Two states, Connecticut in Region I and Louisiana in Region II, reported that the state education agency paid the tuition for the teacher/coordinator.

Only four states in Regions I, III, and V reported that the local education agency paid the teacher/coordinators' tuition. Fifty percent of the states in Region III indicated that the local education

TABLE V

WHO PAYS THE TUITION FOR THE TEACHER/COORDINATOR
TO TAKE THE REQUIRED COURSES FOR CERTIFICATION
BY NUMBER AND PERCENTAGE OF RESPONSE

Minimum Requirements	Total States Responding** (N=40)	Number of States Responding "yes" by Department of Education Regions									
		I (N=4)	II (N=2)	III (N=4)	IV (N=8)	V (N=5)	VI (N=4)	VII (N=3)	VIII (N=5)	IX (N=2)	X* (N=3)
1. State education agency	N 2	1	0	0	0	0	1	0	0	0	0
	% 5.0	25.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0
2. Local education agency	N 4	1	0	2	0	1	0	0	0	0	0
	% 10.0	25.0	0.0	50.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
3. Teacher/coordinator	N 36	4	2	4	8	5	3	3	5	1	1
	% 90.0	100.0	100.0	100.0	100.0	100.0	75.0	100.0	100.0	50.0	33.3
4. Other	N 2	1	0	0	0	0	0	0	0	1	0
	% 5.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0

* Alaska and Idaho reported they did not have an Industrial Cooperative Teacher Education Program.
** Do not total to 100 percent because of multiple responses.

agency paid the tuition for courses which the teacher/coordinator was required to attend.

Thirty-six of the forty states indicated that the teacher/coordinator paid his/her own tuition. Only Regions IX and X reported 50 percent or less of the states within the region not requiring the teacher/coordinator to pay the tuition.

Two states had means of tuition payment in addition to those itemized in the questionnaire. The "other" category comments were

Massachusetts - tuition was waived for priority populations.

Hawaii - no tuition.

Objective VI

This objective attempted to indicate those industrial cooperative teacher preparation courses given in joint session with other vocational areas.

Thirty-three states indicated that the teacher preparation courses were taught in joint session involving all of the vocational areas. North Carolina in Region IV and Louisiana in Region VI reported not allowing their industrial cooperative teachers to take the teacher preparation courses with any of the other vocational service areas.

Four of the five states in Region VIII reported offering the industrial cooperative teacher preparation courses with all of the other vocational areas. Wyoming did not respond to this item.

In the 10 regions, at least one state permitted agricultural teacher education preparation to be taught in joint session with industrial cooperative teacher education. A total of 26 states reported

joint sessions between industrial cooperative education and agricultural education.

All of the states in Region III and 75 percent or more of the states in Regions I, IV, and VIII indicated joint sessions with business and office education for a total of 26 states.

Regions I, III, IV, VII, and VIII reported that more than 50 percent of their member states had joint teacher preparation with distributive education. A total of 26 states indicated they allowed this arrangement.

Health occupations education shared joint courses with industrial cooperative education in 28 of the 40 states which returned questionnaires; this represented the second largest single group involved in joint teacher preparation courses. Regions I, III, VII, and VIII indicated that more than 50 percent of their member states answered "yes" to this category.

Twenty-six states indicated joint teacher preparation courses with home economics education. Region I, III, IV, VII, and VIII indicated more than 65 percent of the states indicated they conducted joint courses with home economics.

Industrial arts education shared joint teacher preparation with industrial cooperative teacher education in 33 of the 40 states. This represented the largest single group involved in joint sessions. All states in Regions I, II, V, and VII reported 100 percent. None of the states responding listed other areas of vocational education with which the industrial cooperative education teacher preparation programs held joint sessions. Table VI presents data for objective VI.

TABLE VI

INDUSTRIAL COOPERATIVE TEACHER PREPARATION COURSES
GIVEN IN JOINT SESSIONS WITH OTHER AREAS

Minimum Requirements	Total States Responding** (N=40)	Number of States Responding "yes" by Department of Education Regions									
		I (N=4)	II (N=2)	III (N=4)	IV (N=8)	V (N=5)	VI (N=4)	VII (N=3)	VIII (N=5)	IX (N=2)	X* (N=3)
1. Agricultureal Education	N 26	3	1	4	6	2	2	2	4	1	1
	% 65.0	75.0	50.0	100.0	75.0	40.0	50.0	66.7	80.0	50.0	33.3
2. Business and Office Education	N 26	3	1	4	6	2	2	2	4	1	1
	% 65.0	75.0	50.0	100.0	75.0	40.0	50.0	66.7	80.0	50.0	33.3
3. Distributive Education	N 26	3	1	4	6	2	2	2	4	1	1
	% 65.0	75.0	50.0	100.0	75.0	40.0	50.0	66.7	80.0	50.0	33.3
4. Health Occupation Education	N 28	3	1	4	7	2	2	3	4	1	1
	% 70.0	75.0	50.0	100.0	87.5	40.0	50.0	100.0	80.0	50.0	33.3
5. Home Economics Education	N 26	3	1	4	6	2	2	2	4	1	1
	% 65.0	75.0	50.0	100.0	75.0	40.0	50.0	66.7	80.0	50.0	33.3
6. Industrial Arts Education	N 33	4	2	3	7	5	3	3	4	1	1
	% 82.5	100.0	100.0	75.0	87.5	100.0	75.0	100.0	80.0	50.0	33.3
7. Other Vocational area(s)	N 0	0	0	0	0	0	0	0	0	0	0
	% 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

