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entitled _____ **REQUIREMENTS FOR VOCATIONAL TEACHER TRAINING AND** _____
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_____ **VARIOUS STATES AND TERRITORIES** _____

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REQUIREMENTS FOR VOCATIONAL TEACHER TRAINING AND CERTIFICATION IN
TRADES AND INDUSTRIES IN THE VARIOUS STATES AND TERRITORIES

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by

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CHAPTER I

FORMULATION AND DEFINITION OF THE PROBLEM

Vocational teacher training and the certification of vocational teachers are two of the most interesting and challenging phases of the whole vocational education movement. This is particularly true in the field of trade and industrial education, since the teacher training in this area is largely in-service in character and involves many original and unique administrative, supervisory, and certification activities.

Purpose of the Study

The major objectives of this study are: first, to analyze and compare the certification requirements of the vocational teacher-training programs in trades and industries of the several states and territories, according to the required practical experience necessary to be eligible to receive the first certificate to teach in the various schools and classes offering vocational trade and industrial education; second, to analyze and compare the academic education necessary to be eligible to teach in these schools and classes; and third, to analyze and compare the various vocational teacher-training pre-employment and in-service courses required of these trade and industrial teachers in connection with the certification requirements of their state. In addition, the writer has compared the qualifications of supervisors, teacher-trainers, and

coordinators; wherever possible, has recorded the titles of the vocational teacher training courses offered in the various states and territories; and has reported the procedures followed in making the courses available to those interested, with other pertinent information regarding advanced certification and special requirements peculiar to particular states and territories.

Origin of the Study

This study of "Requirements for Vocational Teacher Training and Certification in Trades and Industries in the Various States and Territories" was suggested to the writer while enrolled as a student in classes in vocational education at the University of Cincinnati, Cincinnati, Ohio, through the great number of inquiries received concerning the topics covered in this study, and the apparent wide spread interest in such problems. Especially stimulating was a request from Gilbert C. Weaver, Supervisor of Industrial Teacher-Training for the State of New York and President of the National Association of Trades and Industries Teacher-Trainers. Weaver indicated that no information relating to the problem of the present study was available at the United States Office of Education, Division of Vocational Education, Washington, D. C., and that he hoped some one would make a study in this area of vocational education for the trades and industries in the near future.

Need for the Study

Under the provisions of the Smith-Hughes and George-Deen laws, the United States Office of Education, Division of Vocational Education, requires that each state and territory submit for approval a state plan for the vocational education work to be carried on under the provisions of the acts. The Office of Education also requires that each state plan for vocational education be rewritten at intervals of five years. This procedure gives ample opportunity to revise various sections of the plans to meet changing conditions and needs.

It is obvious that the rewriting of state plans would be greatly facilitated, if state directors and supervisors possessed adequate reference materials disclosing the patterns followed by other states for different phases of the vocational work.

While the printed state plans of most states are available, they are not so organized that they can be compared readily with the programs of other states. Each plan must be studied separately and the different elements isolated before the specific aspects of any one plan can be compared with similar elements in other state plans. The fact that the Federal Office of Education does not insist on any set form for these plans has meant that the vocational authorities of the states and territories have organized programs to meet the particular needs of their own situation. At present, therefore, no satisfactory reference materials are available that present the various activities of all states so

that they may be compared readily. In fact, a great diversity of vocational-teacher certification procedures and requirements exists, as well as a wide variation in certification courses, both as to titles and content. Furthermore, as one would naturally expect, many questions and problems have arisen regarding eligibility and certification of vocational teachers as they move from one state to another and ask for evaluations of their previous vocational certification courses.

This investigation should fulfill a long felt need on the part of the state directors and the state supervisors for adequate and compact reference materials, and when it seems desirable to make changes in certification plans in any state these officials should be able to find valuable suggestions from the material presented in this study. It should also prove interesting and valuable to vocational teacher-trainers, vocational teachers, and all those interested in vocational education, secondary education, methods of certification, and terminal education of all types.

The importance of this study is further indicated by the fact that the vocational education program in America has grown very rapidly in recent years. While slightly over one million individuals were enrolled in federally aided classes and schools in 1936, involving an annual expenditure of over \$30,000,000 from all sources,¹ in 1943 there were 2,300,411 individuals enrolled

¹
V. O. Key, Jr., The Administration of Federal Grants to States, p. 15. Chicago: Public Administration Service, 1937.

in vocational education courses of all kinds, involving an annual expenditure of \$63,502,396.²

Finally, the need for this study is especially acute at this time because of the necessity of rehabilitating returning veterans from military service, taking care of workers demobilized from war production plants, and planning for the probable expansion of vocational education of the Smith-Hughes type in the coming years.

Delimitation of the Study

This study, "Requirements for Vocational Teacher Training and Certification in Trades and Industries in the Various States and Territories," has been limited to the teacher-training progress and certification procedures in trades and industries, as fostered by the Smith-Hughes and George-Deen Acts. It is not concerned with costs and numbers or other statistical data, except as such data may tend to clarify and orient plans for vocational trades and industries classes and teacher-training programs. This study does not deal with teacher-training or certification in agriculture, home economics, or distributive education, except as there may be overlapping of procedure or as it seems desirable to make contrasts between philosophy or organization.

The qualifications for the first certificate are analyzed in detail for every state and territory. As much material

²
United States Office of Education, Digest of Annual Reports of State Boards for Vocational Education, p. 6. Washington: U. S. Government Printing Office, 1944.

regarding the later renewals, term and permanent certificates is presented as it was possible to secure, not only from the state plans being studied, but from various bulletins and other sources. The later certifications in many states are tied up with the general certification policies of the state. However, the material presented concerning these procedures is very interesting, is valuable for reference work, and presents many opportunities for further study.

Sources of Data

The data for this study were secured from many sources. The historical material was gathered from the statutes of the United States. These statutes served as the primary source for the various references to the federal educational legislative acts that have furnished federal aid to educational activities throughout the nation. Next, it was necessary to review the State Plans for Vocational Education for Trades and Industries and the various teacher-training programs in each state and territory. This step involved much correspondence with state directors and state supervisors.

Federal and state bulletins on teacher-training and various printed statements of policies were consulted. Bulletins from the United States Office of Education and from several libraries were examined for theses or dissertations bearing on teacher-training or on the qualifications and certification requirements for vocational teachers in trades and industries.

Texts on the history and philosophy of vocational education were reviewed, as well as texts and federal bulletins on the organization and administration of vocational education.

Correspondence, interviews, and conferences with many state directors, supervisors, and teacher-trainers, as well as vocational teachers, local directors, coordinators, and vocational school principals, contributed much valuable information that has amplified the data found in the state plans and bulletins. In addition, materials and information pertinent to the study were obtained from current magazine articles and federal reports.

CHAPTER II
INVESTIGATIONAL PROCEDURES

Introduction

This chapter deals with procedures followed in organizing the study and collecting the state plans, federal and state bulletins, and other materials necessary for the various analyses and comparisons involved in the investigation.

For the sake of completeness, it was essential to secure, or attain access to, all the state plans for vocational education from all states and territories, or at least the sections dealing with trade and industrial teacher-training and certification. It was also necessary to check with the various State Departments of Vocational Education whose published state plans were written previous to the current period (1942-1947), to determine whether any changes had been made since publication of the particular plan under consideration.

Procedures Followed

Approach.-- After the problem was selected and outlined, a list of the state directors of vocational education of all the states and territories was secured from the Office of Education of the Federal Security Agency at Washington, D. C. (see appendix, page 1). Letters were mailed to the state directors requesting state plans that described all the fields of work, so that possible over-lapping

of any programs could be noted, if any such over-lapping should exist.

Documents relating to the various federal and state laws and policies were consulted; federal and state bulletins were secured, examined, and compared for similarities or differences in the trades and industries teacher-training programs; pertinent texts, course outlines, printed forms, and instructional materials were secured from representative vocational trade and industrial teacher trainers in several states; many personal contacts were made with state teacher trainers and state directors in states where it was found necessary to clarify portions of state plans and certification procedures. For copy of first letter to directors see appendix, page 49.

Returns and Follow-up.-- As a result of the first letter to the state director requesting plans, replies were received from about 42 per cent of the states and territories, but state plans were received from only 18, approximately 38 per cent.

To secure more complete information in the field of trade and industrial certification practices, the writer then obtained a list of the state supervisors of trades and industries in the various states and territories (see appendix, page 2), and mailed a second letter to each supervisor whose state director had not replied to the first letter, or where no state plan was available for distribution (see appendix, page 53).

The second letter brought forth many more state plans covering the trades and industries section, as well as plans relating to the other vocational fields. In fact, replies were

received from all of the territories and all of the states except one. Plans were eventually received from all of the territories and from 42 or nearly 88 per cent of the states. In the case of one state (Idaho), no reply was received to either letter.

In terms of percentage, replies were received from 98 per cent of all states and territories; plans were received from nearly 88 per cent of the states and 100 per cent of the territories; six or nearly 13 per cent of the states did not have enough plans for distribution; and one state made no reply to either letter.

One state (New Hampshire) reported that its plan could not be sent outside of the state; and one state (Washington) replied that, after its plans had been revised, a copy would be sent to the writer, probably after the war (World War II).

A third letter was mailed to all of the states and territories whose plans were dated prior to the current period (1942-1947), asking that some statement be sent to the writer indicating that the particular plan forwarded had been approved for the current period (1942-1947) or that it was essentially the same and could be used in this study as authentic material (see appendix, page 50). Each state replied that the material could be used as published, or where changes had been made additional information was forwarded to bring the plan up to date.

In addition, a fourth letter (see appendix, page 52) was mailed to states that had not replied to previous letters; to states whose plans had not been adequate for distribution; to states where

only one office copy existed; and to the one state (New Hampshire) whose plan was not to be distributed outside of the state. This letter requested that the particular state department lend the writer an office copy of the state plan or, at least, the section dealing with trades and industries of the state.

As a favor to the writer, the Toledo Public Library, Toledo, Ohio, addressed a letter to the United States Office of Education, Department of Vocational Education, of the Federal Security Agency at Washington, D. C., requesting the temporary use of state plans that the writer had not received. The library was advised that the plans were not available for distribution or loan.

As the state plans were received, they were indexed and listed in a separate section in the bibliography entitled "State Plans". They were examined carefully for similarities and differences in the teacher-training programs and certification procedures of the trades and industries section, and tables and figures were formulated according to the findings.

As the federal and state bulletins were collected and examined, they also were listed in the bibliography under the captions "Federal Bulletins" and "State Bulletins", respectively. These materials also were carefully reviewed, and the pertinent information analysed.

When all possible information had been collected through such inquiry and additional correspondence, the writer went to Washington, D. C. in order to review the missing state plans and

to see certain officers in the field under investigation.

Summary

All of the territories (three) sent their plans for vocational education and characterized the material as official for the current period (1942-1947). All of the states replied to the request for the state plans; forty-three states or nearly 90 per cent forwarded either their state plans or the sections dealing with trades and industries; and all materials were indicated to be official for the current period (1942-1947). Five states or slightly more than ten per cent were unable to send any material, but of this number four states expressed a willingness to answer any questions that the writer might ask. This offer of cooperation was accepted and a concerted attempt was made to secure as much of the necessary information as possible by means of correspondence, telephone calls, and personal interviews. For the remainder of the material, the writer went to the Office of Education, Federal Security Agency, Washington, D. C., and received permission to examine the federal files and to collect the balance of the material to complete the investigation.

CHAPTER III
RELATED STUDIES

Introduction

With the exception of a few brief federal bulletins, all materials located regarding teacher certification in the field of trades and industries have been limited to mimeographed regional reports that are not available for general distribution. Furthermore, there is little in the way of research or thesis studies in the field of vocational teacher training in the trades and industries that concerns detailed analysis of certification for teachers. Thus, while there is a regrettable dearth of materials dealing with comparisons of programs of trade and industrial teacher training and certification, the related studies outlined below do throw some light on the present problem.

Related Studies

Regional Reports.-- One study of the teacher training programs of the North Atlantic States that was compiled for a regional convention conference deals with a survey and analysis of the 1932 Fall semester enrollments and a comparison of the Fall semester of 1932 with the summer of 1931 in that region.¹

¹
Harry W. Paine, Vocational Trade and Industrial Teacher Improvement Service in the North Atlantic Region. Toledo: University of Toledo Press, 1933. Pp. 48.

The first section is an analysis of the 1932 Fall semester classes for vocational trade and industrial teacher improvement and foremen conference activities. The analysis covers teacher training enrollments by states and residence, enrollments by subject and classes, comparative enrollments by states, and foremen conference work. This study deals primarily with courses and enrollments in vocational trade and industrial teacher training courses, and does not cover certification and teacher requirements.

In 1939 Paine made a study of the state boards for vocational education in trades and industries in Wisconsin and Ohio.² This report is not particularly concerned with the qualifications of vocational teachers, but it deals with certification procedures in the two states, and compares the different types of state certification and administration, in order to disclose the advantages and disadvantages of the different systems and to develop from such a study suggestions for improvements in state administration procedures in vocational education.

De Forest made a study of the organization, administration, and sources of funds for vocational education in the states of Ohio and New York, but said little about the training, qualifications, and certification procedures of the vocational teachers in these two states.³

² Harry W. Paine, A Study and Comparison of the State Boards for Vocational Education and the Programs of Vocational Education in the Fields of Trades and Industries in Wisconsin and Ohio. Toledo: University of Toledo Press, 1939. Pp. 56.

³ F. Ray De Forest, A Comparison of the New York and Ohio Systems of Vocational Education. Ames: Iowa State College Press, 1931. Pp. 24.

Emens points out difficulties in certifying teachers whose training and experience have been acquired in states other than the one in which application for a certificate is made.⁴ This report does not include vocational teachers, and the certification difficulties are even more obvious for trade and industrial teachers.⁵

McGarvey reports a conference that covered such topics as: school life, air conditioning, time and motion studies, trade school graduates, and cooperative schools; and notes that at the conference a committee was appointed to study what was being done and what should be done or required by way of services for industrial teacher training and for improvement of teachers, supervisors, and directors. No report concerning the findings of this committee is available.

A small federal bulletin was located containing four reports that had been written to the committee on trade and industrial teacher training of the American Vocational Association.⁶

Whitney reports, in one of these articles, that he had written to thirty-three teacher trainers and others responsible for

⁴
John R. Emens, "State Reciprocity in Teacher Certification in North Central Territory," North Central Association Quarterly, 28 (April, 1944), 309-312.

⁵
G. A. McGarvey, Conference of State Directors, State Supervisors, and Members of Teacher Training Staffs in Trade and Industrial Education (North Atlantic Region). Washington: United States Department of the Interior, Office of Education, Division of Vocational Education, 1936. Pp. 55.

⁶
Office of Education, Vocational Teacher Training in the Industrial Field, Bulletin No. 172, Trades and Industrial Series No. 50. Washington: U. S. Government Printing Office, 1934. Pp. 32.

training vocational teachers, to discover some of the best ways that they could suggest to up-grade teachers in service.⁷ He received replies from 26 or nearly 79 per cent of the group selected. These replies, covering opinions, practices, and experiences,⁸ were summarized in substance under the following groups:

1. Summer classes
2. Short intensive conferences
3. Teacher training in institutions within commuting area
4. Itinerant teacher training
5. Correspondence courses from institutions and state departments
6. Training through local supervisors
7. Training through state supervisors
8. Training by means of conference leadership programs

After making a thorough study of these groups, Whitney⁹ concluded that:

1. There is no best way to up-grade teachers in service.
2. The size of the community or state, the location of the institution, and the general organization of the work must be taken into account.
3. The principle of more and more contact on or near the job is of great importance.
4. Classes at a convenient point, geographically, are useful in both pre-employment and post-employment teacher training, but are perhaps more valuable in the former than in the latter.
5. The kind and amount of post-employment training will vary with the selection of the teacher and the amount of his pre-employment training.
6. No teacher is so well trained that he does not need further training on the job.
7. The local supervisor, where one exists, is the most important individual in the continued growth of the local teaching staff.

⁷ G. D. Whitney, "Upgrading Vocational Teachers in Service," in Vocational Teacher Training in the Industrial Field, pp. 1-8. Vocational Education Bulletin No. 172, Trades and Industrial Series No. 50. Washington, D. C. : Government Printing Office, 1934. pp. 1-32.

⁸ Ibid., p. 1.

⁹ Ibid., p. 8.

8. The state supervisor or teacher trainer is able to further the growth of the teachers in service in certain definite ways, but can neither take the place nor accept the responsibilities of the local supervisor in this respect.
9. The growth of teachers in service involved a return to industry periodically in order to keep up to date.
10. Recognition, such as is involved in a degree, is becoming more and more important, although it should not be allowed to interfere with basic skill on the teaching job. Rather it should be thought of as raising the status of a good well-prepared teacher to a higher power.
11. Finally, as the vocational school becomes a more and more important part of the public school program, there will be a demand for objectives and measures of success; also, the teacher who merely teaches the skill and technique of a trade will be challenged to improve his practice to include training for citizenship and other broad educational objectives which are now coming to loom so large in the public eye.

In the same bulletin, Spofford reported on methods that were being used to select persons who were to be trained as vocational instructors.¹⁰ While Spofford's article does not deal entirely with an analysis of the certification problems of the vocational trades and industries teacher in the various states, it does disclose many interesting data concerning the opinions and attitudes of leaders regarding the desired qualifications of prospective vocational teachers. The study is not a direct survey of state plan requirements, but it is presented to throw an interesting side light on the matter of teacher qualifications, as far as eligibility to teacher training classes

10

J. G. Spofford, "Methods Being Used in Selecting Persons to be Trained as Vocational Instructors," in Vocational Teacher Training in the Industrial Field, pp. 9-12. Vocational Education Bulletin No. 172, Trades and Industrial Series No. 50. Washington, D. C. : Government Printing Office, 1934. Pp. 1-32.

is concerned. It also shows that there is a need for a study such as the present one.

In order to be able to write an authoritative article of this type, Spofford sent a questionnaire to representative teacher trainers, directors, and supervisors of the various states and received replies from 38 out of 48, which gave him a little more than 79 per cent response. From the material received, he outlined methods, procedures, and policies for the education of trade and industrial teachers in the various states. A summary of the educational requirements for eligibility to teacher training classes is given:¹¹

- 30 states require eighth grade graduation,
- 6 states do not require eighth grade graduation
- 12 states require high school graduation, or the equivalent,
- 19 states do not require high school graduation,
- 1 state requires one year of high school
- 1 state requires two years of high school.

When Spofford asked whether one would be eligible, if he had worked at his trade for several years and attended evening school,¹²

- 32 states replied that he would be eligible for admission,
- 3 states replied that he would not be eligible.

Another question asked whether technical school or college could substitute for shop experience, provided the school term was two or more years:¹³

- 11 states reported that he would be eligible,
- 20 states reported that he would not be eligible.

¹¹

J. G. Spofford, op. cit., p. 9.

¹²

Ibid., p. 9.

¹³

Ibid., p. 9.

In most states a shop teacher needed trade experience,

but one could teach trade-technical subjects providing he had had sufficient trade experience to qualify under the state law, and that, if he did not have sufficient trade experience, he might be admitted as a special student providing he had an outstanding personality and would agree to acquire the necessary trade experience during the training period.

In answer to the question, "If several tradesmen apply for admission to your teacher-training classes, how would you select those with the richest background in trade and trade-technical experience?"¹⁴ Spofford reported:

- 20 states would base their selection on the number of years in the trade, while
- 10 would not consider trade experience;
- 17 states would not require a trade technical or trade examination to ascertain admission, but
- 9 states would require an examination.

In evaluating the personality of the applicant for teacher-training classes,¹⁵ Spofford found that:

- 13 states reported evaluation by personal interview,
- 2 states reported they would hold no interview;
- 23 states use a special committee to supplement the interview,
- 8 states reported no special committee;
- 4 states reported the use of personality tests,
- 1 state used tests, but not prior to admission to class,
- 24 states reported that they do not use tests of any type.

In conclusion, Spofford summarized his findings by saying that most states considered the selection of the prospective teacher

¹⁴

J. C. Spofford, op. cit., p. 10.

¹⁵

Ibid., p. 10.

¹⁶

Ibid., p. 12.

as a very important problem, and in most cases have required:¹⁷

1. A minimum number of years of trade experience.
2. Some sort of trade and trade-technical examination to be given to prove that the trade and educational background of the candidate was of a quality to justify the spending of state and federal funds for training the candidate for a teaching position.
3. Personal interview by the state representative and other committees are necessary to make sure that the experience, personality, and personal characteristics of the candidate are of a satisfactory quality.
4. Educational background, industrial experience, and personality are vital factors which must be determined in selecting personnel for teacher-training classes.
5. Much information must be considered concerning the candidate's habits, social life, temperament, and probable ability to adjust himself to a teaching position.

Conference Report.-- At a conference of trade and industrial teacher trainers, held in connection with the national convention of the American Vocational Association in Detroit, Michigan, December, 1933, Myers presented a paper dealing with the procedures that should be followed in meeting the needs of individual students in teacher-training courses.¹⁸ Although the paper does not deal directly with the qualifications or the certification problems that represent the central theme of this study, it does present desirable standards to be attained in trades and industries and teacher training classes, and is therefore briefly reviewed at this point.

17

J. G. Spofford, op. cit., pp. 11-12.

18

George E. Myers, "Procedures to be Followed in Giving Attention to the Needs of Individual Students in Teacher-Training Courses," in Vocational Teacher Training in the Industrial Field, pp. 13-17. Vocational Education Bulletin No. 172, Trades and Industrial Series No. 50. Washington, D. C. : Government Printing Office, 1934. Pp. 1-32.

The first question that Myers considered was: "What are the situations that make attention to the needs of individual students necessary or desirable?"¹⁹

Myers concluded that there are three types, as follows:

1. When the student is a teacher who is inaccessible to the teacher-training center and to the extension class work carried on by the teacher-training organizations.
2. When a class is made up of students who have a common Objective or goal but differ in ability to progress toward this goal.
3. When a class is made up of students who have different goals as well as different abilities to make progress toward their goals.

In turning to the question of procedures to be used in these situations, Myers stated that there were certain steps necessary:²¹

1. To ascertain the needs of the student.
2. To help the student become conscious of his own special needs.
3. To know the abilities, the background, and the immediate problems of the student in order to make the necessary adjustments in the content of the course.
4. To use the method of teaching that will fit the individual needs of the members of the group.

²²
Myers concluded that:

If the teacher trainer's work is dominated by this con-

¹⁹
George E. Myers, op. cit., p. 13.

²⁰
Ibid., pp. 13-14.

²¹
Ibid., pp. 14-16.

²²
Ibid., p. 17.

ception of education, he will be on the alert to inform himself as to the special needs of each student in his class; to help each student become aware of his own needs; to bring together a wealth of illustrations, projects, and other material to the needs of individual students, and to make use of lesson sheets, class discussions, reports by individual students, and by other methods of teaching in order to promote this development in each member of the class. At any rate, this conception will give meaning and purpose to all these procedures that are essential, if he is to give adequate attention to the needs of individual students who take his course.

23

A study by Downing lists the qualifications required for certification of vocational trades and industries teachers in 25 states. In his study, the shop teachers and related teachers are listed altogether and are not separated according to the various schools for each group in the trade and industrial field.

National Surveys.— In 1933 Johnson reported a brief comparative study²⁴ of the basis and methods for certification of vocational teachers, at the Detroit American Vocational Association meeting (December, 1933). In many ways this report, although brief, is more pertinent to the present study than any other material discovered thus far. Johnson's findings will be checked against the data summarized in later chapters of the present study. To obtain data

23

D. L. Downing, A Study of Qualifications Required for Certification of Vocational Education Teachers in Twenty-Five States. Akron: University of Akron Press, 1939. Pp. 15.

24

Benjamin W. Johnson, "A Comparative Study of the Bases and Methods for Certification of Vocational Teachers," in Vocational Teacher Training in the Industrial Field, pp. 19-32. Vocational Education Bulletin No. 172, Trades and Industrial Series No. 50. Washington, D. C. : Government Printing Office, 1934. Pp. 1-32.

for his report, Johnson wrote to many persons, including the state supervisors of trades and industries in the 48 states and the territory of Hawaii. He received replies from all but seven states or a return of a little over 85 per cent. At that time he found that few of the state plans included anything about certification.²⁵ Johnson reported summaries of his findings of the qualifications of vocational teachers under the following headings:

1. Evening related technical teachers
2. Part-time shop teachers
3. Part-time related teachers
4. General continuation teachers (academic)
5. Vocational general continuation teachers
6. All-day shop teachers
7. All-day related subjects teachers

Part of Johnson's report covers the methods used for determining eligibility, with one short paragraph devoted to certification for the advanced standing of the head of the department, coordinator, and supervisor. He mentions the use of objective techniques for the selection of trade and industrial teachers²⁶ and the objectives in certification of teachers.²⁷

In 1935 Woellner compiled a summary of state teaching certification requirements.²⁸ The purpose of his compilation was to pro-

²⁵ Benjamin W. Johnson, op. cit., p. 19.

²⁶ Ibid., p. 31.

²⁷ Ibid., p. 32.

²⁸ Robert C. Woellner and M. Aurilla Wood, Requirements for Certification of Teachers and Administrators. Ninth Edition. Chicago: University of Chicago Press, 1941-1942. Pp. 94.

vide "accurate information to prospective teachers attending the University of Chicago."²⁹ Since that time the information has been revised and brought up to date from year to year, to keep it as accurate as possible. The ninth edition covered the year of 1944-45.³⁰ Woellner's summary covers the certification requirements for elementary, junior high, and high school teachers in the various states, but it does not include the vocational teacher certification requirements in trades and industries, or any of the other vocational fields. However, many related subject teachers in the trade and industrial field in certain states must meet exactly the same requirements as instructors who teach academic subjects in that field in the regular secondary schools. Therefore, reference is made to Woellner's summary from time to time in the present study, for comparative purposes in preparing tables and outlines.

Recently (1944-1945) Weaver made a very brief survey of current requirements for the certification of industrial teachers of the day trade (unit trade) and industrial school type A-- in the

29

Robert C. Woellner and M. Aurilla Wood, op. cit., p. 2.

30

Robert C. Woellner and M. Aurilla Wood, Requirements for Certification of Teachers and Administrators. Ninth Edition. Chicago: University of Chicago Press, 1944-1945. Pp. 104.

31
 various states. In this survey, Weaver tabulated by states the fol-
 32
 lowing items:

1. The total trade experience required
2. The minimum formal education required
3. The clock hours of teacher training
4. The courses offered
5. The age range

On account of variations in the nomenclature of course titles encountered in the several states, Weaver found that it was difficult in some cases to interpret the information. For the purposes of his survey, he coded the titles of similar courses by number and then took the liberty of listing the approximate title by the code number for each state. No conclusions were drawn from the study. The tabulated material was self-explanatory, and covered items one to five as listed above, for the forty-eight states and the District of Columbia. This is similar to the information (chapter VII) that the writer of the present study has compiled for all the vocational teachers in all of the different types of schools, as described in chapter V.

31
 Gilbert G. Weaver, Requirements for Teachers of Trade Subjects in Type A Unit Trade Schools and Classes. Cincinnati: Unpublished Mimeographed Material in files of the Vocational Education Department, Teachers College, University of Cincinnati, 1945. Pp. 8.

32
Ibid., p. 1.

Summary

This chapter has reviewed the related studies that seem pertinent to the present problem. The reports summarized and the references cited, with the exception of the brief Weaver study, have dealt only with regional areas. No detailed surveys have been made concerning the entire United States and its territories. In most cases, the objectives were more or less limited and confined to some specific state or locality.

However, the limited reports reviewed in this chapter indicate that prominent individuals in vocational education have been interested for some time in an investigation like the present one, but lack of time has prevented a detailed analysis and comparison of trade and industrial teacher qualifications and certification in the several states and territories. Therefore, it is hoped that the present study will serve as a helpful contribution and basic reference for persons desiring information concerning the qualifications and certification of teachers in the trade and industrial division of vocational education.

CHAPTER IV

HISTORICAL BACKGROUND OF VOCATIONAL EDUCATION

Introduction

In order to understand the vocational trade and industrial program and its teacher selection, teacher training, and teacher certification activities, it is necessary to understand the historical legislative background that led up to the establishment of vocational education on a nation wide basis. This chapter presents this historical background with brief summaries of the federal legislative aids to practical education that preceded and paved the way for the passage of the basic vocational education acts, namely: the Smith-Hughes Act of 1917 and the George-Deen Act of 1936. Quotations from all the acts that are pertinent to the purposes of this study appear in the appendix and are referred to as necessary.

Federal Educational Legislation Preceding the Smith-Hughes Act

The First Morrill Act.¹— On July 2, 1862, Congress passed the famous Morrill Act to encourage education in agriculture and mechanic arts in the United States. This law provided grants to each state of 30,000 acres of land for each senator and represen-

¹ Thirty-Seventh United States Congress, Statutes of the United States, Vol. 12, pp. 503-505. Washington, D. C. : Government Printing Office, 1862.

tative in Congress. The sale of these lands was to provide an endowment for the maintenance and support of colleges for the benefit of agriculture and mechanic arts.

Distinctive objectives of the first Morrill Act were: to provide education in agriculture and mechanic arts on the college level; to provide a type of education that would prepare the individual for the pursuits and professions of the farm and industry; to provide military training; and to place the control and operation of the colleges in the hands of the legislatures of their respective states.

As one realizes how these institutions were conceived, endowed, and organized, one begins to understand how the federal Congress was trying to help meet the varying educational needs of the people in the respective states. This type of legislation undoubtedly paved the way for the vocational education acts of the twentieth century.

²The Hatch Act.— On March 2, 1887, Congress passed the Hatch Act, which provided appropriations of \$15,000, to be paid annually to each state to establish agriculture experiment stations in connection with land grant colleges and to provide funds for acquiring and diffusing practical information to the people on subjects connected with agriculture and scientific investigations.

²
Forty-Ninth United States Congress, Statutes of the United States, Vol. 24, pp. 440-442. Washington, D. C. : Government Printing Office, 1887.

The second Morrill Act.-- After the land-grant colleges were established, the second Morrill Act³ was passed by Congress in 1890, to provide additional funds for these colleges for resident instruction in agriculture, English, mathematics, and physical, natural, and economic sciences. Special reference was made to the application of these subjects in the industries of life, and to the subjects thought of as applied science, applied English, and applied mathematics.

The Adams Act.-- Another continuing appropriation was made for the agriculture experiment stations when Congress passed the Adams Act⁴ on March 16, 1906. This act provided the sums of \$5,000 for the first years, making the total annual appropriation thereafter for each state, including the original amount from the Hatch Act, equal to the sum of \$30,000. While the Hatch Act provided for the establishment of the agriculture experiment stations and the acquirement and diffusion of practical information on subjects connected with agriculture and scientific investigations, the Adams Act emphasized the payment of necessary expenses for conducting original research and experiments

³
Fifty-First United States Congress, Statutes of the United States, Vol. 26, pp. 417-419. Washington, D. C.: Government Printing Office, 1890.

⁴
Fifty-Ninth United States Congress, Statutes of the United States, Vol. 34, pp. 63-64. Washington, D. C.: Government Printing Office, 1906.

directly connected with the agricultural industries in the respective states and territories.

The Smith-Lever Act.— The work of these agricultural colleges was further promoted and carried into the homes and to the farms through the passage of the Smith-Lever Act⁵ by Congress on May 3, 1914. This act provided co-operative extension in agriculture and home economics for the farm and home through practical demonstrations, field work, and publications. Instruction was given to persons not attending college and, subject to the joint approval of the Secretary of Agriculture and the state colleges, a sum of \$10,000 was to be appropriated for each state annually, with additional increments for seven years. A detailed report was to be made to Congress by the Secretary of Agriculture, showing that the legislature (of the state benefited) had matched funds allotted to each state, and that these funds have been spent according to specifications in the Smith-Lever Act.

It can be seen that all of the preceding acts were loosely drawn and were related to education on the college level, but that the Smith-Lever Act was much more specific with respect to expenditures and reports than previous legislation; that it brought the college to the home and farm rather than requiring the home and farm

⁵
Sixty-Third United States Congress, Statutes of the United States, Vol. 38, pp. 372-374. Washington, D. C. : Government Printing Office, 1914.

students to study their problems in colleges. It was the recognition of the fact that one can "learn to do by doing," by applying one's instruction, knowledge, and skills to practical life situations. Furthermore, it clearly established the right of Congress to maintain a continuous check on the way its educational appropriations were being handled.

The Smith-Hughes Act

The Smith-Lever Act, since it was much more specific as to expenditures and reports than any of the previous acts, undoubtedly formed the pattern and affected the plans and policies of administration for vocational education as established by the passage of the Smith-Hughes Act.

On February 13, 1917, Congress passed the National Vocational Education Act, better known as the Smith-Hughes Act,⁶ which is one of the basic laws in the background of the present study. This act provided for the promotion of vocational education in cooperation with the states and territories in agriculture, trades and industries, and home economics; it also provided for the co-operation of the states and territories in the preparation of teachers of vocational subjects and for the appropriation of money to regulate the expenditures of the program. These expenditures included: funds for

⁶
Sixty-Fourth United States Congress, Statutes of the United States, Vol. 39, pp. 929-936. Washington, D. C. : Government Printing Office, 1917.

the payment of salaries of teachers, supervisors, and directors of vocational education in the fields of agriculture, home economics, and trades and industries; as well as funds for teacher training programs in these fields. A Federal Board for Vocational Education was established to work out policies. Various important details of this legislation that apply to the present study are discussed in Chapter V. (Sections from the law are quoted in full in the appendix, see pages 10 to 14).

Since the present investigation is limited to the field of trades and industries, the areas of agriculture, home economics, and distributive education will not be touched upon, except as it is necessary to show similarities or to make comparisons.

Federal Educational Legislation Between the Smith-Hughes Act and the George-Deen Act

No doubt the Smith-Hughes Act was prompted by World War I, partly because of tests that emphasized illiteracy in the United States and showed the need for training of individuals in the methods of earning a living, and partly, as in World War II (1941- '45), because of the immediate need for skilled workmen who could be prepared by education of less than college grade.

During both of these periods great impetus has been given to the vocational education movement. If it had not been for the wise promotion of vocational education in peace time, it is almost self-evident that our country's industry and its skilled workmen would not have been so well prepared to take over the tremendous task with which they were faced when the United States entered World War II.

The Smith-Sears Act.-- After the Smith-Hughes Act had been in effect almost a year and a half, the Smith-Sears Act⁷ was passed by Congress on June 27, 1918. This act was designed "to provide for vocational rehabilitation and return to civil employment of disabled persons discharged from military or naval forces of the United States and for other purposes."⁸ This act provided for such courses in vocational education as the State Board for Vocational Education, established by the Smith-Hughes Law, would prescribe according to the needs of each individual involved. Each person receiving training was to be granted monthly compensation according to the amount of his monthly pay for his last month in active service. The War Department or the Navy Department was under contract for all medical and surgical work for disabled veterans. The State Board for Vocational Education made investigations and reports on disabled veterans, or other persons, trained them in gainful occupations, and gave them in-service training, if necessary. This particular act also provided the proper process of training and the appropriate preparation of instructors for such training.

The Smith-Bankhead Act.-- With the passage of the Smith-Sears Act to care for persons disabled in military service, preliminary plans were established for the care of disabled persons in gen-

⁷ Sixty-Fifth United States Congress, Statutes of the United States, Vol. 40, pp. 617-620. Washington, D. C. : Government Printing Office, 1918.

⁸ Ibid., p. 617.

eral, and Congress passed the Smith-Bankhead Act⁹ on June 2, 1920, to promote the vocational rehabilitation of persons disabled in industry or otherwise, and to facilitate their return to civil employment. The first year the sum of money appropriated was to be \$75,000 and thereafter, for a period of two years, the sum of \$1,000,000 was to be appropriated annually.