* Alaska and Idaho reported they did not have an Industrial Cooperative Teacher Education Program.
** Do not total to 100 percent because of multiple responses.

Objective VII

Table VII shows the minimum work experience requirements needed for the local education agency to employ an industrial cooperative teacher. Since this objective involved the "minimum", only one response per state applied.

Kentucky and South Carolina in Region IV reported no work experience requirements for their local education agencies to employ an industrial cooperative teacher.

Of the 40 states, 23 indicated the minimum work experience requirements to employ an industrial cooperative teacher were from one to two years. One hundred percent of the states in Regions V, VII, and IV checked this response. Arizona in Region IV required a baccalaureate degree with 1 to 2 years of work experience but did not require a baccalaureate degree with 3-5 years work experience.

Ten states reported the minimum work experience requirements for the employment of an industrial cooperative teacher were from 3-5 years. These ten states were located in six separate regions.

Of those ten states indicating work experience requirements from 3-5 years, three were located in Region VIII, representing 60 percent of this Region.

Three states reported using an internship through a college program in lieu of minimum work experience. The three states were Virginia, Minnesota, and Oregon.

Two states had different minimum work experience requirements than those itemized in the questionnaire. They are listed below:

> Massachusetts - six years (of) work experience and five years (of) instructional experience.

TABLE VII

THE MINIMUM WORK EXPERIENCE REQUIREMENTS NEEDED FOR THE LOCAL EDUCATION AGENCY TO EMPLOY AN INDUSTRIAL COOPERATIVE TEACHER

Minimum Requirements		Total States Responding (N=40)	Number of States Responding "yes" by Department of Education Regions									
			I (N=4)	II (N=2)	III (N=4)	IV (N=8)	V (N=5)	VI (N=4)	VII (N=3)	VIII (N=5)	IX (N=2)	X* (N=3)
1. None	N	2	0	0	0	2	0	0	0	0	0	0
	%	5.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0
2. 1-2 years work experience	N	23	1	1	2	6	5	2	3	1	2	0
	%	57.5	25.0	50.0	50.0	75.0	100.0	50.0	100.0	20.0	100.0	0.0
3. 3-5 years work experience	N	10	2	1	0	0	0	2	0	3	1	1
	%	25.0	50.0	50.0	0.0	0.0	0.0	50.0	0.0	60.0	50.0	33.3
4. Internship through a college program	N	3	0	0	1	0	1	0	0	0	0	1
	%	7.5	0.0	0.0	25.0	0.0	20.0	0.0	0.0	0.0	0.0	33.3
5. Other	N	2	1	0	1	0	0	0	0	0	0	0
	%	5.0	25.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

* Alaska and Idaho reported they did not have an Industrial Cooperative Teacher Education Program.

Deleware - six years (of) work experience.

Objective VIII

Each of the states was asked if there was information in the teacher preparation classes to teach the disadvantaged, the handicapped, sex sterotyping, and Vocational Industrial Clubs of America (VICA). This objective was divided into four subsections with the responses presented in Tables VIII, IX, X, and XI.

Seven states indicated a required program for dealing with the disadvantaged. They were: (1) Connecticut and Massachusetts in Region I, (2) Maryland in Region III, (3) Georgia in Region IV, (4) Ohio and Wisconsin in Region V, and (5) Missouri in Region VII.

Twelve states indicated the "disadvantaged" students were taught in preparation courses dealing exclusively with the disadvantaged. Sixty-seven percent of the states in Region VII marked "yes" to this item while all other regions reported 50 percent or less.

Twenty-nine of the 40 states incorporated teacher preparation for instructing the disadvantaged into other teacher education courses. All Regions except VII and X listed 50 percent or more of their member states in this category.

Connecticut was the only state to provide in-service workshops in teacher preparation for instructing the disadvantaged.

Table IX shows industrial cooperative preparation for instructing the handicapped. Distribution of the responses was similiar to Table VIII. Topics for instructing the handicapped were not required in Regions II, IV, VIII, and X. A total of 8 states required teacher preparation in teaching the handicapped.

TABLE VIII

INDUSTRIAL COOPERATIVE TEACHER PREPARATION FOR INSTRUCTING THE DISADVANTAGED BY NUMBER AND PERCENTAGE OF RESPONSE

Preparation for Instruction	Total States Responding** (N=40)	Number of States Responding "yes" by Department of Education Regions									
		I (N=4)	II (N=2)	III (N=4)	IV (N=8)	V (N=5)	VI (N=4)	VII (N=3)	VIII (N=5)	IX (N=2)	X* (N=3)
1. Required	N 7	2	0	1	1	2	0	1	0	0	0
	% 17.5	50.0	0.0	25.0	12.5	40.0	0.0	33.3	0.0	50.0	0.0
2. A course dealing exclusively with the disadvantaged	N 12	1	0	2	2	1	2	2	1	1	0
	% 30.0	25.0	0.0	50.0	25.0	20.0	50.0	66.7	20.0	50.0	0.0
3. Incorported into other teacher preparation courses	N 29	4	2	4	6	4	3	1	3	1	1
	% 72.5	100.0	100.0	100.0	75.0	80.0	75.0	33.3	60.0	50.0	33.3
4. Other	N 1	1	0	0	0	0	0	0	0	0	0
	% 2.5	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

* Alaska and Idaho reported they did not have an Industrial Cooperative Teacher Education Program.
** Do not total to 100 percent because of multiple responses.

TABLE IX

INDUSTRIAL COOPERATIVE TEACHER PREPARATION FOR INSTRUCTING THE HANDICAPPED BY NUMBER AND PERCENTAGE OF RESPONSE

Preparation for Instruction	Total States Responding** (N=40)	Number of States Responding "yes" by Department of Education Regions									
		I (N=4)	II (N=2)	III (N=4)	IV (N=8)	V (N=5)	VI (N=4)	VII (N=3)	VIII (N=5)	IX (N=2)	X* (N=3)
1. Required	N 8	2	0	1	1	2	0	1	0	1	0
	% 20.0	50.0	0.0	25.0	12.5	40.0	0.0	33.3	0.0	50.0	0.0
2. A course dealing exclusively with the disadvantaged	N 13	3	0	1	2	1	2	2	1	1	0
	% 32.5	75.0	0.0	25.0	25.0	20.0	50.0	66.7	20.0	50.0	0.0
3. Incorported into other teacher preparation courses	N 29	4	2	3	7	4	3	1	3	1	1
	% 72.5	100.0	100.0	75.0	87.5	80.0	75.0	33.3	60.0	50.0	33.3
4. Other	N 1	1	0	0	0	0	0	0	0	0	0
	% 2.5	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

* Alaska and Idaho reported they did not have an Industrial Cooperative Teacher Education Program.
** Do not total to 100 percent because of multiple responses.

TABLE X

INDUSTRIAL COOPERATIVE TEACHER PREPARATION FOR INSTRUCTING IN TOPICS DEALING WITH SEX STEREOTYPING BY NUMBER AND PERCENTAGE OF RESPONSE

Preparation for Instruction	Total States Responding** (N=40)	Number of States Responding "yes" by Department of Education Regions									
		I (N=4)	II (N=2)	III (N=4)	IV (N=8)	V (N=5)	VI (N=4)	VII (N=3)	VIII (N=5)	IX (N=2)	X* (N=3)
1. Required	N 1	1	0	0	0	0	0	0	0	0	0
	% 2.5	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. A course dealing exclusively with sex stereotyping	N 4	0	0	0	1	2	0	0	0	1	0
	% 10.0	0.0	0.0	0.0	12.5	40.0	0.0	0.0	0.0	50.0	0.0
3. Incorported into other teacher preparation courses	N 35	4	2	4	8	5	4	3	2	2	1
	% 87.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	40.0	100.0	33.3
4. Other	N 3	2	0	0	0	0	0	0	1	0	0
	% 7.5	50.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0

* Alaska and Idaho reported they did not have an Industrial Cooperative Teacher Education Program.
** Do not total to 100 percent because of multiple responses.

TABLE XI

INDUSTRIAL COOPERATIVE TEACHER PREPARATION FOR ADVISING
VOCATIONAL INDUSTRIAL CLUBS OF AMERICA
BY NUMBER AND PERCENTAGE OF RESPONSE

Prepartion for Advising	Total States Responding** (N=40)	Number of States Responding "yes" by Department of Education Regions									
		I (N=4)	II (N=2)	III (N=4)	IV (N=8)	V (N=5)	VI (N=4)	VII (N=3)	VIII (N=5)	IX (N=2)	X* (N=3)
1. Required	N 4	1	0	0	1	1	1	0	0	0	0
	% 10.0	25.0	0.0	0	12.5	20.0	25.0	0.0	0.0	0.0	0.0
2. A course dealing exclusively with VICA	N 16	0	0	2	3	3	3	2	2	1	0
	% 40.0	0.0	0.0	50.0	37.5	60.0	75.0	66.7	40.0	50.0	0.0
3. Incorported into other teacher preparation courses	N 20	3	2	2	6	2	0	1	3	0	1
	% 50.0	75.0	100.0	50.0	75.0	40.0	0.0	33.3	60.0	0.0	33.3
4. Other	N 1	0	0	0	0	0	1	0	0	0	0
	% 2.5	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0

* Alaska and Idaho reported they did not have an Industrial Cooperative Teacher Education Program.
** Do not total to 100 percent because of multiple responses.