The sum of money allotted to each state was determined by the ratio of the population of the state to the population of the United States. In order to secure the state benefits of this appropriation, the federal legislators relied on provisions similar to those of the Smith-Hughes Act, namely: (1) the state legislature was to accept the provisions of the Act; and (2) the state was to empower and direct the board designed or created as the State Board for Vocational Education to cooperate in the administration of the provisions of the Vocational Education Act approved February 23, 1917, (The Smith-Hughes Act).

The George-Reed Act.— The first of the acts to supplement the basic Smith-Hughes Act on a national basis was the George-Reed Act¹⁰ passed by Congress on February 5, 1929. It authorized, on an increasing scale for a period of four years, appropriations

⁹ Sixty-Sixth United States Congress, Statutes of the United States, Vol. 41, pp. 735-737. Washington, D.C.: Government Printing Office, 1920.

¹⁰ Seventy-Third United States Congress, Statutes of the United States, Vol. 46, pp. 11-19. Washington, D.C.: Government Printing Office, 1929.

for agriculture and home economics education, in addition to the appropriations already established by the Smith-Hughes Law and "extended the benefits of federal aid for Vocational Education to the territories."¹¹ This appropriation was primarily for salaries of teachers, supervisors, and directors, and for the development of home economics subjects. It had nothing to do with teacher-training or other activities in the field of trades and industries.

The George-Ellzey Act.-- This act was passed by Congress on May 21, 1934.¹² It was passed "shortly before the expiration of the George-Reed Act...authorizing the appropriation of funds for a period of three years, sufficient not only to replace those that had been available under the George-Reed Act until its expiration, but to provide also for increased aid for trade and industrial education."¹³ While this act supplemented the Smith-Hughes Act and replaced the George-Reed Act, it did not supplement the funds to be used for teacher training or other activities in the field of trades and industries. It was not until the passage of the George-Deen Act in 1936 that increased appropriations for all activities under the Smith-Hughes Act, and some additional ones, were authorized on a permanent basis.

11

United States Department of the Interior, Statement of Policies for the Administration of Vocational Education, p. 1. Vocational Education Bulletin No. 1. Washington, D. C. : United States Government Printing Office, February, 1937.

12

Seventy-Third United States Congress, Statutes of the United States, Vol. 48, pp. 792-793. Washington, D. C. : Government Printing Office, 1934.

13

United States Department of the Interior, op. cit., p. 1.

The George-Deen Act

The permanent expansion of activities and funds for the major act in the background of this study (the Smith-Hughes Act) was finally established under the George-Deen Act,¹⁴ passed by Congress on June 8, 1936, to become effective July 1, 1937. This law authorized, on a permanent basis, increased appropriations to the states and territories for vocational education in the fields already aided and in addition authorized appropriations for use in the field of distributive occupations. It was specified also in this act that the District of Columbia should be included within the meaning of the term "States and Territories," to receive the benefits¹⁵ of the provisions for vocational education.

The complete George-Deen Act appears in the appendix, pages 18-21.

¹⁴ Seventy-Fourth United States Congress, Statutes of The United States, Vol. 49, pp. 1488-1490. Washington, D. C. : Government Printing Office, 1936.

¹⁵ United States Department of the Interior, op. cit., p. 2.

Summary

This chapter has reviewed the historical background of federal legislation for aid to vocational education on a nation wide scale, with a brief summary of each congressional act that preceded the passage of the two direct national vocational education acts, the Smith-Hughes Act of 1917 and the George-Deen Act of 1936.

It may be noted that the Smith-Hughes Act of 1917 was responsible for vocational education in the three fields of agriculture, home economics, and trades and industries, while the George-Deen Act of 1936 provided additional continuing appropriations for these areas and established the new field of distributive education.

For three quarters of a century the people of the United States definitely have been vocationally minded, but only during the last quarter of a century, including the period between the first world war (1917) and the second world war (1941), has the real significance of vocational education been demonstrated.

CHAPTER V

POLICIES OF THE VOCATIONAL EDUCATION ACTS AND INTERPRETATIONS ESSENTIAL FOR THIS STUDY

Introduction

It is important to emphasize the fact that the federal funds allotted to the states under the terms of the National Vocational Education Act (the Smith-Hughes Act of 1917) are very definitely intended for specific types of vocational education. In the present chapter, only those types of vocational education that relate to trades and industries have been considered.

Confusion of Terminology

The Federal Board for Vocational Education believes that
1
it is important to make clear distinctions between:

(1) Industrial education of the vocational type which is contemplated under the terms of the National Vocational Education Act, and (2) other forms of industrial education commonly known as manual training, industrial arts, exploratory or finding courses, or manual arts. All the latter types of industrial education are considered by the Federal Board as phases of general education, and it is believed that the development of efficient trade and industrial education of the vocational type would be promoted in the United States if school administrators generally would make similar or equivalent distinctions.

1
Federal Board for Vocational Education, Trade and Industrial Education, Organization, Administration, and Operation, p. 11. Vocational Education Bulletin No. 17, Trades and Industries Series No. 1. Washington, D. C. : Government Printing Office, 1929.

Philosophy of Vocational Education

Vocational education for all schools and classes must be:²

1. Instruction of less than college grade
2. For persons over 14 years of age
3. To fit for useful employment
4. To increase skills and related knowledge of employed workers
5. To increase the vocational and civic intelligence of young workers.

So far as trades and industries are concerned, vocational education is that type of education and training which has for its controlling purpose any one or more of the following objectives:³

1. To assist the individuals already employed in trades and industrial occupations to add to the special knowledge and skill appertaining to their work, and thereby-
 - a. Improve their prospects for steady and permanent employment; or
 - b. Prepare themselves for promotion or advancement
2. To prepare individuals for profitable and advantageous entrance into the mechanical trades or industrial pursuits with known marketable assets in the way of special knowledge and skill.
3. To assist employed minors in adjusting themselves to their work and to the existing social order through such types of education as are properly given in the general continuation school.

Federal Administration and Supervision

The Smith-Hughes Act of 1917 created a Federal Board for Vocational Education, and assigned to it the final responsibility for

² Federal Board for Vocational Education, op. cit., p. 15.

³ Ibid., p. 10.

the administration of the program as outlined by the act. The board was composed of seven members, including four ex officio (Secretary of Agriculture, Secretary of Commerce, Secretary of Labor, and United States Commissioner of Education) and three appointive (one representing agriculture, one representing manufacture and commerce, and one representing labor). The act specified that the three appointive members were to be named by the President of the United States, by and with the advice and consent of the Senate. These three members and the United States Commissioner of Education form the standing committee to deal with matters that are assigned by the board at its regular meetings. The Smith-Hughes Act also stipulated that the salary of each appointive member was to be \$5,000. Successive increases, through changes in classification, gradually increased the amount until it had reached \$8,000 in 1930. In 1920 the Federal Board for Vocational Education was placed in charge of the program of vocational rehabilitation. (See appendix for act, page 15).

In 1932, as an economy measure to reduce expenditures and increase efficiency during the financial depression, Congress passed an act authorizing the President to group, coordinate, and consolidate executive and administrative government agencies. As a result, on June 10, 1933, an executive order was issued, effective August 10, 1933, transferring the functions of the Federal Board for Vocational Educa-

4
 The Advisory Committee on Education, Vocational Education Staff Study Number 8, p. 27. Washington, D. C. : United States Government Printing Office, 1938.

tion to the Department of the Interior, but allowing the board to continue to serve in an advisory capacity, without compensation, and with no special duties assigned to it. On October 10, 1933, the Secretary of the Interior assigned the functions of the board to the United States Commissioner of Education, and ordered that the necessary personnel of the Federal Board for Vocational Education be assigned to the Office of Education.⁵

Two years elapsed before the first meeting of the reconstructed board in November, 1935. This inactivity was due partly to a change in the person of United States Commissioner of Education, and partly to the fact that three new appointive members had to be selected. This meant a change of four of the seven members, with only one meeting of the board in 1935, one in 1936, and two in 1937. During these meetings there was a conspicuous lack of attendance. The ex officio members could send representatives to take their places at the conferences, which resulted in a total of thirteen different people at the meetings, with only two members attending all four meetings.

In 1933, when the Office of Education took over the work of the Federal Board for Vocational Education, the latter department was made one of the four major divisions of the Office of Education. The former director, J. G. Wright, became the Assistant Commissioner for Vocational Education, with delegated authority from the commissioner

⁵

The Advisory Committee on Education, op. cit., p. 28.

in the management of affairs pertaining to vocational education.

In 1938 the Commissioner of Education was a voting member of the group, which apparently had no other function than to advise him. Since this board had been made an advisory committee instead of an administrative committee, its name was changed to the Federal Advisory Board for Vocational Education.⁶ On July 1, 1939, the United States Office of Education was transferred from the Department of Interior to the Federal Security Agency.⁷ At present (July, 1945) the Federal Advisory Board for Vocational Education is made up of the following ex officio members:

1. John W. Studebaker, U. S. Commissioner of Education
2. Clinton P. Anderson, Secretary of Agriculture
3. Henry W. Wallace, Secretary of Commerce
4. Lewis B. Schwellenbach, Secretary of Labor

The lay members appointed by the President in 1943 are:

1. Robert J. Watt, International Representative, American Federation of Labor, Washington, D. C. (labor)
2. Clarence Poe, Editor, The Progressive Farmer, Raleigh, North Carolina (agriculture)
3. Paul H. Hystrom, President, Limited Price Variety Stores Association, New York, N. Y. (commerce)

The function of this Federal Advisory Board for Vocational Education is to advise the U. S. Commissioner of Education on various phases of vocational education.⁸ The board meets at the headquarters of the United States Office of Education, when called by the

⁶
Federal Security Agency, United States Office of Education, Digest of Annual Reports of State Boards for Vocational Education, p. 66. Washington, D. C., : United States Government Printing Office, 1944.

⁷
Ibid., p. 66.

⁸
Ibid., p. 66.

commissioner, to discuss problems on which the opinions and recommendations of the board are desired. In this way, policies are formulated and carried out which meet the needs and desires of the vocational administrators.

State Supervision or Control

Dual Control.--In some states the department of vocational education is separated from the state department of education. Each operates independently of the other; each has its own state board; each makes its own appointments, rules, and regulations; and each board certifies its teachers for the various phases of school work under the separate board. The state department of education has an executive officer as its head, while the department of vocational education has a director. The state of Wisconsin is a well known representative of this plan of dual control.

Unit Control.--In other states the chief executive officer of the department of education is the controlling officer of both boards, and there may or may not be a state director for vocational education in that particular state. In any event, the vocational education activities are under the state executive officer, either directly or through a director of vocational education who reports to the executive officer. All certification is handled through the person in charge of certification in that particular state. At the present time (August, 1945) there are duplicate bills before both houses of Congress (Senate bill S 619, House of Representative bill

H.R. 5079) that will require each state to appoint a state director for vocational education, if the state is permitted to use the appropriations.

Provisions for Vocational Teacher Training

When the Smith-Hughes Act was passed by the United States Congress in 1917, it not only made available appropriations for the salaries of the teachers in trades and industries in the various states, but it also made a separate appropriation for the training of such teachers. Such training is to be given only to persons who have had adequate vocational experience or contact in the line of work for which they are preparing themselves as teachers, or for the persons who are acquiring such experience or contact as a part of their training.

The framers of the act recognized that the success of this new program of education would depend upon having properly trained teachers to inaugurate and administer the program. They did not believe that existing institutions were training the types of teachers required under the provisions of this new act. Although this act specified that the state board for vocational education is directly responsible for the training of vocational teachers, the majority of the state boards delegate their responsibility to existing state institutions, usually state or municipal colleges or universities. Some of these designated institutions are listed in the appendix (page 22).

The prospective trade and industrial teacher may enter vocational teaching either from industry or from the regular teaching

system. In either case, trade experience is a prerequisite, and this study has listed the qualifications that the shop teachers and the related teachers in the various schools must possess before they receive a temporary certificate.

Courses.-- Each teacher, regardless of training and teaching experience, is required to enroll in certain designated professional education courses. These courses are specified in each state plan and are offered directly by representatives of the state board, or by persons appointed by local boards, or by qualified itinerant teacher trainers who have been appointed to certain university staffs by the universities and the State Boards for Vocational Education.

The objectives of teacher-training courses are summed up as follows:⁹

The purpose of the teacher-training fund under the vocational education act is to promote the establishment of courses and classes having as a distinct aim the preparation and improvement of teachers of vocational subjects for service under the vocational education act. In general, the purpose is to provide professional training for teaching to persons already prepared as efficient workers in the vocational field which they are to teach.

The federal board requested¹⁰ that the various state boards set up qualifications for teacher-trainers who might be added to their staffs in the future. Chapter VI of this study presents an analysis of these qualifications as they are specified in the various state plans.

⁹Federal Board for Vocational Education, The Training of Teachers for Trade and Industrial Education, p. 15. Vocational Education Bulletin No. 150, Trades and Industries Series No. 42. Washington, D. C.: Government Printing Office, 1930.

¹⁰Ibid., p. 15.

States may also utilize a portion of the teacher-training funds for state supervision,¹¹ provided they establish certain qualifications for their supervisors. Chapter six presents an analysis of the qualifications of the state supervisors for trades and industries as they were described in the various state plans. These supervisors are appointed by the state boards of vocational education. Each state supervisor is responsible for his respective phase of the vocational education program in his particular state. The supervision duties are promotional, inspectional, and instructional. A portion of their instructional duties has to do with teacher training courses; a part of their promotional and inspectional duties concerns the appointment of qualified teachers.

Types of Schools or Classes

The main requirements pertaining to the operation of all the schools may be outlined briefly as follows:¹²

1. Public supervision and control
2. Instruction of less than college grade
3. Compliance with approved state plan, as regards--
 - a. Plant and equipment
 - b. Minimum annual maintenance
 - c. Courses of study
 - d. Methods of instruction
 - e. Qualifications of teachers

In the trade and industrial group analyzed in this study,

¹¹Federal Board for Vocational Education, *op. cit.*, p. 13.

¹²*Ibid.*, p. 19.

there are six main types of schools or classes, each of which may have shop teachers, related teachers, and coordinators who must meet specific qualifications and certification requirements to be able to teach in that particular type of school.

This study has collected, analyzed, and summarized the qualifications and certification requirements of the teachers mentioned in the above paragraph, for the following trade and industrial schools, as outlined in the various state plans:

1. Evening Trade Extension Schools or Classes
2. Part-time Trade Extension Schools or Classes
3. Part-time Trade Preparatory Schools or Classes
4. Part-time General Continuation Schools or Classes
5. Day Trade (Unit Trade) and Industrial Schools or Classes Type A
6. Day Trade and Industrial Schools or Classes Type B -- General Industrial (In cities less than 25,000 population)

Brief descriptions of the various types of schools and classes are presented in the following paragraphs in order that the reader may better understand the reasons for the various qualifications and certification requirements outlined in the following chapters.

The Evening Trade Extension Schools or Classes.--The evening trade extension school or classes may be established and maintained in any community for the purpose of giving instruction of less than college grade in a particular trade to persons over 16 years of age who have entered upon employment, and may be given at any

13

Federal Board for Vocational Education, op. cit., pp. 19-23.

time when the group may meet, depending upon their hours of work.

The Part-time Trade Extension Schools or Classes.--The part-time trade extension school or classes may be established and maintained in any community for the purpose of giving instruction of less than college grade to persons from 14 to 18 years of age who have entered upon the work of a trade or industrial pursuit. This instruction is to give further preparation to persons for useful employment in the trade or industrial pursuit in which they are employed, and must be given for not less than 144 clock hours per year. This instruction may be the same as that offered in the evening class, except that it is given during the hours of work and is considered as part-time instruction.

The Part-time Trade Preparatory Schools or Classes.--The part-time trade preparatory schools or classes may be established and maintained in any community for the purpose of giving instruction of less than college grade to persons 14 to 18 years of age who have entered upon employment. This instruction is designed to fit such persons for useful employment in a trade or industrial pursuit other than the one in which they are employed. These classes must also be given for not less than 144 clock hours per year. This plan is different from the part-time trade extension, in that it prepares a person for a different job and serves as an entering wedge to be followed later by part-time trade extension work.

The Part-time General Continuation Schools or Classes.--The part-time general continuation schools or classes may be established and maintained in any community for persons 14 to 18 years of age who

have entered employment and wish to take subjects to enlarge their civic or vocational intelligence. These classes must be given for not less than 144 clock hours per year. This type of school is intended to meet the needs of employed minors who do not belong in the trade extension or trade preparatory type of school and yet must comply with the compulsory attendance law. The principal objectives are:

1. Employment adjustment
2. Vocational and educational guidance
3. Social adjustment

Special classes may include office and store workers. These classes may be part-time trade extension or part-time trade preparatory for some of these persons.

The Day Trade and Industrial Schools or Classes, Type A.--

The day trade and industrial school or classes, type A, may be established and maintained in any community for the purpose of fitting persons over 14 years of age for useful employment in a particular trade or industrial pursuit. This school must:

1. Extend over a period of not less than nine months (36 weeks per school year)
2. Give not less than half of the time to practical work on a useful or productive basis
3. Operate not less than 30 clock hours per week

Those who are over 14 years of age, and not yet employed, may attend an all day school for the purpose of preparing for entrance into a trade, when the instruction in both shop and related class work is based solidly upon the needs of that particular trade.

The Day Trade and Industrial Schools or Classes, Type B.--

The general industrial school or classes, type B, may be established and maintained in any city or town of less than 25,000 population, for persons over 14 years of age, for the purpose of fitting them for useful employment in trade and industry. The school must give not less than half the time to practical work on a useful or productive basis. It is designed to meet the needs of particular cities or towns as an alternative to the establishment of a unit trade school. These classes receive shop and related technical instruction as nearly like that of the day trade school, type A, as is possible under the conditions. However, many states do not recognize this type of school in their state plans.

Summary

This chapter has stated the philosophy of vocational education as: (1) instruction of less than college grade, (2) for persons over 14 years of age, (3) to fit for useful employment, (4) to increase skills and related knowledge of employed workers, and (5) to increase the vocational and civic intelligence of young workers. Federal administration and supervision was shown through the creation, establishment, and growth of the Federal Board of Vocational Education by the Smith-Hughes Act of 1917, up to its present affiliation with the United States Office of Education, Federal Security Agency. State supervision was discussed through the two methods of control, namely unit and dual. In the former (unit control) the chief executive officer is the controlling officer of both the state department of education and the state department of vocational education, while in the latter (dual) each department functions separately.

Each type of school or class, as outlined by the state plan, namely: (1) evening trade extension, (2) part-time trade extension, (3) part-time trade preparatory, (4) part time general continuation, (5) day trade (unit trade) and industrial school (type A), and (6) day trade and industrial school (type B) were defined in order that the reader might be better informed as to the importance of well qualified and correctly certified vocational trade and industrial teachers. The material presented also will assist the reader to understand the analysis and comparisons of teacher qualifications and certification requirements appearing in the following chapters.

CHAPTER VI

COMPARATIVE ANALYSES OF THE QUALIFICATIONS OF STATE SUPERVISORS, STATE COORDINATORS, TEACHER TRAINERS, VOCATIONAL TEACHERS, AND TEACHER CERTIFICATION REQUIREMENTS

Introduction

In this chapter the various state plans are analyzed and compared to disclose the qualifications of the state supervisors, state coordinators, and teacher trainers, as well as the qualifications and certification requirements for the shop teachers, related teachers, and local coordinators of the six types of vocational trade and industrial schools and classes that were described in the preceding chapter. All materials from which the various charts in this chapter are constructed and from which conclusions are drawn are presented by individual states in a standardized form in the appendix (pages 56-464) to which the reader is referred for detailed break downs.

Terminology and Definitions

Glossary.-- In this chapter and in the materials upon which it is based, that are included in the appendix, terms are used that pertain specifically to vocational education in the field of trades and industries. In case some of the terms essential to an understanding of the study prove to be more or less unfamiliar to the reader, reference may be made to a glossary compiled by the

writer from Good's recent Dictionary of Education¹ and from various federal bulletins (see appendix pages 44-48).

Standardized form of the analysis charts.--- After preliminary analyses had been made of the qualifications of state supervisors, teacher trainers, coordinators, and teachers, as presented in various state plans, the writer devised a standardized form with captions covering all of the qualifications listed in all plans. This standardized form made it possible to present a direct comparison of the qualifications and requirements for the various individuals and was of immense value in drawing sound conclusions.

For the state supervisors, teacher trainers, and state coordinators data were collected under the following headings:

- | | |
|----------------------|---------------------------|
| *1. Age | 5. Professional education |
| 2. Character | 6. Teaching experience |
| 3. Trade experience | 7. Supervisory experience |
| 4. General education | 8. Personal qualities |

The above headings proved very satisfactory for listing the qualifications of these individuals; however, a slightly different pattern was required for analyzing the qualifications of shop and related teachers of various types. Since the study of the qualifications of the vocational teachers primarily concerns the qualifications for the first certificate and since shop and related teachers in the various schools are not required in most states to

¹ Carter V. Good, Editor, Dictionary of Education.
New York: McGraw-Hill Book Co., 1945. Pp. ~~xl~~ 495.

* Age at which one may enter.

have either teaching experience or supervisory experience, these two items were dropped from the standardized forms. Thus the following simplified form proved suitable for shop and related teachers:

- | | |
|---------------------|---------------------------|
| 1. Age | 4. General education |
| 2. Character | 5. Professional education |
| 3. Trade experience | 6. Personal qualities |

The various column headings used in all the tables that follow are self-explanatory. However, the reader will encounter various notations in the "trade experience" column of these tables that may need some additional clarification. In this column a number appearing alone indicates years of "trade experience" only; if the number is followed by the letter "a" apprenticeship is an added requirement; where the term of apprenticeship is indicated in the state plan a second number discloses the required years of apprenticeship included in the total years of trade experience; if the trade experience number for any state is followed by "L" a learning period, not necessarily apprenticeship, is an added requirement; numbers in parentheses such as (3-9) indicate a desirable range of required trade experience. It should be kept in mind that all data presented in chart form are representative of the entrance requirements of the vocational personnel in the various categories studied, for example "age" listed means entering age. Furthermore, it should be kept in mind that these tables are condensations of the complete data presented in the Appendix.

**Qualifications of State Supervisors and Teacher Trainers
by States, (Tables I and II)**

Tables I and II deal respectively with the qualifications of the state supervisors of trades and industries, and teacher

trainers of the various states. The state supervisor is directly responsible for his own trade and industrial program and is looked to for leadership in all phases of this program in his state. The qualifications necessary for one to hold this responsible position are presented in table I and are listed in detail for the various states in the appendix.

Considerable variations are found in the qualification requirements for state supervisors. This is undoubtedly caused by the fact that the responsibilities of these officers differ greatly in the various states. Thus, in some states, in addition to his supervisory duties, he is also responsible for some of the teacher training work; however, most states employ only teacher trainers for teacher training who measure up to certain standards and meet certain qualifications that differ from those of the supervisor (see table II). In addition, the qualifications for teacher trainers for the various states are detailed in the appendix. In some states the qualifications of the teacher trainers are exactly the same as those of the state supervisor; and in a few of the smaller states one person discharges all the duties of both the teacher trainer and the state supervisor.

If the state supervisor is charged with teacher training, only a certain per cent of his time may be given to such work. This percentage varies in the different states and usually corresponds to the portion of his salary that is charged to the teacher training fund. The teacher trainers may work out of the state office, being

assigned to certain areas of a state, or they may be affiliated with designated state or municipal institutions (see appendix pages 22 to 24).

RESUMES OF THE QUALIFICATIONS OF TRADE AND INDUSTRIAL PERSONNEL
AND CERTIFICATION PROCEDURES AS SET FORTH IN THE STATE PLANS
FOR VOCATIONAL EDUCATION IN THE VARIOUS STATES AND TERRITORIES

TABLE I
 QUALIFICATIONS OF STATE SUPERVISORS BY STATES

State	Age	Trade Exp- Years	General Education				Prof. Ed. in Cl. Hrs.	Teach- ing Years	Super- visory Years
			H.S. Yrs.	B.S. B.A.	Engi- Tec.	M.S. M.A.			
Alabama	M	2a		x	x	x	360	2	3
Arizona	-	4	x				540	3	3
Arkansas	30	5				x	540	3	5
California	24-45	3		x			270	3	-
Colorado		5		x	x		600	2	3
Connecticut		3		x			540	5	3
Delaware		3a		x			450	2	3
D. of Col.		4		x			30	3	3
Florida		3		x		x	-	2	3
Georgia		3			x		540	5	3
Hawaii		3		x			540	3	3
Idaho	30	5a		x			540	3	3
Illinois		3		x			180	5	
Indiana		3				x	540	2	3
Iowa		3a		x			540	3	3
Kansas	24	5a		x	x2		540	3	3
Kentucky		5		x			480	5	3
Louisiana		6-4		x		x	432	5	3
Maine		3a			x		540	5	3 of 5
Maryland		3		x			316	3	3
Massachusetts	24-40	8-4	x	2			540	2	3
Michigan		5		x	x		360	3	5
Minnesota		5-2		x			540	4	4
Mississippi		3		x	x		540	5	3
Missouri		5a		x	x		540	3	3
Montana		3a		x	x		540	2	3
Nebraska		7-4	-	-	-	-	540	2	3
Nevada	20	3#		x			540	2	2
New Hampshire		3		x			316	3	2
New Jersey		4*		x	x		576	3	3
New Mexico		4		x	x		300	2	3
New York		(3-9)		x		x	324	3-5	1-3
North Carolina		3		x			540	2	3
North Dakota	30	5		x			540	2	5
Ohio	25-45	3	-	-	-	-	540	2	3
Oklahoma		3		x	x		540	3	3
Oregon		3a		x			540	2	3
Pennsylvania		6-4		x			432	2	3
Puerto Rico		3		x	x		540	3	3
Rhode Island		3		x			-	5	3
South Carolina		4		x			80	2	3
South Dakota		3a		x			540	2	2
Tennessee		4		x			540	2	3
Texas		7-4		x			288	3	3
Utah		2a		x			-	3	2
Vermont		2a		x	x		540	2	2
Virginia		6		x	x		540	2	3
Washington		3		x			540	2	2
West Virginia		3		x			540	2	3
Wisconsin		3#		x			300	5	3 of 5
Wyoming	25	3		x			432	2	2

x Completed

M Mature

- Not listed

a Beyond the apprenticeship period

Beyond the learning period

* Plus four years supervision in industry

Right hand number under "trade experience" means years of apprenticeship.

Qualifications of State Supervisors by States
(Summary of Table I)

A brief summary of the material presented in table I regarding the qualifications of the state supervisors appears below. Insofar as possible, the data are grouped as revealed by the various state plans. Tabular arrangement of data is used except where the number of states involved is very small (below six) causing the arrangement to lose significance.

Age.— The minimum entering age for the states listing an age requirement varies from 20 to 30 years, with one state (Alabama) reporting "mature". Three states establish upper entering age limits as well as lower ; one indicating 40 and two 45. These upper limits are disregarded for determining the central tendency of all data presented, since the lower limits are of chief interest in this study.

A summary of these ages given by number of states is briefly as follows:

Age	Number of States
20	1
24-40	1
*24-45	2
25	1
30	3

* Central tendency; the point indicated by the star in this and following tables is representative of the central tendency of the **data** presented; it corresponds to the mid score or mid measure in ungrouped data. (see Carter V. Good, Dictionary of Education. op. cit., p. 260.)

Trade Experience.-- The trade experience required for the position of state supervisor varies from two to nine years. The majority of the states (29) require the state supervisor to have three years of trade experience. Only five states permit less than three years, while 17 states require more than three years. A summary of the trade experience requirements, omitting the apprenticeship and learning periods, appears below:

Trade Experience (years)	Number of States
2	5
*3	29
(3-9)	1
4	7
5	8
6	1

General Education.-- Most of the states (40) require that their state supervisors have a general education consisting of at least a bachelor's degree. Fifteen states require engineering or technical work and six states require a master's degree. One state requires only a high school education; and one state requires two years beyond high school. A brief summary of the general education requirements for state supervisors, by number of states, is as follows:

General Education	Number of States
High School	1
High School plus two years	1
*Bachelor's degree	40
Master's degree	6
Technical listed (only)	2
Nothing listed	1

Professional Education.-- The professional education requirements reported for state superintendents range from 30-600 clock hours. Where the states reported only semester hours, the writer used 18 clock hours to represent a semester hour, although some states use 15, some 16, and others 18 clock hours as the equivalent of a semester hour. This number (18) was used because a semester is usually considered at least 18 weeks in length. The largest number of states (29) require 540 clock hours of professional education. A brief summary of the clock hour requirements appears on the following page.

Clock Hours	Number of States
- (not listed)	3
30	1
80	1
180	1
270	1
288	1
300	2
316	2
324	1
360	2
376	1
432	3
450	1
480	1
*540	29
600	1

Teaching Experience.-- The required number of years of teaching experience varied from two to five. The majority of states (23/17) require that the state supervisor shall have from two to three years of teaching experience. The teaching experience was distributed as follows:

Years Teaching	Number of States
2	23
*3	17
3-5	1
4	1
5	9

Supervisory Experience.-- The required number of years of supervisory experience in education varies from one to five. The majority of the states (35) require three years. The summary of this supervisory experience requirements follows:

Supervisory Years	Number of States
- (not listed)	2
1-3	1
2	7
3 of 5	2
*3	35
4	1
5	3

TABLE II
 QUALIFICATIONS OF TEACHER TRAINERS BY STATES .

State	Age	Trade Exp. Years	General Education				Prof. Ed. in Cl. Hrs.	Teaching Years	Supervisory Years
			H.S. Yrs.	B.S. B.A.	Engi- Tec.	M.S. M.A.			
Alabama	-	2a		x	x		540	2	3
Arizona	-	2			x		540	2	1
Arkansas	30	5				x	540	3	5
California	21-45	3		x			270	3	-
Colorado		5		x	x		600	2	3
Connecticut		3		x			300	2	3
Delaware		3a		x			450	2	3
D. of Col.		4		x			540	3	3
Florida		3		x			540	2	3
Georgia		3		x			540	5	3 of 5
Hawaii		3		x			540	3	3
Idaho	30	5a		x			540	3	3
Illinois		3		x			180	5	-
Indiana		3			x	x	540	3	3
Iowa		3	-	-	-	-	540	3	3
Kansas	24	3a		x			540	3	3
Kentucky		2		x			540	5	3
Louisiana		6-4		x	x		432	4	3
Maine		3a	x				540	5	3 of 5
Maryland		3a				x	316	3	2
Massachusetts		8-4		2			540	2	3
Michigan		3		x			540	3	2
Minnesota		3		x	x		540	5	3
Mississippi		3		x	x		540	2	3
Missouri		3		x			540	3	3
Montana		3a		x	x		540	2	3
Nebraska		3#		-	x		-	2	-
Nevada		3#		2	x		540	2	2
New Hampshire		3		-	-	-	540	5	3
New Jersey		4*		x			576	3	3
New Mexico		4		x	x		300	2	-
New York		-		-	-	-	-	-	-
North Carolina		3		x			540	2	3
North Dakota		3a					540	5	3
Ohio	25-45	3	-	-	-	-	540	2	3
Oklahoma		3		x	x		540	2	3
Oregon		3a		x			540	2	3
Pennsylvania		3		x	x		540	2	3
Puerto Rico		3		x	x		540	3	3
Rhode Island		3				x		5	3
South Carolina		4		x			80	2	3
South Dakota		3a		x			540	2	3
Tennessee	21	3				x	540	2	3
Texas		3		x	x		540	2	3
Utah		2		x	1		538	3	1
Vermont		2a		x			540	2	2
Virginia		6		2			-	3	3
Washington		3		x			540	2	3
West Virginia		3		x			540	2	3
Wisconsin		3		x		1	270	3	3
Wyoming	25	3		x		2	432	2	2

x Completed
 - Not Listed

a Beyond the apprenticeship period

Beyond the learning period

* Plus four years' supervision in industry

Right hand number under "trade experience" means years of apprenticeship.

Qualifications of Teacher Trainers by States
(Summary of Table II)

A brief summary of the material presented in Table II regarding the qualifications of the teacher-trainers appears below. Insofar as possible the data are grouped to show general patterns of qualifications required for these individuals as revealed by the various state plans.

Age.-- Only seven states list an entering age.. This varies from 21 to 30; two states list an upper limit as well, in both cases this is 45. A summary of these ages is as follows:

Age	Number of States
21	1
24	1
24-45	1
*25	1
25-45	1
30	2

Trade Experience.-- The trade experience required for the position of teacher-trainer varies from two to six years. The majority of the states (35) require the teacher-trainer to have three years of trade experience. Only six states require less, one state makes no report of this requirement, and ten states require more than three years. A summary of the trade experience is as follows:

Experience (years)	Number of States
- (not listed)	1
2	6
*3	35
4	5
5	3
6	1

General Education.-- Most of the states (33) require that the teacher-trainers have a general education consisting of at least a Bachelor's degree. Sixteen states require engineering or technical work, and five states require a Master's degree. One state requires only a high school education; one requires two years beyond high school; one requires one year of graduate work; and one requires two years of graduate work. A summary of the general education for teacher-trainers presents the following data:

General Education	Number of States
- (not listed)	6
High School	1
High School plus two years	3
* Bachelor's degree	33
Bachelor's degree plus one year	1
Bachelor's degree plus two years	1
Master's degree	5

Professional Education.-- The professional education requirements reported for teacher-trainers range from 80 to 600 clock hours. (Where semester hours were reported, the writer arbitrarily used 18 clock hours as the equivalent of a semester hour). The largest number of states (34) require 540 clock hours of professional education. The summary of clock hour training requirements for teacher-trainers appears on the following page.

Clock Hours	Number of States
- (not listed)	4
80	1
180	1
270	2
300	2
316	1
432	2
450	1
538	1
*540	34
576	1
600	1

Teaching Experience.-- The required number of years of teaching experience varies from two to five. The majority of states (25/16) require that the teacher-trainer shall have from two to three years of teaching experience. The teaching experience requirements for the teacher trainers are distributed as follows:

Years of Teaching	Number of States
- (not listed)	1
*2	25
3	16
4	1
5	8

Supervisory Experience.-- The required number of years of supervisory experience in education for teacher-trainers varies from one to five. The majority of states (36) require three years. This summary is as follows:

Supervisory Experience	Number of States
- (not listed)	5
1	1
2	5
*3	36
3 of 5	2
5	1

Qualifications of State Coordinators by States (Table III)

Table III deals with the qualifications of the state coordinators in the five states that employ such an individual. These state coordinators are responsible for the work that would normally be performed in the large cities by local coordinators. The qualifications of these individuals as specified by the various states appear in condensed form in Table III. Complete details concerning their qualifications are presented for each state in the Appendix. The qualifications of these state coordinators are disclosed in Table III on the following page.

TABLE III
 QUALIFICATIONS OF STATE COORDINATORS BY STATES

State	Age	Trade Exp- Years	General Education				Prof. Ed. in Cl. Hrs.	Teach- ing Years	Super- visory Years
			H.S. Yrs.	B.S. B.A.	Engi- Tec.	M.S. M.A.			
Alabama									
Arizona									
Arkansas									
California									
Colorado									
Connecticut									
Delaware									
D. of Col.									
Florida									
Georgia									
Hawaii									
Idaho									
Illinois		-		4			270	2	-
Indiana									
Iowa									
Kansas									
Kentucky									
Louisiana									
Maine									
Maryland									
Massachusetts									
Michigan									
Minnesota									
Mississippi									
Missouri									
Montana									
Nebraska									
Nevada									
New Hampshire									
New Jersey		-		x			432	3	-
New Mexico									
New York									
North Carolina									
North Dakota		3a		2			300	3	2
Ohio									
Oklahoma									
Oregon									
Pennsylvania		6-4		x			432	2	-
Puerto Rico									
Rhode Island									
South Carolina		3		-	-	-	540	2	-
South Dakota									
Tennessee									
Texas									
Utah									
Vermont									
Virginia									
Washington									
West Virginia									
Wisconsin									
Wyoming									

x Completed

a Beyond the apprenticeship period

- Not Listed

Right hand number under "trade experience" means years of apprenticeship.