Thirteen states listed courses dealing exclusively with the handicapped, with Regions I, VI, VII, and IX showing 50 percent or more of its member states marking this category. Region II and X had no affirmative responses in this category.

Twenty-nine states reported that teaching the handicapped was incorporated into other teacher preparation courses. All regions reported affirmative to this category, with the exception of Region VII and of Region X which indicated less than 50 percent of its member states responded to this category.

The repondents treated the "handicapped" item as an extension of the "disadvantaged" item as indicated by responses to the "other" catagory were identical in Tables VIII and IX.

Table X dealt with the industrial cooperative teacher preparation for instructing in topics dealing with sex stereotyping. Only one state in Region I reported that this topic was required.

Only four states addressed topics dealing with sex stereotyping in coures dealing exclusively with the topic. Two of the four states were in Region V.

Thirty-five states incorporated into other teacher preparation courses for instructing in topics dealing with sex stereotyping. Most regions listed 100 percent of their member states checking this item "yes". The exception was Regions VIII and X which had 40 percent or less of their members checking this item "yes".

Only three states responded to the "other" catagory dealing with sex stereotyping. Two of the three were in Region I (Connecticut and Maine) which indicated the topic was covered during in-service workshops; North Dakota in Region VIII also indicated they covered the

topic during in-service functions.

Each of the states was asked if there were industrial cooperative teacher preparation for advising Vocational Industrial Clubs of America (VICA). Only four states required preparation courses for advising VICA. They were: (1) Massachusetts in Region I, (2) North Carolina in Region IV, (3) Indiana in Region V, and (4) Oklahoma in Region VI.

Although not necessarily required, 16 states indicated preparation for advising VICA was taught in a course dealing exclusively with VICA. States in Regions I, II, and X did not check "yes" to this item. The highest response in this category (75 percent) was reported by Region VI.

Twenty of the 40 states incorporated VICA into other teacher preparation courses. States in Regions VI and IX did not. Only half of the Regions I, II, III, IV, and VIII had 50 percent or more member states in this category. In Louisiana, assistance from the state vocational staff provided teacher preparation for advising VICA.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The major purpose of this study was to provide an in-depth view of the delivery system used in Industrial Cooperative Teacher Education in the United States. The specific objectives were

1. To determine what agency provides the Industrial Cooperative Teacher Education program.

2. To determine when the Industrial Cooperative Education courses are offered in each particular state.

3. To determine minimum education requirements by the local education agency to employ an Industrial Cooperative Education Teacher.

4. To determine the minimum teacher preparation requirements before the Industrial Cooperative Education teacher is issued a permanent teaching certificate.

5. To determine who pays the tuition for the Industrial Cooperative education teacher to take the required courses.

6. To determine other areas of vocational education which are taught in joint session with Industrial Cooperative teacher education.

7. To determine the minimum work experience requirements for the local education agency to employ an Industrial Cooperative teacher.

8. To determine the delivery system employed to prepare Industrial Cooperative Education teachers to teach the disadvantaged student, the handicapped student, sex stereotyping, and Vocational

Industrial Clubs of America (VICA).

All of the states were used as the population for this study. Each state supervisor/consultant responsible for industrial cooperative teacher education was sent a questionnaire and cover letter. Forty states responded to the questionnaire and ten states were non-respondants. Califorina, Iowa, Michigian, Nevada, Rhode Island, Texas, Utah, Vermont, Washington and West Virginia did not respond after a second mailing and a phone call.

Summary of the Findings

Following is a summary of the findings from this study.

1. Thirty-three of the states (82.5 percent) provide industrial cooperative teacher education by way of colleges through an agreement with the state education agency. Thirty-two of the states (80 percent) provide on-campus college courses, whereas extension courses are offered in 26 states (65 percent).

2. A majority of the industrial cooperative teacher education courses are offered during the academic year with semester length courses (92.5 percent) during the summer session(s) and with full session length courses (85 percent) and workshops scheduled at various times (40 percent).

3. Sixteen of the states (40 percent) required a baccalaureate degree as a minimum requirement to employ an industrial cooperative teacher. Only four states (10 percent) required a baccalaureate degree in industrial cooperative education as a minimum. The baccalaureate degree in trade and industrial education with industrial cooperative education courses was listed in 11 states (27.5 percent) as

the minimum requirement.

4. Seven of the states (17.5 percent) reported there are no preparation requirements before the teacher/coordinator is issued a permanent teaching certificate. Sixteen of the states (40 percent) require 10 to 18 semester hours or equivalent before a teaching coordinator can be certificated. Only two of the states (5 percent) reported using clock hour requirements for certification.