Qualifications of State Coordinators by States
(Summary of Table III)

Only five states report state coordinators. These five are located in Table III on the preceding page as "Qualifications of State Coordinators by States".

No age is suggested for these coordinators, and two states do not list the required trade experience.

Two states, disregarding the required apprenticeship period, report the trade experience requirements of their state coordinators as being three years, and one state reported two years. Three states require that the state coordinator hold a Bachelor's degree; one state requires two years beyond graduation from high school; and one state did not list this requirement.

The clock hours of professional education required range from 270 to 540. One state lists 270; one, 300; two, 432; and one, 540. The teaching experience requirement reported for these five state coordinators is either two or three years; three states requiring two years and two states requiring three years. Only one state (North Dakota) requires two years of supervisory experience for its state coordinators.

Comparative Analyses of the Qualifications of
Shop Teachers, Related Teachers, and Local Coordinators by
States (Tables IV to XXI, inclusive)

These tables present comparative analyses of the qualifications of the shop teachers, related teachers, and local coordinators

for each of the schools in the order described in the preceding chapter (Chapter V).

It should be noted that many vocational schools employ part-time or full-time coordinators who, in addition to the six requirements listed for teachers, must have a certain amount of teaching experience. Since coordinators are usually appointed from the teaching staff, and thus have the required teaching experience, the item "teaching experience" was added to the qualifications form for coordinators in the tables concerning these individuals.

TABLE IV

QUALIFICATIONS OF EVENING TRADE EXTENSION SHOP TEACHERS BY STATES

State	Age	Trade Exp.- Years	General Education			Prof. Ed. in Cl. Hrs.	Remarks
			Elem.	H.S.	Col- lege		
Alabama	21	2a	x			8	
Arizona	-	2a	-	-	-	-	
Arkansas	-	2a	-	-	-	9	
California	24+	5	-	-	-	72	
Colorado		5	-	-	-	60	
Connecticut	18	3a		2		60	3 T. or S.
Delaware		4	-	-	-	-	
D. of Col.		3a	-	-	-	-	
Florida		2a	-	-	-	-	
Georgia	21	3#	x			-	
Hawaii	25	3#	x			80	
Idaho	25	5a		x		40	
Illinois		8-4		x		-	
Indiana		3a	-	-	-	-	
Iowa	25	3a		x		180	
Kansas	21	3a	-	-	-	-	
Kentucky		3		x		432	
Louisiana		6-4		x		-	
Maine		3a	-	-	-	-	
Maryland		-	-	-	-	-	
Massachusetts	24	8-4	x			-	
Michigan		7-4		x		-	
Minnesota		3a				24	
Mississippi		2a	x			-	
Missouri	25-45	4#	-	-	-	-	
Montana		3#		x		40	
Nebraska		3	-	-	-	-	
Nevada	24	3	x			30	
New Hampshire	18	3a		x		123	
New Jersey		8	x			576	
New Mexico		4	-	-	-	70	
New York		5	x	1		576	
North Carolina		2	-	-	-	-	
North Dakota		3a		x		-	
Ohio		5	-	-	-	-	
Oklahoma	24	2a		x		-	
Oregon		7#	x			40	
Pennsylvania		6-4	x	2		-	
Puerto Rico	21	3a		x		240	
Rhode Island	19	3a		x		200	
South Carolina		2a	-	-	-	-	
South Dakota		3a		x		-	
Tennessee	25	2a		x		18	
Texas		7		x		-	
Utah		3a		x		-	
Vermont		-	-	-	-	18	
Virginia		6-4	x			-	
Washington		3#		x		35	
West Virginia		2a		x		18	
Wisconsin		3a		x		-	
Wyoming		3	x			90	

x Completed T. Teaching a Beyond the apprenticeship period
 - Not Listed S. Supervisory# Beyond the learning period
 Right hand number under "trade experience" = years of apprenticeship;
 * years of apprenticeship included.

Qualifications of Evening Trade Extension Shop Teachers by States
(Summary of Table IV)

The material presented in Table IV regarding the qualifications of evening trade extension shop teachers is briefly summarized on the following pages. It should be noted that only two states report no information regarding this individual.

Age.-- For this group of teachers, 16 states report an age requirement from 18 to 45 years. Twenty-five states do not mention the age requirement. It may be assumed that this may be given in the certification rules and regulations according to the state certification laws. However, two states listed an age of 18 years; one state 19; four states 21; four states 24-24¹/₄; four states 25; and one 25 to 45. Thus, three-fourths of the states (~~4~~⁴/₄) listing an age requirement required a lower limit of from 21 to 25 years. A summary of the ages listed for this group is as follows:

Age	Number of states
- (not listed)	25
18	2
19	1
21	4
*24	3
24 ¹ / ₄	1
25	4
25-45	1

Trade Experience.-- The evening trade extension shop teachers in the majority of the states (~~13~~²³) must have had two or three years of trade experience disregarding apprenticeship or learning periods. Only two states fail to list this apparently important requirement; five states require four years; five states require five years; two states require seven years, and one state requires one year of trade experience. This summary is given on the following page.

Trade Experience (years)	Number of States
- (not listed)	2
2	3
*3	23
4	5
5	5
7	2
8	1

General Education.-- Nineteen states fail to report a definite requirement for general education for their evening trade extension shop teachers, but most of these nineteen states do note that these teachers should have a good general education or one satisfactory to the local Board, State Board, or State Supervisor. The summary of the general education requirements of the remaining 32 states is as follows:

General Education	Number of States
Elementary	10
One year of High School	1
Two years of High School	2
*High School graduation	19

Professional Education.-- Only 24 states report the minimum number of clock hours of professional education required for the evening trade extension shop teacher. Most of those states that did not report the number of clock hours indicate that this type of instructor would be required to take in service courses as presented by the State Board for Vocational Education in that particular state, or courses that would be prescribed for the current period, until a prescribed number of clock hours would be earned. For the 24 states that did report the number of clock hours of professional education the requirements range from eight to 576 clock hours. The summary is as follows:

Clock Hours	Number of States
- (not listed)	27
8	1
9	1
18	3
30	1
35	1
40	3
*60	2
72	1
80	1
123	1
180	1
200	1
240	1
432	1
576	2

TABLE V

QUALIFICATIONS OF EVENING TRADE EXTENSION RELATED TEACHERS BY STATES

State	Age	Trade Exp- Years	General Education			Prof. Ed. in Cr. Hrs.	Remarks
			Elem.	H.S.	Col- lege		
Alabama	21	1		x	2	8	
Arizona	-	2a		x	2	-	
Arkansas	-	2		x	2	9	
California	24+	5	-	-	-	72	
Colorado		5	-	-	-	60	
Connecticut	18	3a		x	1	60	
Delaware		2		x	2	30	
D. of Col.		3a	-	-	-	-	
Florida		2a	-	-	-	-	
Georgia		2		x	2		
Hawaii		1		x	2	80	
Idaho	25	1		x		40	
Illinois		2			x	-	
Indiana		1		x	2	-	
Iowa		1		x	2	-	
Kansas		1		x	2	-	
Kentucky		1			x	-	
Louisiana		2			x	-	
Maine		2		x		-	
Maryland		-	-	-	-	-	
Massachusetts	24	8-3	-	-	-	-	
Michigan		3		x		-	
Minnesota		3a	-	-	-	24	
Mississippi		-	-	-	-	-	
Missouri		1		x	2	-	
Montana		1		x	2	40	
Nebraska		2	-	-	-	-	
Nevada	24	1		x		30	
New Hampshire	18	2		x		12	
New Jersey		8	x			576	
New Mexico		4	-	-	-	70	
New York		5		x	x	108	
North Carolina		2		x	2	-	
North Dakota		1		x		-	
Ohio		1		x	2	-	
Oklahoma		2		x	2	-	
Oregon		7*	x			40	
Pennsylvania		6-4		x	x	-	
Puerto Rico		-		x	2	-	
Rhode Island	19	3a		x		200	
South Carolina		2a	-	-	-	-	
South Dakota		3a		x		-	
Tennessee	25	2			2	18	
Texas		1			4	-	
Utah		3a		x	2	180	
Vermont		-	-	-	-	18	
Virginia		-		2		-	
Washington		3#		x		35	
West Virginia		2a		2		18	
Wisconsin		1		x	2	-	
Wyoming		1	x			90	

x Completed

a Beyond the apprenticeship period

- Not Listed

Beyond the learning period

The right hand number under "trade experience" = years of apprenticeship.

* includes years of apprenticeship.

**Qualifications of Evening Trade Extension
Related Teachers by States
(Summary of Table V)**

A brief summary of the data presented in table V concerning the qualifications of evening trade extension related teachers appears on the following pages. Only two states report no information regarding their teachers.

Age Range. -- Only nine states report an exact age entrance requirement. However, for those reporting, the ages varied only from 18-25, as in the following summary:

Age Range	Number of States
18	2
19	1
21	1
*24	2
24	1
25	2

Trade Experience. -- The trade experience for this group of teachers varies from one year to seven years exclusive of the trade apprenticeship period or learning period. The majority of states (15 - 14) require one to two years of trade experience for the evening trade extension shop teachers. A brief summary of this experience is as follows:

Trade Experience (years)	Number of States
-- (not listed)	5
1	15
*2	16
3	8
4	1
5	4
7	1
8	1

General Education.-- The general education for this group ranges from elementary school through a four-year college or university course. The majority of the states (9+1+18) present requirements ranging from graduation from high school, or the equivalent, to two years of work of college grade; the summary follows:

General Education	Number of States
-- (not listed)	12
Complete Elementary	3
Two years of High School	2
High School graduate	9
High School plus one year	1
*High School plus two years	18
College or University Graduate	6

Professional Education.-- The clock hours of professional training required for the evening trade extension related teachers ranges from eight to 576. Although 28 states do not report the number of clock hours, most of these states specify that the teachers should enroll in a teacher training class or should be taking professional education work according to the state plan. Twelve other states require from 18 to 60 clock hours of professional education with various other requirements scattered among single states. A brief summary of the clock hours of professional education by number of states for the evening trade extension shop teachers appears below:

Clock Hours	Number of States
- (not listed)	28
8	1
9	1
12	1
18	3
24	1
30	2
35	1
*40	3
60	2
70	1
72	1
80	1
90	1
108	1
180	1
200	1
576	1

TABLE VI

QUALIFICATIONS OF EVENING TRADE EXTENSION COORDINATORS BY STATES

State	Age	Trade Exp., Years	General Education			Prof. Ed. in Cl. Hrs.	Super- visory Years	Re- marks
			Elem.	H.S.	Tec. Col.			
Alabama	-	-	-	-	-	-	-	
Arizona		2a		x	2	-	2	
Arkansas		(2/5)		x	2	9		
California	24+	3			4	270		
Colorado		5	-	-	-	60		
Connecticut	18+	3a		x	1	60		
Delaware		3		x	2	180	2	
D. of Col.	-	-	-	-	-	-	-	
Florida		2a		x	2	250	2	
Georgia		3#	x	x	2	-	-	
Hawaii		(1/3)	x	x	2	80		
Idaho	25	(1/5)a		x		40		
Illinois	-	-	-	-	-	-	-	State
Indiana		3a			x	360		
Iowa	25	3a		x		180		
Kansas	21	3			2	180		
Kentucky		3		x		36	2	
Louisiana		3			4	-	1	
Maine	-	-	-	-	-	-	-	
Maryland	-	-	-	-	-	-	-	
Massachusetts	-	-	-	-	-	-	-	
Michigan	-	-	-	-	-	-	-	
Minnesota		(1/3)#	-	-	-	60	2	
Mississippi	-	-	-	-	-	-	-	None
Missouri	25-45	4#	-	-	-	-	1	
Montana	M	(1/3)		x	2	40		
Nebraska		2	-	-	-	-	-	
Nevada		3	x			30	-	
New Hampshire	18	3a		x		12		
New Jersey	-	-	-	-	-	-	-	State
New Mexico		4	-	-	-	70	-	
New York		3		x		402		
North Carolina	-	-	-	-	-	-	-	Not Listed
North Dakota	-	-	-	-	-	-	-	State
Ohio	-	-	-	-	-	-	-	
Oklahoma		3			x	-	-	
Oregon	M	7*	x			40	-	
Pennsylvania	-	-	-	-	-	-	-	State
Puerto Rico	25	6			x	-	2	
Rhode Island	19	3a		x		200		
South Carolina	-	-	-	-	-	-	-	L.S.
South Dakota		3a		x		-		
Tennessee	30	2a		x		180	2	
Texas	-	-	-	-	-	-	-	
Utah		3a		x		180	-	
Vermont	-	-	-	-	-	18		
Virginia		-		2		-		
Washington		3#		x		45		
West Virginia		2a		x		18		
Wisconsin		3			x	-	3	
Wyoming	-	-	-	-	-	-	-	Not Listed

x Completed M Mature # Beyond the learning period
 - Not Listed L.S. Local Supervisor a Beyond apprenticeship
 * Includes apprenticeship

**Qualifications of Evening Trade Extension
Coordinators by States
(Summary of Table VI)**

The material presented in Table VI regarding the qualifications of the evening trade extension coordinator is briefly summarized below. Four states use their state coordinator to perform these duties; and one state uses a local supervisor instead of its state coordinator.

Age.-- Twelve states report an entrance age requirement varying from 18 to 30 years; two states reporting "mature;" and one state establishes an upper entering age limit of 45 years. A summary of the ages listed for this group is as follows:

Age	Number of States
-- (not listed)	34
18	1
18-	1
19	1
21	1
*24	1
25	3
25-45	1
30	1
Mature	2
States using State Coordinator	4
State using Local Supervisor	1

Trade Experience.-- The trade experience for the coordinator of the evening trade extension group is reported a little differently than for the shop or related teachers, because many of the states require the coordinators to have the same qualifications as the shop or related teachers, or both, according to the group with which the coordinator is working. Eighteen states fail to report the actual number of years of trade experience required;

eighteen states require three years of trade experience; and thirteen other states require a range from one to five years. A summary of the trade experience for the evening trade extension coordinator is as follows:

Trade Experience	Number of States
-- (not listed)	13
(1-3)	3
(1-5)	1
2	5
(2-5)	1
*3	18
4	2
5	1
6	1
7	1
States using a State Coordinator or Local Supervisor	5

General Education.-- The general education requirement for the coordinator of the evening trade extension group ranges from elementary school through a four-year college or university degree, with the majority of states (11+1+8) requiring graduation from high school and an additional two years of college or technical work. The general education requirement for coordinator of the evening trade extension group is summarized briefly as follows:

General Education	Number of States
-- (not listed)	17
Elementary education	2
High School graduate	11
High School plus one year	1
*High School plus two years	8
Four years of College or University	6
States using a State Coordinator or Local Supervisor	5

Professional Education.-- The professional education requirement for this group ranges from 9 to 402 clock hours. Twenty-six states do not report the number of clock hours required, but of the remaining 25 states 14 states report a requirement of professional education varying from 40-180 clock hours. The summary for this requirement follows:

Clock Hours	Number of States
-- (not listed)	21
9	1
12	1
18	2
30	1
36	1
40	3
45	1
*60	3
70	1
80	1
180	5
200	1
250	1
270	1
360	1
402	1
States using State Coordinator	4
State using Local Supervisor	1

Supervisory Experience.-- As noted in an earlier portion of this chapter, coordinators are usually selected from a group of shop or related teachers. As a result, many states require the coordinator to have had some supervision work. Although only ten states report the actual number of years required, seven of these ten report a requirement of two years; two states require one year; and one state, three years.

The summary of supervisory experience requirements appears below:

Supervision (years)	Number of States
1	2
*2	7
3	1

TABLE VII

QUALIFICATIONS OF PART-TIME TRADE EXTENSION SHOP TEACHERS BY STATES

State	Age	Trade Exp.- Years	General Education			Prof. Ed. in Cl. Hrs.	Remarks
			Elem.	H.S.	Col- lege		
Alabama	21	2a	x			-	
Arizona		2a	-	-	-	-	
Arkansas		2a	-	-	-	9	
California	24	5	-	-	-	72	
Colorado		5	-	-	-	60	
Connecticut		3a		2		120	3 T. or S.
Delaware		4	-	-	-	-	
D. of Col.		3a	-	-	-	-	
Florida		6-4	-	-	-	-	
Georgia	21	3	x			-	
Hawaii	25	3a	x			80	
Idaho		5a		x		40	
Illinois		8-4			x	-	
Indiana		3a		x		240	
Iowa	25	3a		x		180	
Kansas	21	2a	x			-	
Kentucky		3		x		432	
Louisiana		6-4		x		-	
Maine		3a				50	
Maryland		2a		x		240	
Massachusetts	24-40	8-4	x	x		36	
Michigan		(3-4)		x		-	
Minnesota		3a	-	-	-	24	
Mississippi	25	2a		x		-	
Missouri	25-45	3#	-	-	-	-	
Montana	M	3#		x		40	
Nebraska		3	-	-	-	-	
Nevada	24	3	x			30	
New Hampshire	18	3a	x			12	
New Jersey	21	8	x			576	
New Mexico		4	-	-	-	70	
New York		5	x	1		480	
North Carolina		2	-	-	-	-	
North Dakota		3a		x		-	
Ohio		7-4		2		-	
Oklahoma	24	2a		x		-	
Oregon	M	7*	x			40	
Pennsylvania		6-4	x	2		-	
Puerto Rico	21	3a		x		240	
Rhode Island	19	3a		x		200	
South Carolina		2a	-	-	-	-	
South Dakota		3a		x		-	
Tennessee	25	2a		x		18	
Texas		2		x	2	-	
Utah		3a		x		18	
Vermont		2a	-	-	-	18	
Virginia		6	x	2		72	
Washington		3#		x		35	
West Virginia		2a	x	x		24	
Wisconsin		3a			2	324	3 T. or S.
Wyoming		3	x			-	

x Completed M Mature # Beyond the learning period

- Not Listed T. or S. Teaching or Supervisory

The right hand number under "trade experience" = years of apprenticeship;

* years of apprenticeship included; "a" beyond apprenticeship.