5. The teacher/coordinator paid his/her own tution for the courses required for certification (90 percent), with payments by the local education agency and the state education agency ranking a remote second (10 percent) and third (5 percent) respectively.

6. Over 60 percent of the responding states recorded the industrial cooperative teacher education classes taught in joint session with Industrial Arts Education (82.5 percent), Health Occupations Education (70 percent), Agricultural Education (65 percent), Business and Office Education (65 percent), Distributive Education (65 percent), and Home Economics Education (65 percent).

7. Twenty-three of the 40 states (57.5 percent) reported that the minimum work experience needed for the local education agency to employ an industrial cooperative teacher ranged from 1 to 2 years work experience.

8. Industrial cooperative teacher preparation for instructing the disadvantaged student, the handicapped student, and topic dealing with sex stereotyping are not generally required, but when these topics are considered, over 72 percent of the states reported these topics are incorporated into other teacher preparation courses. Only one of the states reported requiring preparation for instructing in

topics dealing with sex sterotyping. Fifty percent of the states reported preparation for advising VICA was incorporated into other teacher preparation courses. Only four of the states required VICA as a separate course.

Recommendations

Based upon the findings of this study, the following recommendations regarding teacher education appear to be appropriate.

1. A majority of the states preferred industrial cooperative teacher education courses be taught by the way of colleges through an agreement with the state education agencies. It is recommended that states in their respective regions acquire a formative body of educators to distribute teacher education directives among its member states.

2. Since a majority of the industrial cooperative teacher education courses are offered during the academic year and during summer sessions, it is recommended that each state coordinate its teacher education institutions to meet the scheduling and course design needs of the teacher/coordinators.

3. With a majority of the states requiring a baccalaureate degree of some type as a minimum educational requirement for the local education agency to employ an industrial cooperative teacher, it is recommended and would be appropriate for all states to have the same minimum requirements. Industrial cooperative teachers are limited as to the states in which they may be employed.

4. There was no majority of states to affirm the necessary minimum teacher preparation requirements before the teacher/coordinator

is issued a permanent teaching certificate. It is recommended that consideration should be given to new certification standards that would upgrade teacher/coordinators in all states.

5. The industrial cooperative teacher education classes were taught in joint session with all other vocational areas 65 percent or more of the time. It is recommended that states conduct a survey to determine the course content similarities and differences in the various vocational disciplines.

6. With a majority of the states requiring minimum work experience requirements for the local education agency to employ an industrial cooperative teacher, it is recommended that consideration be given to studies to determine the ideal minimum work experience requirement that all states might consider.

7. Teacher education concerning the disadvantaged student, the handicapped student, topics dealing with sex stereotyping and VICA are not required by the majority of the states. It is recommended that studies be conducted to determine if appropriate courses are need in those areas.

8. It is recommended that further possible studies be conducted to determine methods of improving quality in teacher education.

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APPENDIX A

COVER LETTERS

May 21, 1982

SUBJECT: Industrial Cooperative Teacher Education
Delivery System.

Enclosed you will find a questionnaire which I have developed for my doctoral research at Oklahoma State University. The questionnaire deals with the delivery system used by each state for teacher preparation in Industrial Cooperative Education. This information will be of value to those states who desire input into their own Industrial Cooperative Teacher Education.

As the chief state officer for Trade and Industrial Education, the information you can provide will greatly benefit this study. Please complete the enclosed instrument and return it by June 7, 1982.

Thank you very much for being a part of this study and contributing to the overall effectiveness of my research. If I can be of any further assistance to you please do not hesitate to contact me at Oklahoma State University, 406 Classroom Building, (405) 624-6275.

Sincerely,

William D. Clark
Graduate Teaching Associate

Dr. Clyde B. Knight
Dissertation Advisor

June 21, 1982

Dear Mr.

In May of this year you were sent a questionnaire and a letter asking you to participate in a study concerning the Industrial Cooperative Teacher Education Delivery System. With a limited amount of studies in Cooperative Vocational Education, this study may be of value in future research, especially in the area of Trade and Industrial Teacher Education. We hope to have all the states respond so that the study will be as complete as possible.

Perhaps the first questionnaire we sent has been mislaid. Therefore, we have enclosed another for your convenience. Completion of the questionnaire will require less than ten minutes of your time. Will you please help us by completing the questionnaire and returning it to us as soon as possible.

Thank you very much.