Qualifications of Part-Time Trade Extension
Shop Teachers by States
(Summary of Table VII)

A brief summary of the information presented in Table VII regarding the qualifications of part-time trade extension shop teachers appears on the following pages. All the states sponsor this type of a school and present at least some information concerning the qualifications of its teachers.

Age.-- Eighteen states report a beginning age requirement for this group of teachers; for sixteen states it ranges from 18 to 25, while two states report "mature." These entering age requirements are summarized as follows:

Age	Number of States
18	1
19	1
21	5
*24	3
24-40	1
25	4
25-45	1
Mature	2

Trade Experience.-- The required number of years of trade experience, beyond the apprenticeship or learning periods, for the part-time trade extension shop teachers, varies from two to eight years. The majority of the states (15-23) require two to three years of trade experience beyond the apprenticeship or learning period, and nine additional states require from three to five years. A summary of these findings appear below as follows:

Trade Experience (years)	Number of States
2	15
*3	23
(3-4)	1
4	4
5	4
6	1
7	1
8	1

General Education.--- In this group of part-time trade extension shop teachers nine states require only an elementary general education. Although 14 states make no stipulation as to the number of years of formal schooling required, many specify the general education to be such that it will be satisfactory to the local boards, state supervisors, or state board for vocational education. The majority of states (20) require a high school education. The summary of the general education for the part-time trade extension shop teachers follows:

General Education	Number of States
-- (not listed)	14
Elementary	9
One year of High School	1
Two years of High School	2
*High School graduate	20
High School plus two years	2
Graduate of College or University	1

Professional Education.--- The professional education requirement in clock hours ranges from 9-576; twenty-two states fail to state a required number of clock hours of professional training; 16 states require their shop teachers in this type of school to have from 16-80 clock hours of professional education or teacher training work. This summary is on the following page.

Clock Hours	Number of States
- (not listed)	22
9	1
12	1
18	3
24	2
30	1
35	1
36	1
40	3
*50	1
*60	1
70	1
72	2
80	1
120	1
180	1
200	1
240	3
324	1
432	1
480	1
576	1

TABLE VIII

QUALIFICATIONS OF PART-TIME TRADE EXTENSION RELATED TEACHERS BY STATES

State	Age	Trade Exp.- Years	General Education			Prof. Ed. in Cl. Hrs.	Remarks
			Elem.	H. S.	Tec. Col.		
Alabama	21	1		x	2	-	
Arizona		2a		x	2	-	
Arkansas		2		x	2	9	
California	24	5	-	-	-	72	
Colorado		5	-	-	-	60	
Connecticut		3a		x	1	120	
Delaware		2	-	-	-	-	
D. of Col.		3a	-	-	-	-	
Florida		2	-	-	-	-	
Georgia	21	2		x		-	
Hawaii	25	1		x	2	80	
Idaho		1		x	2	40	
Illinois		3			x(M.S.)	-	
Indiana		1	-	-	-	240	
Iowa		1		x		-	
Kansas		1		x	2	-	
Kentucky		1			x	-	
Louisiana		2			x	-	
Maine		2a		x		50	
Maryland		2		x		240	
Massachusetts	21	-			x	36	
Michigan		3			x	-	
Minnesota		3a	-	-	-	24	
Mississippi	25	1		x	2	-	
Missouri	25-45	3#	-	-	-	-	
Montana	M	1		x	2	40	
Nebraska		2	-	-	-	-	
Nevada		1		x		30	
New Hampshire	18	2		x		12	
New Jersey		8	x			576	
New Mexico		4	-	-	-	70	
New York		3		x		480	
North Carolina		2		2		-	
North Dakota		1	x	2		-	
Ohio	25-45	2		x		-	
Oklahoma	24	2a		x		-	
Oregon	M	7*		x	2	40	
Pennsylvania		6-4		x		216	
Puerto Rico		-		x	2	-	
Rhode Island	19	3a		x		200	
South Carolina		2a	-	-	-	-	
South Dakota		3a		x		-	
Tennessee	25	2			2	18	
Texas		6		x	2	-	
Utah		3a		x	2	-	
Vermont		4	-	-	-	24	
Virginia		1	x	2		72	
Washington		3#		x		35	
West Virginia		2a	x	x		24	
Wisconsin		3a			2	324	
Wyoming		1	x			-	

x Completed M Mature # Beyond the learning period

- Not Listed a Beyond the apprenticeship period

Right hand number under "trade experience" means years of apprenticeship;

* years of apprenticeship included.

Qualifications of Part-Time Trade Extension
Related Teachers by States
(Summary of Table VIII)

Table VIII regarding the qualifications of part-time trade extension related teachers is briefly summarized below. All states report this type of teacher and present at least some information regarding his qualifications.

Age Range.— Only fourteen states report an entrance age requirement; of this number, eight states report a range from 21-25 inclusive. A brief summary is shown below:

Age Range	Number of States
18	1
19	1
21	3
*24	2
25	3
25-45	2
Mature	2

Trade Experience.— The trade experience requirement, for the part-time trade extension shop teacher, beyond the apprenticeship, or learning period, for the majority of the states (13/17/12) is from one to three years; only two states fail to report on this requirement and only seven states require more than three years. A brief summary of Table VIII follows:

Trade Experience (years)	Number of States
-	2
1	13
* 2	17
3	12
4	2
5	2
6	1
7	1
8	1

General Education.— Twelve states make no report of the actual number of years of formal education for the part-time trade

extension related teachers. Two states require only an elementary education, and 29 states require from high school to two years beyond high school.

A brief summary of the general education requirements for the part-time trade extension related teachers is shown below:

General Education	Number of States
- (not listed)	12
Completion Elementary School	2
Two years of high school	3
High school graduation	14
*High school plus one year	1
High school plus two years	14
Bachelor's degree	4
Master's degree	1

Professional Education.-- The professional education requirements for this group of related teachers range from none to 576 clock hours. Twenty-four states make no report regarding this requirement. A brief summary is shown below:

Clock Hours	Number of States
• - (not listed)	25
9	1
12	1
18	1
24	3
30	1
35	1
36	1
40	3
*50	1
60	1
70	1
72	2
80	1
120	1
200	1
216	1
240	2
324	1
480	1
576	1

On account of the wide variation disclosed in the above table it would be impractical to attempt to draw any conclusions concerning central tendencies. Evidently this particular phase of trade and industrial teacher qualification could benefit from further research and study.

TABLE IX

QUALIFICATIONS OF PART-TIME TRADE EXTENSION COORDINATORS BY STATES

State	Age	Trade Exp.- Years	General Education			Prof. Ed. in Cl. Hrs.	Super- visory Years	Re- marks
			Elem.	H. S.	Tec. Col.			
Alabama	21	3		x	2	236	-	
Arizona		2a		x	2	-	-	
Arkansas		2a		x	2	9	-	
California	24-45	3		x		396	-	
Colorado		5	-	-	-	60	-	
Connecticut		-	-	-	-	-	-	
Delaware		3		x	2	180	2	
D. of Col.		3a			4	324	-	
Florida		2a		x	2	250	2	
Georgia		3		x	2	-	-	
Hawaii		(1-3)		x	2	80	-	
Idaho		(1-5)a		x	2	40	-	
Illinois	26	-	-	-	-	-	-	State
Indiana		3a			x	360	-	
Iowa	25-45	(1-3)a		x	2	180	-	
Kansas		3		x	2	-	-	
Kentucky		(1-3)		x	4	432	-	
Louisiana		3			4	-	1	
Maine		(2-3)a		x		50	-	
Maryland		-	-	-	-	-	-	None
Massachusetts		-	-	-	-	-	-	
Michigan		-	-	-	-	-	-	
Minnesota		3		-	-	60	2	
Mississippi	25	2a		x		-	-	
Missouri	25-45	(1-3)#		x	2	-	-	
Montana		(1-3)#		x	2	40	-	
Nebraska		7	-	-	-	-	-	
Nevada		3	x			30	-	
New Hampshire		3		x		12	-	
New Jersey	21	-	-	-	-	-	-	State
New Mexico		4	-	-	-	70	-	
New York		(3-5)			x	480	-	
North Carolina		-	-	-	-	-	-	Not Listed
North Dakota		-	-	-	-	-	-	State
Ohio		7-4		2		-	-	
Oklahoma	24	3a			x	-	-	
Oregon		7*	x			40	-	
Pennsylvania		-	-	-	-	-	-	State
Puerto Rico	25	6			x	-	2	
Rhode Island	19	3a			x	200	-	
South Carolina		(1-3)a	-	-	x	-	-	L.S.
South Dakota		3			x	-	-	
Tennessee	30	2a		x		180	2	
Texas		7		x	2	-	-	
Utah		3a		x		180	-	
Vermont		(2-4)a	-	-	-	18-24	-	
Virginia		6	x	2		72	-	
Washington		3#		x		35	-	
West Virginia		2a	x			24	-	
Wisconsin		3			x	-	3	
Wyoming		-	-	-	-	-	-	Not Listed

x Completed L.S. Local Supervisor

- Not Listed a Beyond the apprenticeship period

Right hand number under "trade experience" means years of apprenticeship;

* years of apprenticeship included; # Beyond the learning period.

Qualifications of Part-Time Trade Extension
Coordinators by States
(Summary of Table IX)

A brief summary of the information presented in Table IX regarding the qualifications of the part-time trade extension coordinator is presented below. It should be noted that four states use their state coordinators to perform these duties, and one state uses a local supervisor. Therefore, these states do not report on the qualifications of this coordinator.

Age.-- Only eleven states report a minimum age requirement for this individual, but in these states the age ranges from 19 to 30 years; these states report upper limits of 45. A summary of the states reporting is briefly as follows:

Age	Number of States
19	1
21	2
24	1
24-45	1
*25	2
25-45	2
26	1
30	1

Trade Experience.-- Again the reader should remember that a local coordinator in many states is required to have the same qualifications as those listed for the shop or related teachers in the group with which he is working. Consequently, many of the years of trade experience listed for the individual states are reported as a range. While ten states made no stipulation of a trade experience requirement, the

majority of the remaining states (17) require three years. A summary of the trade experience for part-time trade extension coordinators is as follows:

Trade Experience	Number of States
- (not listed)	5
(1-3)	6
(1-5)	1
2	6
(2-3)	1
(2-4)	1
* 3	17
(3-5)	1
4	1
5	1
6	2
7	3
States employing a state coordinator or local supervisor	5

General Education.-- Only three states specify an elementary education as a maximum general education requirement for coordinators of this school. Fifteen states make no report, but the majority of states (7/13/11) stipulate at least a high school education, two years beyond high school, or graduation from a college or university. This summary is shown below:

General Education	Number of States
- (not listed)	10
Completion of elementary	3
Two years of high school	2
Completion of high school	7
* High school plus two years of advanced training	13
College or university graduate with a Bachelor's degree	11
States employing a state coordinator or local supervisor	5

Professional Education.-- Twenty-four states make no reports regarding professional education as an entrance requirement for their coordinators. Thirteen of the remaining states require from 50 to 180 (inclusive) clock hours. A summary of this requirement is reported according to numbers of states below:

Clock Hours	Number of States
- (not listed)	19
9	1
12	1
(18-24)	1
24	1
30	1
35	1
40	3
50	1
60	2
*70	1
*72	1
80	1
180	4
200	1
236	1
250	1
324	1
360	1
396	1
432	1
480	1
States employing a state coordinator or local supervisor	5

Supervisory Experience.-- Since some states select their local coordinators from a group of shop or related teachers, the state may require that the coordinator possesses some supervisory experience for this type of school. Some states required that the shop or related teacher perform the duties of the coordinator. As a result, only seven

states make reports regarding this requirement. One state requires that its coordinator have at least one year of supervisory experience; one state requires three years; and five states require two years. Four states use their state coordinators, and one state uses a local supervisor. Data for this requirement appear below:

Supervisory Years	Number of States
1	1
#2	5
3	1

TABLE X

QUALIFICATIONS OF PART-TIME TRADE PREPARATORY SHOP TEACHERS BY STATES

State	Age	Trade Exp.- Years	General Education			Prof. Ed. in Cl. Hrs.	Remarks
			Elem.	H. S.	Tec. Col.		
Alabama	21	2a	x	x		-	
Arizona		2a	-	-	-	-	
Arkansas		4	-	-	-	9	
California	25-45	3a		x		396	
Colorado		5	-	-	-	60	
Connecticut		-	-	-	-	-	N.S.
Delaware		-	-	-	-	-	N.S.
D. of Col.		3a	-	-	-	-	
Florida		6-4	-	-	-	-	
Georgia		-	-	-	-	-	N.S.
Hawaii	25	3a	x			80	
Idaho		5a		x		40	
Illinois		8-4		x		-	
Indiana		3a		x		240	
Iowa	25-45	3a		x		180	
Kansas	21	3	x			144	
Kentucky		-	-	-	-	-	N.S.
Louisiana		6-4		x		-	
Maine		-	-	-	-	-	N.S.
Maryland		2a		x		240	
Massachusetts	24-40	8-4	x	x		36	
Michigan		(3-4)		x		-	
Minnesota		3a	-	-	-	24	
Mississippi	25	2a		x		-	
Missouri	25-45	3#	-	-	-	-	
Montana	25-45	3#		x		60	
Nebraska		3	-	-	-	30	
Nevada	24	3	x			30	
New Hampshire		3		x		12	
New Jersey		8	x			576	
New Mexico		5	-	-	-	-	
New York		5	x	1		480	
North Carolina		2	-	-	-	-	
North Dakota		3a		x		-	
Ohio		7-4	-	-	-	-	
Oklahoma	24	2a		x		-	
Oregon	M	7*	x			40	
Pennsylvania		6-4		x		296	
Puerto Rico	25	3a		x		-	
Rhode Island	19	3a		x		200	
South Carolina		2a	-	-	-	-	
South Dakota		3a		x		-	
Tennessee	25	2a		x		18	
Texas		3		x	2	-	
Utah		3a		x		-	
Vermont		-	-	-	-	-	Not Listed
Virginia		6		2		72	
Washington		3		x		50	
West Virginia		2a		x		24	
Wisconsin		3a			2	324	3 T. or S.
Wyoming		2	x			-	

x Completed N.S. No School # Beyond the learning period
 - Not Listed T. or S. Teaching or Supervisory
 M Mature a Beyond the apprenticeship period
 Right number under "trade experience" means years of apprenticeship;
 * years of apprenticeship included.

**Qualifications of Part-Time Trade Preparatory
Shop Teachers by States
(Summary of Table X)**

The material presented in Table X concerning the qualifications of part-time trade preparatory shop teachers is briefly summarized on the following pages. Five states make no provisions for this type of school, and specifications of requirements are not complete for several other states.

Age Range.— The entrance age requirement is shown for this group of teachers for only fifteen states. These ages range from 19 to 25. Eight states list 25 or 25 to 45; only six states list a lower entrance age, and one specifies "mature". The summary table is as follows:

Age Range	Number of States
19	1
21	2
24	2
24-40	1
*25	4
25-45	4
Mature	1

Trade Experience.— The trade experience requirement for the part-time trade preparatory shop teachers ranges from two years to eight years, disregarding the apprenticeship or learning period. For the majority of states (13-21) it is two to three years. All requirements are outlined briefly on the following page:

Trade Experience (years)	Number of States
- (not listed)	1
2	13
* 3	21
(3-4)	1
4	3
5	4
6	1
7	1
8	1
States not having this type of school	5

General Education.-- The general education requirement for this group of teachers shows that the majority of states (23) require that the part-time trade preparatory shop teacher have at least a high school education. Sixteen states do not have this type of school; twelve states make no stipulation as to the required amount of formal schooling; only two states require two years more than a high school education, and only eight states require less. The summary is briefly tabulated below:

General Education	Number of States
- (not listed)	13
Elementary	6
One year of high school	1
Two years of high school	1
*High school	23
High school plus two years	2
States with no provision for this type of school	5

Professional Education.-- Five states have no school of this type, and 21 states do not report the professional education requirement for part-time trade preparatory shop teachers. Of the

remaining number 17 states require from 24 to 240 clock hours. There are three below this number and five above. A summary of this requirement is shown below:

Clock Hours	Number of States
- (not listed)	21
9	1
12	1
18	1
24	2
30	2
36	1
40	2
50	1
*60	2
72	1
80	1
144	1
180	1
200	1
240	2
296	1
324	1
396	1
480	1
576	1
States making no provision for this type of school	5

There is apparently no general agreement as to the optimum hours of work for these individuals.

TABLE XI

QUALIFICATIONS OF PART-TIME TRADE PREPARATORY RELATED TEACHERS BY STATES

State	Age	Trade Exp.- Years	General Education			Prof. Ed. in Cl. Hrs.	Remarks
			Elem.	H. S.	Tec. Col.		
Alabama		1		x		-	
Arizona		2a		x	2	-	
Arkansas		2		x	2	9	
California	25-45	3a		x		396	
Colorado		5	-	-	-	60	
Connecticut		-	-	-	-	-	N.S.
Delaware		-	-	-	-	-	N.S.
D. of Col.		3a		x		-	
Florida		2	-	-	-	-	
Georgia		-	-	-	-	-	N.S.
Hawaii		1		x	2	80	
Idaho		1		x	2	60	
Illinois		3			x	-	
Indiana		1	-	-	-	240	
Iowa		1		x	2	-	
Kansas		1		x	2	-	
Kentucky		-	-	-	-	-	N.S.
Louisiana		2			x	-	
Maine		-	-	-	-	-	N.S.
Maryland		2a		x		240	
Massachusetts	21	-			x	36	
Michigan		(3-4)		x		-	
Minnesota		3a	-	-	-	24	
Mississippi		1		x	2	-	
Missouri	25-45	3#	-	-	-	-	
Montana		1		x	2	60	
Nebraska	24	2		x		-	
Nevada	24	1		x		30	
New Hampshire		3		x		12	
New Jersey		8			x	576	
New Mexico		5	-	-	-	-	
New York		3			x	480	
North Carolina		2		x	2	-	
North Dakota		1		x	2	-	
Ohio		3	-	x	-	-	
Oklahoma		2		x	2	-	
Oregon		7*	x			40	
Pennsylvania		2	-	-	-	316	
Puerto Rico	25	1		x	2	-	
Rhode Island	19	3a		x		200	
South Carolina		2a	-	-	-	-	
South Dakota		3a		x		-	
Tennessee	25	2		x	2	18	
Texas		6		x	2	-	
Utah		3a		x	2	180	
Vermont		-	-	-	-	-	Not Listed
Virginia		-		2		72	
Washington		3		x		50	
West Virginia		2a	x	x		24	
Wisconsin		3a		x	2	324	
Wyoming		1	x			-	

x Completed N.S. No School

- Not Listed a Beyond the apprenticeship period

Right hand number under "trade experience" means years of apprenticeship;

* years of apprenticeship included; # beyond the learning period.