Respectfully,

William D. Clark
Graduate Teaching Associate

Dr. Clyde B. Knight Associate Professor
Trade and Industrial
Education
Dissertation Advisor

APPENDIX B

QUESTIONNAIRE

INDUSTRIAL COOPERATIVE EDUCATION
TEACHER EDUCATION DELIVERY SYSTEM
INFORMATION INSTRUMENT

(PLEASE PRINT OR TYPE)
STATE_____

STATE INDUSTRIAL COOPERATIVE SUPERVISOR/CONSULTANT_____
(NAME)

TITLE_____

PROGRAM IDENTIFICATION (TITLE) (PLEASE CHECK ALL THAT APPLY)

( ) COOPERATIVE INDUSTRIAL EDUCATION
( ) INDUSTRIAL COOPERATIVE EDUCATION
( ) INDUSTRIAL COOPERATIVE TRAINING
( ) INDUSTRIAL VOCATIONAL EDUCATION
( ) TRADE AND INDUSTRIAL COOPERATIVE EDUCATION
( ) OTHER (PLEASE SPECIFY)_____

( ) INTERDISCIPLINARY COOPERATIVE EDUCATION
( ) VOCATIONAL INDUSTRIAL EDUCATION
( ) DIVERSIFIED OCCUPATIONS
( ) TRADE AND INDUSTRIAL COOPERATIVE EDUCATION

_____

THIS QUESTIONNAIRE ASSUMES THAT INDUSTRIAL COOPERATIVE EDUCATION TEACHERS/COORDINATORS WILL POSSESS A BACCALAUREATE DEGREE. PLEASE CHECK ALL APPROPRIATE ITEMS. YOU MAY NEED MORE THAN ONE CHECK PER ITEM.

I. WHAT AGENCY PROVIDES YOUR INDUSTRIAL COOPERATIVE TEACHER EDUCATION PROGRAM?

YES	NO	(CHECK ALL THAT APPLY)
___	___	1. COLLEGE THROUGH AN AGREEMENT WITH THE STATE DEPARTMENT OR AGENCY.
___	___	2. ON-CAMPUS COLLEGE COURSES.
___	___	3. COLLEGE EXTENSION COURSES.
___	___	4. COURSES TAUGHT BY STATE EDUCATION AGENCY PERSONNNEL WITH OUT COLLEGE CREDIT.
___	___	5. CORRESPONDENCE COURSES.
___	___	6. OTHER (PLEASE SPECIFY)_____

_____

II. WHEN ARE THE INDUSTRIAL COOPERATIVE TEACHER EDUCATION COURSES OFFERED?

YES	NO	(CHECK ALL THAT APPLY)
___	___	1. DURING THE ACADEMIC YEAR.
___	___	2. DURING THE SUMMER SESSIONS.
___	___	3. BY WORKSHOPS SCHEDULED AT VARIOUS TIMES.
___	___	4. OTHER (PLEASE SPECIFY)_____

_____

III. WHAT ARE MINIMUM EDUCATION REQUIREMENTS NEEDED FOR THE LOCAL EDUCATION AGENCY TO EMPLOY A INDUSTRIAL COOPERATIVE TEACHER?

YES	NO	(CHECK ONE)
___	___	1. BACCALAUREATE DEGREE IN ANY DISCIPLINE.
___	___	2. BACCALAUREATE DEGREE IN INDUSTRIAL COOPERATIVE EDUCATION.
___	___	3. BACCALAUREATE DEGREE IN T & I WITH INDUSTRIAL COOPERATIVE EDUCATION COURSE WORK
___	___	4. OTHER. (PLEASE SPECIFY)_____

_____

IV. WHAT ARE THE MINIMUM TEACHER PREPARATION REQUIREMENTS NEEDED BEFORE THE TEACHER/COORDINATOR IS ISSUED A PERMANENT TEACHING CERTIFICATE? (ONE QUARTER HOUR EQUALS TWO-THIRDS ONE SEMESTER HOUR)

YES	NO	(CHECK ONE)
___	___	1. NONE.
___	___	2. 1 TO 9 SEMESTER (1 TO 6 QUARTER) HOURS.
___	___	3. 10 TO 18 SEMESTER (7 TO 12 QUARTER) HOURS.
___	___	4. OTHER SEMESTER (QUARTER) HOURS REQUIREMENT. (PLEASE SPECIFY)_____
___	___	5. CLOCK HOUR REQUIREMENT. (PLEASE SPECIFY)_____

_____

___	___	6. OTHER. (PLEASE SPECIFY)_____

_____

V. WHO PAYS THE TUITION FOR THE TEACHER/COORDINATOR TO TAKE THE REQUIRED COURSES FOR CERTIFICATION?

YES	NO	(CHECK THOSE THAT APPLY)
___	___	1. STATE EDUCATION AGENCY.
___	___	2. LOCAL EDUCATION AGENCY
___	___	3. TEACHER/COORDINATOR.
___	___	4. OTHER. (PLEASE SPECIFY)_____

_____

VI. CAN TEACHERS FROM THE FOLLOWING AREAS ALSO ENROLL IN INDUSTRIAL COOPERATIVE TEACHER PREPARATION COURSES?

YES	NO	(CHECK THOSE THAT APPLY)
___	___	1. AGRICULTUREAL EDUCATION.
___	___	2. BUSINESS AND OFFICE EDUCATION.
___	___	3. DISTRIBUTIVE EDUCATION.
___	___	4. HEALTH OCCUPATIONS EDUCATION.
___	___	5. HOME ECONOMICS EDUCATION.
___	___	6. INDUSTRIAL ARTS EDUCATION.
___	___	7. OTHER VOCATIONAL AREA(S). (PLEASE LIST)_____

_____

VII. WHAT ARE THE MINIMUM WORK EXPERIENCE REQUIREMENTS NEEDED FOR THE LOCAL EDUCATION AGENCY TO EMPLOY AN INDUSTRIAL COOPERATIVE TEACHER?