Qualifications of Part-Time Trade Preparatory
Related Teachers by States
(Summary of Table XI)

A brief summary of the data presented in Table XI regarding the qualifications of part-time trade preparatory related teachers appears below. Five states make no provisions for this type of school, and many other states do not present complete data.

Age.--- Only eight states stipulate an entrance age requirement for this group of teachers. Of this number only two states specify ages below 24; two list 24; two, 25, and two 25 to 45.

Age Range	Number of States
19	1
21	1
*24	2
*25	2
25-45	2

Trade Experience.--- Five states do not have this type of school, and three states do not stipulate the number of years for this requirement. The majority of states (12/~~12~~/13) require one to three years of trade experience as an entrance requirement for this part-time trade preparatory teacher. A summary of this requirement is presented below:

Trade Experience (years)	Number of States
- (not listed)	3
1	12
*2	12
3	13
(3-4)	1
5	2
6	1
7	1
8	1
States with no provisions for this type of school	5

General Education.-- Five states have no school of this type; nine states make no special stipulation regarding this requirement. The majority of the remaining states (13 / 17) require that the part-time trade preparatory related teachers be high school graduates or have completed two years of work beyond high school. The summary is reported briefly below:

General Education	Number of States
-- (not listed)	9
Elementary education	2
High school graduate	13
*High school plus two years	17
College or university graduate	5
States making no provision for this type of school	5

Professional Education.-- Five states have no school of this type; 23 states do not list the actual number of clock hours required for related teachers in the part-time trade preparatory school. A brief summary is presented below:

Clock Hours	Number of States
-- (not listed)	23
9	1
12	1
18	1
24	2
30	1
36	1
40	1
50	1
*60	3
72	1
80	1
180	1
200	1
240	2
316	1
324	1
396	1
480	1
576	1
States making no provisions for this type of school	5

TABLE XII

QUALIFICATIONS OF PART-TIME TRADE PREPARATORY COORDINATORS BY STATES

State	Age	Trade Exp.- Years	General Education			Prof. Ed. in Cl. Hrs.	Super- visory Years	Re- marks
			Elem.	H.S.	Tec. Col.			
Alabama		3		x	2	-	-	
Arizona		2a		x	2	-	-	
Arkansas		(2-4)		2	2 t.	9	-	
California	24-45	3*			4	270	-	
Colorado		5	-	-	-	60	-	
Connecticut		-	-	-	-	-	-	N.S.
Delaware		-	-	-	-	-	-	N.S.
D. of Col.		3a		x	4	324	-	
Florida		2a		x	2	250	2	
Georgia		-	-	-	-	-	-	N.S.
Hawaii		(1-3)	x	x	2	80	-	
Idaho		(1-5)a		x	2	40	-	
Illinois		-	-	-	-	-	-	State
Indiana		3a			x	360	-	
Iowa	25-45	(1-3)a		x	2	180	-	
Kansas		3		x	2	144	-	
Kentucky		-	-	-	-	-	-	N.S.
Louisiana		3			4	-	1	
Maine		-	-	-	-	-	-	N.S.
Maryland		-	-	-	-	-	-	
Massachusetts		-	-	-	-	-	-	
Michigan		3	-	-	-	60	2	
Minnesota		3		x	2	-	-	
Mississippi		(1-2)a		x	2	-	-	
Missouri	25-45	(1-3)#	-	-	-	-	-	
Montana		(1-3)#		x	2	40	-	
Nebraska		7	-	-	-	-	-	
Nevada		3	x			30	-	
New Hampshire		3		x		12	-	
New Jersey		-	-	-	-	-	-	State
New Mexico		5	-	-	-	-	-	
New York		(3-5)		x	4	480	-	
North Carolina		-	-	-	-	-	-	Not Listed
North Dakota		-	-	-	-	-	-	State
Ohio		3	-	-	-	-	-	
Oklahoma		3			x	-	-	
Oregon		7*	x			40	-	
Pennsylvania		-	-	-	-	-	-	State
Puerto Rico	25	6			x	-	2	
Rhode Island	19	3a		x		200	-	
South Carolina		-	-	-	-	-	-	L.S.
South Dakota		(1-3)a		x		-	-	
Tennessee	30	2a		x		180	2	
Texas		7		x	2	-	-	
Utah		3a		x	2	180	-	
Vermont		-	-	-	-	-	-	Not Listed
Virginia		6	x	2-4		72	-	
Washington		3		x		50	-	
West Virginia		2a	x	x		24	-	
Wisconsin		3			x	-	3	
Wyoming		-	-	-	-	-	-	Not Listed

x Completed N.S. No School # Beyond the learning period

- Not Listed L.S. Local Supervisor

Right hand number under "trade experience" means years of apprenticeship;

* years of apprenticeship included; "a" beyond the apprenticeship period.

Qualifications of Part-Time Trade Preparatory
Coordinators by States
(Summary of Table XII)

Table XII regarding the qualifications of part-time trade preparatory coordinators is briefly summarized below. Five states report no school of this type, and five states use their state coordinator or local supervisor for this type of work.

Age.--- Only six states stipulate an entrance age requirement for part-time trade preparatory coordinators. The ages specified are as follows:

Age	Number of States
19	1
24-45	1
* 25	1
* 25-45	2
30	1

Trade Experience.--- Five states make no provisions for a school of this type; five states use their state coordinator or local supervisor for this type of work, and five other states make no report of the required number of years of trade experience. Of the remaining 36 states the majority of the states (16) require three years of trade experience, disregarding the apprenticeship or learning period. A brief summary of the trade experience required for the part-time trade preparatory coordinators is as follows on the next page.

Trade Experience	Number of States
- (not listed)	5
(1-2)	1
(1-3)	5
(1-5)	1
2	4
(2-4)	1
*3	16
(3-5)	1
5	2
6	2
7	3
States making no provisions for this type of school	5
States using state coordinators or local supervisors	5

General Education.--- Five states have no school of this type; five states use their state coordinators or local supervisors, and ten states make no report regarding this qualification. The majority of the remaining states (12/8) require either two or four years of college or university work. A brief summary of the general education of the part-time trade preparatory coordinators is presented below:

General Education	Number of States
- (not listed)	10
Elementary education	2
Two years of high school	1
Two to four years of high school	1
High school graduate	6
*Two years beyond high school	12
Bachelor's degree	8
States with no school of this type	5
States having state coordinators or a local supervisor for this work	5

Professional Education.-- Five states have no school of this type; five states employ a state coordinator or a local supervisor for this type of a position, and 19 other states make no exact report as to the required number of hours of professional education for part-time trade preparatory coordinators. In the remaining 22 states the majority (12) ranged from 40 to 180 clock hours. A brief summary of the clock hours of professional education specified for this group of coordinators is as follows:

Clock Hours	Number of States
- (not listed)	19
9	1
12	1
24	1
30	1
40	3
50	1
60	2
* 72	1
80	1
144	1
180	1
200	1
250	1
270	1
324	1
360	1
480	1
States making no provisions for this type of school	5
States employing a state coordinator or local supervisor for this position	5

Supervisory Experience.-- Only six states stipulate a required number of years of supervisory work for their part-time trade preparatory coordinators. Of these six states, one state requires one

year; four states require two years, and one state requires three years. Of the number of states reporting, the majority (4) require that the coordinator for the part-time trade preparatory schools should have at least two years of supervisory experience.

TABLE XIII

QUALIFICATIONS OF PART-TIME GENERAL CONTINUATION SHOP TEACHERS BY STATES

State	Age	Trade Exp.- Years	General Education			Prof. Ed. in Cl. Hrs.	Remarks
			Elem.	H. S.	Tec. Col.		
Alabama	18	1			4	12-21	
Arizona		-		x		-	2 T. or S.
Arkansas		(2-3)		x	x	144	1 T. or S.
California	24-45	5	-	-	-	72	
Colorado		5	-	-	-	60	
Connecticut		-	-	-	-	-	N.S.
Delaware		1			4	324	
D. of Col.		-	-	-	-	-	N.S.
Florida		1		x	4	120	
Georgia	21	1	x			-	
Hawaii		3	x	1		80	
Idaho		(1-2)			4	-	
Illinois	26	8-4		x		324	
Indiana		$\frac{1}{2}$			x	-	
Iowa		(1-3) ^a		x		108	
Kansas		-			x	324	2 T. or S.
Kentucky		-	-	-	-	-	N.S.
Louisiana		2			x	180	
Maine		-	-	-	-	-	N.S.
Maryland		2a			x	240	2 T. or S.
Massachusetts	24-40	8-4			x	-	
Michigan		(2-3-4)		x	x	-	
Minnesota		2	-	-	-	-	
Mississippi	25	2a		x		-	
Missouri	25-45	2			2	-	3 T. or S.
Montana		3#		x		60	
Nebraska		3	-	-	-	-	
Nevada	24	-			4	476	
New Hampshire		-	-	-	-	-	N.S.
New Jersey		8	x			576	
New Mexico		4	-	-	-	70	
New York		5		x		320	
North Carolina		1		x		-	
North Dakota		1			x	-	
Ohio	25-45	1		x	2	-	
Oklahoma	24	(1-2)		x		-	
Oregon		(1-3)	-	x	1	120	
Pennsylvania		-		x	2	90	
Puerto Rico		-			x	-	
Rhode Island		-	-	-	-	-	N.S.
South Carolina		2a	-	-	-	-	
South Dakota		(1-3)		x		-	
Tennessee	21	1			x	60	
Texas		(1-3)			x	-	
Utah		3a		x		-	
Vermont		-	-	-	-	-	N.S.
Virginia		-		x		72	
Washington		1 $\frac{1}{2}$		x		85	
West Virginia		-	-	-	-	-	N.S.
Wisconsin		3a		x		-	
Wyoming		-	-	-	x	-	

x Completed T. or S. Teaching or Supervisory
 - Not Listed N.S. No School # Beyond the learning period
 Right hand number under "trade experience" means years of apprenticeship;
 * years of apprenticeship included; "a" beyond the apprenticeship period.

Qualifications of Part-Time General Continuation
Shop Teachers by States
(Summary of Table XIII)

A brief summary of the material in Table XIII regarding the part-time general continuation shop teachers is presented below. Eight states make no provisions for a school of this type, and data from many states were incomplete.

Age.--- Only eleven states stipulate an entrance age requirement for part-time general continuation shop teachers. Of this number, ten states specify entering ages between 21 and 26. One state reports an upper limit of 40 and three report 45. A summary of the age requirements presented in the reports from these states is as follows:

Age	Number of States
18	1
21	2
24	2
*24-40	1
24-45	1
25	1
25-45	2
26	1

Trade Experience.--- Eight states make no provisions for general continuation schools. Seven other states do not list any specific requirements regarding the number of years of trade experience necessary for the part-time general continuation shop teacher. The majority (22) require from one to three years of trade experience, exclusive of the apprenticeship or learning period. a brief summary of the years of trade experience for the part-time general continuation shop teachers is presented as follows:

Trade Experience (years)	Number of States
- (Not listed)	7
1/2	1
1	8
(1-2)	2
(1-3)	4
*2	6
(2-3)	1
(2-3-4)	1
3	5
4	3
5	3
8	1
States making no provision for this type of work	8

General Education.--- The general education requirement for the part-time general continuation shop teachers is somewhat higher than for instructors in the first two types of schools reported, namely, the part-time trade extension, and the part-time trade preparatory. Eight states make no provisions for this type of schools, and six states do not specify any required number of years of trade experience. The largest number of states in the remaining group (17) require their shop teachers to complete four years beyond the high school course, or be graduates of a recognized college or university. Sixteen other states require graduation from high school or the equivalent with one or two years of advanced work. A brief summary of the general education requirements for the general continuation shop teachers is presented on the following page:

General Education	Number of States
- (not listed)	6
Elementary education	2
One year high school	1
High school graduate	13
High school plus one year	1
*High school plus two years	2
Bachelor's degree	17
States making no provisions for this type of school	8

Professional Education.--- Eight states make no provisions for a part-time general continuation school, and 21 states do not list any required number of clock hours of professional education for the shop teachers of this school. Teachers of the remaining states require from 60 to 120 clock hours of professional education, while an additional seven states require up to 324 clock hours. A brief summary of the professional education (in clock hours) appears below:

Clock Hours	Number of States
- (not listed)	21
(12-21)	1
60	3
70	1
72	2
80	1
85	1
90	1
108	1
*120	2
144	1
180	1
240	1
320	1
324	3
476	1
576	1

TABLE XIV

QUALIFICATIONS OF PART-TIME GENERAL CONTINUATION RELATED TEACHERS BY STATES

State	Age	Trade Exp- Years	General Education			Prof. Ed. in Cl. Hrs.	Remarks
			Elem.	H. S.	Tec. Col.		
Alabama	18	1			4	12-21	
Arizona		2		x		-	2 T. or S.
Arkansas		2		x	1	-	1 T. or S.
California	24-45	3*			4	396	
Colorado		some			4	360	
Connecticut		-		-	-	-	N.S.
Delaware		1			4	324	
D. of Col.		-	-	-	-	-	N.S.
Florida		1		x	1	120	2 T. or S.
Georgia		1	x			-	
Hawaii		3		x	1	270	
Idaho		(1-2)			4	-	
Illinois	26	3		x	x	324	2 T. or S.
Indiana		$\frac{3}{4}$			x	-	
Iowa		(1-2)			2	108	
Kansas		-			4	324	2 T. or S.
Kentucky		-	-	-	-	-	N.S.
Louisiana		1			x	216	
Maine		-	-	-	-	-	N.S.
Maryland		2a			x	240	2 T. or S.
Massachusetts	21	-			x	36	1 T. or S.
Michigan		1			2	-	
Minnesota		1			4	78	
Mississippi		1		x	2	-	
Missouri		2	-	-	-	-	3 T. or S.
Montana		1		x	2	60	
Nebraska		2	-	-	-	-	
Nevada	24	-			x	324	
New Hampshire		-	-	-	-	-	N.S.
New Jersey		8a	x		x	576	
New Mexico		-			x	120	
New York		5		x		320	
North Carolina		1		x		-	
North Dakota		2		x	x	-	
Ohio	25-45	1		x	2	-	
Oklahoma		(1-2)		x		-	
Oregon		(1-3)	-	x	1	120	
Pennsylvania		-		x		90	
Puerto Rico		-			x	30	
Rhode Island		-	-	-	-	-	N.S.
South Carolina		1		x	1	-	
South Dakota		1		x		-	
Tennessee	21	(1-3)			x	60	
Texas		(1-3)			x	-	
Utah		3a		x	2	180	
Vermont		-	-	-	-	-	N.S.
Virginia		-		x		72	
Washington		1 $\frac{1}{2}$		x		85	
West Virginia		-	-	-	-	-	N.S.
Wisconsin		3a		x	2	-	
Wyoming		-			x	-	

x Completed T. or S. Teaching or Supervisory

- Not Listed N.S. No School

a Beyond the apprenticeship period; * Years of apprenticeship included.

**Qualifications of Part-Time General Continuation
Related Teachers by States
(Summary of Table XIV)**

The information tabulated in Table XIV regarding the qualifications required for the part-time general continuation related teachers is briefly summarized on the following pages. Eight states make no provisions for a school of this type, and data concerning the qualifications of these individuals were incomplete from several other states.

Age.-- Seven states report an entrance age requirement for their part-time continuation related teachers. A summary of the ages reported for these seven states is as follows:

Age	Number of States
18	1
21	2
*24	1
24-45	1
25-45	1
26	1

Trade Experience.-- Eight states do not have a school of this type, and eight states do not stipulate a definite number of years of trade experience for the related teachers in this field. The majority of the remaining states (31) require from one to three years. A summary of this trade experience, excluding the apprenticeship or learning period, is as follows:

Trade Experience (years)	Number of States
- (not listed)	8
Some	1
$\frac{1}{2}$	1
1	13
$1\frac{1}{2}$	1
(1-2)	3
(1-3)	6
2	6
3	5
5	1
8	1
States with no provisions for this type of school	8

General Education.-- Eight states have no school of this type, and two schools do not stipulate the required number of years of general education for the related teachers in this field. The majority of the other states (20) require that their teachers have a bachelor's degree from a standard college or university. This brief summary appears below:

General Education	Number of States
- (not listed)	2
Elementary education	1
High school education	8
High school plus one year	5
High school plus two years	7
Bachelor's degree	20
States with no school of this type	8

Professional Education.-- Eight states do not have a part time general continuation school, and 18 states do not report the clock hours of required professional education for the related teachers in this type of school. Nineteen of the remaining states report a range of 30 to 324 inclusive clock hours of professional education required for this group. A brief summary of the states making this report appears below:

Clock Hours	Number of States
- (not listed)	18
(12-21)	1
30	1
36	1
60	2
72	1
78	1
85	1
90	1

Clock Hours (Continued)	Number of States (Continued)
108	1
*120	3
180	1
216	1
240	1
270	1
320	1
324	4
360	1
396	1
576	1

Teaching Experience.-- Only eight states report that this group of teachers should have some teaching experience. Of these eight, five states require two years, two states require one year, and one state requires three years. This summary table is as follows:

Teaching Experience (years)	Number of States
1	2
*2	5
3	1

Qualifications of Part-Time General Continuation
Coordinators by States
(Summary Table XV)

A brief summary of the material listed in Table XV regarding the qualifications of part-time continuation coordinators appears below. Eight states make no provisions for a school of this type, and three states employ state coordinators who take care of this work.