YES	NO	(CHECK ONE)
___	___	1. NONE.
___	___	2. 1 TO 2 YEARS WORK EXPERIENCE.
___	___	3. 3 TO 5 YEARS WORK EXPERIENCE.
___	___	4. WORK EXPERIENCE INTERNSHIP THROUGH A COLLEGE PROGRAM.
___	___	5. OTHER. (PLEASE SPECIFY)_____

_____

VIII. PLEASE CHECK THE APPROPRIATE ITEM(S) CONCERNING DISADVANTAGED STUDENTS, HANDICAPPED STUDENTS, SEX STEREOTYPING AND VICA.

1. TEACHER PREPARATION FOR INSTRUCTING DISADVANTAGED STUDENTS IS:

YES	NO	
___	___	A. REQUIRED.
___	___	B. PROVIDED IN A COURSE DEALING EXCLUSIVELY WITH THE DISADVANTAGED.
___	___	C. INCORPORATED INTO OTHER TEACHER PREPARATION COURSES.
___	___	D. OTHER. (PLEASE SPECIFY)_____

_____

2. TEACHER PREPARATION FOR INSTRUCTING HANDICAPPED STUDENTS IS:

YES	NO	
___	___	A. REQUIRED.
___	___	B. PROVIDED IN A COURSE DEALING EXCLUSIVELY WITH THE HANDICAPPED.
___	___	C. INCORPORATED INTO OTHER TEACHER PREPARATION COURSES.
___	___	D. OTHER. (PLEASE SPECIFY)_____

_____

3. TEACHER PREPARATION CONCERNING SEX STEREOTYPING IS:

YES	NO	
___	___	A. REQUIRED.
___	___	B. PROVIDED IN A COURSE DEALING EXCLUSIVELY WITH THE SEX STEREOTYPING.
___	___	C. INCORPORATED INTO OTHER TEACHER PREPARATION COURSES.
___	___	D. OTHER. (PLEASE SPECIFY)_____

_____

4. TEACHER PREPARATION FOR ADVISING VICA IS:

YES	NO	
___	___	A. REQUIRED.
___	___	B. PROVIDED IN A COURSE DEALING EXCLUSIVELY WITH THE VICA.
___	___	C. INCORPORATED INTO OTHER TEACHER PREPARATION COURSES.
___	___	D. OTHER. (PLEASE SPECIFY)_____

_____

APPENDIX C

MEMBERS OF THE TRADE AND INDUSTRIAL RESEARCH COUNCIL

American Vocational Association
Trade and Industrial Research
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Tom Arcy
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Portales, New Mexico 88130

Betty Ramsey
Dept. of Vo-Tech Education
Idaho State University
Pocatello, ID 83209

APPENDIX D

LISTING OF STATES AND NAMES OF INDIVIDUALS RESPONDING TO THE QUESTIONNAIRE BY UNITED STATES DEPARTMENT OF EDUCATION REGIONS

Region I

Connecticut -- Edward Shia
Maine -- Maurice Parent
Massachusetts -- Eugene Curran
New Hampshire -- Robert Holt
Rhode Island -- No response
Vermont -- No response

Region II

New Jersey -- R. Van Gulik
New York -- Marian Potter

Region III

Delaware -- William Matz
Maryland -- Richard C. Kiley
Pennsylvania -- John W. Brandt
Virginia -- Ben Baines
West Virgina -- No Response

Region IV

Alabama -- C. E. Newton
Florida -- T. L. Rushing
Georgia -- Bobbye C. Smith
Kentucky -- Delmus Murrell
Mississippi -- James R. Bowers
North Carolina -- Ted Rollins
South Carolina -- Charles Moore
Tennessee -- Jerry T. Weaver

Region V

Illinois -- Robert Metzger
Indiana -- Monte Janick
Michigan -- No response
Minnesota -- J. Buissa
Ohio -- Harry F. Davis
Wisconsin -- Richard Kitzmann

Region VI

Arkansas -- Charles Easley
Louisiana -- C. R. Bell, Jr.
New Mexico -- Douglas Richardson
Oklahoma -- Ivan Armstrong
Texas -- No response

Region VII

Iowa -- No Response
Kansas -- Ed Henry
Missouri -- Jack Bitzenburg
Nebraska -- Lloyd Mather

Region VIII

Colorado -- Bill Newblom
Montana -- Jeff Wulf
North Dakota -- R. A. Johnson
South Dakota -- M.E. Beemer
Utah -- No response
Wyoming -- Ike Strayer

Region IX

Arizona -- Ken Thompson
California -- No Response
Nevada -- No response
Hawaii -- Earnest Wakayama

Region X

Alaska -- Ray Minger
Idaho -- No Coop Program
Oregon -- C. Howell
Washington -- No response

APPENDIX E

INDUSTRIAL COOPERATIVE EDUCATION PROGRAM

IDENTIFICATION TITLES BY STATE

Alabama	Trade and Industrial Cooperative Education
Alaska	No Program
Arizona	Industrial Cooperative Education
Arkansas	Industrial Cooperative Training
California	No response
Colorado	Industrial Cooperative Education
Connecticut	Industrial Vocational Education Interdisciplinary Cooperative Education Vocational Industrial Education Diversified Cooperative Education
Delaware	Trade and Industrial Cooperative Education
Florida	Industrial Cooperative Education
Georgia	Diversified Cooperative Training
Hawaii	Vocational Industrial Education
Idaho	No Cooperative Education Program
Illinois	Industrial Cooperative Education Diversified Cooperative
Indiana	Industrial Cooperative Training
Iowa	No response
Kansas	Cooperative Industrial Training
Kentucky	Industrial Cooperative Education Industrial Cooperative Training Industrial Vocational Education Trade and Industrial Cooperative Education Trade and Industrial Cooperative Education Vocational Industrial Education
Louisiana	Trade and Industrial Cooperative Education
Maine	Industrial Cooperative Education
Maryland	Diversified Cooperative Education
Massachusetts	Industrial Cooperative Education Industrial Vocational Education Trade and Industrial Cooperative Education Cooperative Education

Michigan	No response
Minnesota	Diversified Cooperative Education Vocational Industrial Education
Mississippi	Trade and Industrial Cooperative Education Diversified Cooperative Education
Missouri	Cooperative Industrial Education Interdisciplinary Cooperative Education
Montana	Industrial Cooperative Education Trade and Industrial Cooperative Education
Nebraska	Vocational Industrial Education
Nevada	No response
New Hampshire	Did not answer the question
New Jersey	Cooperative Industrial Education
New Mexico	Industrial Cooperative Training
New York	Diversified Cooperative Occupational Education
North Carolina	Industrial Cooperative Training
North Dakota	Trade and Industrial Cooperative Education
Ohio	Trade and Industrial Cooperative Education Diversitified Occupations
Oklahoma	Interdisciplinary Cooperative Education
Oregon	Industrial Vocational Education Vocational Industrial Education
Pennsylvania	Diversitified Occupations
Rhode Island	No response
South Carolina	Diversitified Occupations
South Dakota	Diversitified Occupations
Tennessee	Industrial Cooperative Education General Cooperative Education
Texas	No response
Utah	No response
Vermont	No response

Virginia	Industrial Cooperative Training
Washington	No response
West Virgina	No response
Wisconsin	Cooperative Industrial Education Industrial Cooperative Education Trade and Industrial Cooperative Education Vocational Industrial Education
Wyoming	Industrial Vocational Education Trade and Industrial Cooperative Education

VITA 2

William David Clark

Candidate for the Degree of

Doctor of Education

Thesis: A STUDY OF THE INDUSTRIAL COOPERATIVE TEACHER EDUCATION DELIVERY SYSTEMS USED IN THE UNITED STATES

Major Field: Occupational and Adult Education

Biographical:

Personal Data: Born in Attalla, Alabama, Movember 25, 1930, the son of J. D. and Ann B. Clark.

Education: Attended public school in Attalla, Alabama; received Bachelor of Science degree in Business Administration from Jacksonville State University, 1957; received Master of Arts degree in Trade and Industrial Education from University of Alabama, 1970; received Certificate of Advanced Study in Education from University of Alabama in Birmingham, 1975; completed requirements for the Doctor of Education degree at Oklahoma State University in December, 1982.

Professional Experience: Cable-splicer repairman, Southern Bell Telephone Company, Gadsden, Alabama, 1951-53; Coach and teacher, Etowah County, Alabama, 1958-60; Coach and teacher, Marshall County, Alabama, 1960-63; Coach and Principal, Attalla, Alabama, 1963-1967; Trade and Industrial Education Coordinator, Etowah County, Alabama, 1967-1969; Trade and Industrial Education Coordinator, Gadsden, Alabama, 1969-1980: Administrator, St. Clair County, Alabama, 1980-1981; Trade and Industrial Education Instructor, University of Alabama, 1981; Graduate Associate, Oklahoma State University, 1981-1982.

Professional Organizations: Phi Delta Kappa, Iota Lambda Sigma, American Vocational Association, Alabama Vocational Association, National Education Association, Alabama Education Association.