Age range.--- Seven states specify a beginning age requirement for the coordinators in this type of school. No conclusion can be drawn as to the preferred beginning age requirement, since there seems to be no agreement regarding it. A summary of the state reports on this requirement is shown below:

Age range	Number of States
Mature	1
18	1
24	1
24-40	1
24-45	1
25	1
-45	1

Trade Experience.--- Thirty five states report on this item for the part-time general continuation coordinator, disregarding the apprenticeship or learning period; 29 states require from one to three years. This brief summary is reported on the following page.

Trade Experience (years)	Number of States
-, (not listed)	5
1	5
(1-2)	3
(1-3)	4
2	5
* (2-3)	3
3	9
5	3
6	1
7	2
States making no provision for this school	8
States using their state coordinators	3

General Education.-- Of the thirty three states specifying a required number of years of formal education for the coordinators of the part-time general continuation schools or classes, the majority of states (18) require a bachelor's degree from a standard college or university. The 15 other states require graduation from high school, plus one or two years of advanced work. A summary of this requirement appears below:

General Education	Number of Years
- (not listed)	7
High school	6
High school plus one year (college)	2
High school plus two years (college)	7
* Bachelor's degree	18
States making no provision for this type of school	8
States using their state coordinators for this work	3

Professional Education.-- Nineteen states do not report the exact number of clock hours of professional education required for their coordinators in the part-time general continuation schools, and eight states do not make provisions for a school of this type.

Of the twenty-four states stipulating the clock hour requirement, the majority (17) require between 30 and 180 clock hours inclusive. Only five states report a number higher than 180. A summary of the clock hour requirement for this group of teachers appears below:

Clock Hours	Number of States
- (not listed)	16
12-21	1
30	1
30-324	1
36	1
40	3
60	2
72	1
85	1
*108	1
120	1
144	2
180	4
240	1
270	1
320	1
324	1
360	1
States making no provision for this type of school	8
States using their state coordinators	3

Supervisory Experience.— Only twelve states report the number of years of supervisory experience required for their coordinators. One state requires one year; six states require two; and five states require three. Of the number reporting, the majority (6/5) require two or three years of supervisory experience for the part-time general continuation coordinator.

Supervisory Experience (years). Number of States

1	1
2	6
3	5

TABLE XVI

QUALIFICATIONS OF DAY TRADE AND INDUSTRIAL SHOP TEACHERS BY STATES

Type A--Unit Trade	State	Age	Trade Exp.- Years	General Education			Prof. Ed. in Cl. Hrs.	Remarks
				Elem.	H.S.	Tec. Col.		
Alabama		21	2a	x			-	
Arizona		50-	2a	-	-	-	180	
Arkansas		-	2a	-	-	-	-	
California		24-45	3*		x		396	
Colorado			5	-	-	-	60	
Connecticut			3a		2		120	
Delaware			6		x	2	324	
D. of Col.			3			x	268	
Florida			6-4	-	-	-	72	
Georgia		21	3#	x			-	
Hawaii		25	3#	x			80	
Idaho			-	-	-	-	-	N. S.
Illinois		26	8-4		x		324	
Indiana			3		x	3	252	
Iowa		25	3a		x		180	
Kansas		24	3	x			108	
Kentucky			3		x		402	
Louisiana			6-4	-	-	-	216	
Maine			3a	-	-	-	50	
Maryland			2a			x	240	
Massachusetts		24-40	8-4	x	x		18	
Michigan			7-4		x		-	
Minnesota			3a	-	-	-	130	
Mississippi			3a		x		-	
Missouri		25-45	4#		x		30	
Montana			3#		x		60	
Nebraska			3	-	-	-	-	
Nevada		24	3	x			30	
New Hampshire		18	3	x	x		316	
New Jersey			8	x			576	
New Mexico			5	-	-	-	70	
New York			5	x	1		480	
North Carolina			2	-	-	-	-	
North Dakota			3		x		-	
Ohio		25-45	7-4		2		-	
Oklahoma		24	2a		x		-	
Oregon			3a		x		40	
Pennsylvania			6-4		x		296	
Puerto Rico		21	3a		x		240	
Rhode Island			5a		x		200	
South Carolina			2a	-	-	-	-	
South Dakota		25	3a		x		180	
Tennessee		21	2a		x		18	
Texas			7		x	2	-	
Utah			6-4			x	-	
Vermont			2a		x		108	
Virginia			6	x			-	
Washington			3#	-	-	-	75	
West Virginia		21	2a		x		72	
Wisconsin			3a		x		-	
Wyoming		21	3	x			90	

x Completed N. S. No School # Beyond the learning period
 - Not Listed a Beyond the apprenticeship period
 Right hand number under "trade experience" means years of apprenticeship.
 * years of apprenticeship included

Qualifications of Day Trade and Industrial Teachers
by States, Type A Schools
(Summary of Table XVI)

The material presented in Table XVI regarding qualifications of day trade and industrial teachers (shop) for the Type "A" unit trade school is briefly summarized on the following pages.

Only one state (Idaho) makes no provision for this type of school.

Age.— Seventeen states report an entrance age requirement for their shop teachers in the day trade and industrial Type "A" school ranging from 18 to 26 years; one state lists an upper age specification of 50. This summary is as follows:

Age	Number of States
18	1
21	6
*24	2
24-40	1
24-45	1
25	3
25-45	2
26	1
50	1

Trade experience.— Only one state fails to make provision for a school of this type. Fifty states (and territories) report a required number of years of trade experience. The majority of states (14 plus 25) report a requirement of two to three years trade experience for the shop teacher before he enters the profession; the summary of the requirement is on the following page.

Trade Experience (years)	Number of States
2	14
*3	25
4	3
5	3
6	2
7	1
8	1
State with no provisions for a school of this type	1

General Education.-- Although only one state makes no provision for this type of school, 12 others do not specify a definite number of years of required formal education. A brief summary appears below:

General Education	Number of States
- (not listed)	13
Elementary education	7
One year of High School	1
Two years of High School	2
*High School graduation	21
High School plus two years	2
High School plus three years	1
Bachelor's degree	3
State with no provisions for this type of school	1

Professional Education.-- The number of clock hours of professional education required for the shop teachers of the all day trade Type "A" school in the various states shows such wide variation that it is difficult to draw any reliable conclusions regarding central tendencies. Fifteen states did not specify this requirement in definite figures; one state does not have the Type "A" school; 21 states require from 18 to 180 clock hours work, while fourteen states requirements go above this figure. The table summarizing this material appears on the following page.

Professional Education	Number of States
- (not listed)	15
18	2
30	2
40	1
50	1
60	2
70	1
72	2
75	1
80	1
90	1
108	2
120	1
*130	1
180	3
200	1
216	1
240	2
252	1
268	1
296	1
316	1
324	2
396	1
402	1
480	1
576	1
States making no provisions for this type of school	1

TABLE XVII

QUALIFICATIONS OF DAY TRADE AND INDUSTRIAL RELATED TEACHERS BY STATES

State	Type A--Unit Trade Age	Trade Exp-- Years	General Education			Prof. Ed. in Cl. Hrs.	Remarks
			Elem.	H.S.	Tec. Col.		
Alabama	21	1		x	2	-	
Arizona	50-	1		x	2	180	
Arkansas		2		x	2	-	
California	24-45	3*		x		324	
Colorado		3	-	-	-	60	
Connecticut		3		x	1	120	
Delaware		2		x	4	324	
D. of Col.		3			x	268	
Florida		2	-	-	-	72	
Georgia		2		x	2	-	
Hawaii		1		x	2	-	
Idaho		-	-	-	-	-	N. S.
Illinois	26	3		x	x	324	2 T. or S.
Indiana		3		x	3	252	
Iowa		1		x		-	
Kansas		1		x	2	108	
Kentucky		1			x	402	
Louisiana		2			x	90	
Maine		2		x		50	
Maryland		2a			x	240	
Massachusetts	21	-			x	18	1 T. or S.
Michigan		3		x		-	
Minnesota		3a	-	-	-	150	
Mississippi		3a			x	-	
Missouri	25-45	1			4	30	
Montana		1		x	2	-	
Nebraska		2	-	-	-	-	
Nevada	24	1		x		30	
New Hampshire	18	3		x		316	
New Jersey		8	x			576	
New Mexico		3	-	-	-	70	
New York		5			x	108	
North Carolina		2	-	-	-	-	
North Dakota		-		x	2	-	
Ohio	25-45	2		x		-	
Oklahoma		2		x	2	-	
Oregon		1		x	2	-	
Pennsylvania		2	-	-	-	316	
Puerto Rico		2		x		-	
Rhode Island		1		x		200	
South Carolina		2a	-	-	-	-	
South Dakota		1		x		180	
Tennessee	21	3		x		-	
Texas		6		x	2	-	
Utah		6-4			x	-	
Vermont		1			x	108	
Virginia		6		x	2	-	
Washington		3#	-	-	-	75	
West Virginia		3			x	72	
Wisconsin		3a		x	2	-	
Wyoming	21	2		x		180	

x Completed T. or S. Teaching or Supervisory

- Not Listed N. S. No School # Beyond the learning period

Right hand number under "trade experience" means years of apprenticeship;

* years of apprenticeship included; "a" beyond the apprenticeship period.

Qualifications of Day Trade and Industrial Related
Teachers by States, Type A schools
(Summary of Table XVII)

A brief summary of the qualifications of the related teacher of the Type "A" unit trade school, as reported in Table XVII, appears below. Only one state (Idaho) reports no provisions for a school of this type.

Age.-- Eleven states report an entrance age requirement for this group of teachers. Six states report an age of at least 18-24; one 26; one 24 to 45; one 25 to 45, and the other state stipulated less than 50. The following table gives this summary:

Age	Number of States
18	1
21	4
*24	1
24-45	1
25-45	2
26	1
50-	1

Trade Experience.-- The majority of states (~~13/16/15~~) report a trade experience requirement, beyond the apprenticeship or learning period, of one to three years. One state makes no provision for this type of school, and two states fail to specify the exact number of years of trade experience required. A brief summary of the trade experience requirement appears below:

Trade Experience (years)	Number of States
- (not listed)	2
1	13
*2	16
3	15
5	1
6	2
8	1
States making no provision for this type of school	1

General Education.-- The majority of states (13 / 1 / 13) require that the day trade and industrial related teachers, in the Type "A" unit school, shall have completed from two years beyond high school to graduation from a standard college or a uni-

versity. A brief summary of this requirement appears below:

General Education	Number of States
- (not listed)	9
Elementary education	1
High school graduate	12
High school plus one year	1
*High school plus two years	13
High school plus three years	1
Bachelor's degree	13
State reporting no school of this type	1

Professional Education.-- One state does not have this type of school, and 21 states do not specify definite hour requirements of professional education for the related teachers in this classification. The majority of the states reporting (20) report a range of from 18 to 240 clock hours, and nine states require a higher number. A summary of these clock hours appear below. The wide range disclosed is particularly interesting.

Clock Hours	Number of States
- (not listed)	21
18	1
30	2
50	1
60	1
70	1
72	2
75	1
90	1
108	3
120	1
150	1
*180	3
200	1
240	1
252	1
268	1
316	2
324	3
402	1
576	1
State with no school of this type	1

TABLE XVIII

QUALIFICATIONS OF DAY TRADE AND INDUSTRIAL COORDINATORS BY STATES

Type A--Unit Trade		Trade Exp- Years	General Education			Prof. Ed. in Cl. Hrs.	Super- visory Years	Re- marks
State	Age		Elem.	H.S.	Tec. Col.			
Alabama	21	3		x	2	-	-	
Arizona		-	-	-	-	-	-	Not Listed
Arkansas		-	-	-	-	-	-	Not Listed
California	24-45	3			4	270	-	
Colorado		(3-5)	-	-	-	60	-	
Connecticut		-	-	-	-	-	-	Not Listed
Delaware		-	-	-	-	-	-	Not Listed
D. of Col.		-	-	-	-	-	-	Not Listed
Florida		-	-	-	-	-	-	Not Listed
Georgia		-	-	-	-	-	-	Not Listed
Hawaii	25	3	x			80	-	
Idaho		-	-	-	-	-	-	N.S.
Illinois		-	-	-	-	-	-	State
Indiana		3		x		54	-	
Iowa	25-45	(1-3)a		x	2	180	-	
Kansas		3		x	2	-	-	
Kentucky		3		x		402	2	
Louisiana		-	-	-	-	-	-	
Maine		(2-3)a		x		50	-	
Maryland		-	-	-	-	-	-	Not Listed
Massachusetts		-	-	-	-	-	-	
Michigan		-	-	-	-	-	-	
Minnesota		3		x		60	2	
Mississippi		3a		x		-	-	
Missouri	25-45	4#		x		30	-	
Montana		3#		x		60	-	
Nebraska		7	-	-	-	-	-	
Nevada		3	x			30	-	
New Hampshire	18	3	x			12	-	
New Jersey		-	-	-	-	-	-	State
New Mexico		3	-	-	-	70	-	
New York		5		x	1	480	-	
North Carolina		(1-2-3)	-	-	-	180	-	
North Dakota		-	-	-	-	-	-	State
Ohio		-	-	-	-	-	-	Not Listed
Oklahoma		3			x	-	-	
Oregon		3a	x			40	-	
Pennsylvania		-	-	-	-	-	-	State
Puerto Rico	25	6			x	-	2	
Rhode Island		(1-5)a		x		200	-	
South Carolina		-	-	-	-	-	-	State
South Dakota		-	-	-	-	-	-	Not Listed
Tennessee	21	3a		x		180	-	
Texas		6		x	2	-	-	
Utah		6-4			x	-	-	
Vermont		-	-	-	-	-	-	Not Listed
Virginia		-	-	-	-	-	-	No Plans
Washington		3#	-	-	-	75	-	
West Virginia		3a			x	72	-	
Wisconsin		3			x	-	3	
Wyoming		-	-	-	-	-	-	

x Completed N.S. No School # Beyond the learning period
 - Not Listed a Beyond the apprenticeship period
 Right hand number under "trade experience" means years of apprenticeship.

Qualifications of Day Trade and Industrial
Coordinators by States, Type A Schools
(Summary of Table XVIII)

The materials presented in Table XVIII relating to the qualifications of the day trade and industrial school coordinator appear below. One state reports no school of the type. Five states report that the state coordinator performs the duties of the coordinators in their day trade and industrial schools, Type "A". Only one state offers no school of this type.

Age.-- Eight states report an entrance age requirement in their state plans for coordinators of this type of school; one of these states specifies at least eighteen; two states at least 21; two states at least 25; while the other two states give ranges of 24 to 45 and 25 to 45 respectively. This is shown in a table as follows:

Age	Number of States
18	1
21	2
*24-45	1
25-45	2
25	2

Trade Experience.-- One state reports no school of this type, and 21 states require no particular number of years of trade experience for the coordinators in this type of school. The majority (22) of the remaining states require from one to three years of experience beyond the apprenticeship or learning period. A summary of this report appears below:

Trade Experience (years)	Number of States
- (not listed)	21
(1-3)	1
(1-2-3)	1
(1-5)	1
2	1
(2-3)	1
*3	18
(3-5)	1
4	1

Trade Experience (Continued)	Number of States
5	1
6	2
7	1
States with no school of this type	1

General Education.-- One state does not report a school of this type and 26 states fail to stipulate any number of years of formal education. Of the remaining 24 states, only four require less than high school graduation; 14 require from high school to two years of college, and six states require their coordinators in the day trade and industrial school, Type "A", to hold a bachelor's degree from a standard college or university. A summary of the general education requirements for these coordinators appears below:

General Education	Number of Years
- (not listed)	26
Elementary education	4
* High school education	9
High school plus one year	1
High school plus two years	4
Bachelor's degree	6
States with no school of this type	1

Professional Education.-- One state has no school of this type; twenty five states fail to specify the required number of clock hours for their coordinators, and five states use their state coordinators to perform this work necessary in the day trade and industrial schools, Type "A". Of the 20 states reporting, 15 stipulate from 30 to 180 clock hours of professional education as an entrance requirement for their coordinators. A summary of this requirement appears on the following page.

Clock Hours	Number of States
- (not listed)	25
12	1
30	2
40	1
54	1
60	3
70	1
* 72	1
75	1
80	1
180	3
200	1
270	1
402	1
480	1
States using state coordinator	5
State with no school of this type	1

Supervisory Experience.-- Only four states report a specific number of years of supervisory experience for their day trade and industrial coordinators. Of these four, three require two years and the fourth requires three years of such experience.

TABLE XIX

QUALIFICATIONS OF DAY TRADE AND INDUSTRIAL SHOP TEACHERS BY STATES

State	Type B--Gen. Ind.		General Education			Prof. Ed. in Cl. Hrs.	Remarks
	Age	Trade Exp- Years	Elem.	H.S.	Tec. Col.		
Alabama	21	3	x			-	
Arizona	50-	2a		x	2	180	
Arkansas		2a	-	-	-	-	
California		-	-	-	-	-	N.S.
Colorado		5	-	-	-	60	
Connecticut		-	-	-	-	-	N.S.
Delaware		6		x	2	324	
D. of Col.		-	-	-	-	-	N.S.
Florida		2	-	-	-	72	
Georgia		3a		x		-	
Hawaii	25	3	x			80	
Idaho		5a		x		60	
Illinois	26	8-4		x		324	
Indiana		3		x	3	252	
Iowa	25	3a		x		180	
Kansas		-	-	-	-	-	N.S.
Kentucky		3		x		402	
Louisiana		6-4		x		-	
Maine		3a	-	-	-	50	
Maryland		2a			x	240	
Massachusetts		-	-	-	-	-	N.S.
Michigan		2			x	72	
Minnesota		3a	-	-	-	150	
Mississippi		2a		x		-	
Missouri		4	-	-	-	30	
Montana		3#		x		60	
Nebraska		3	-	-	-	-	
Nevada	24	3	x			30	
New Hampshire	18	3	x	x		316	
New Jersey		4	x			576	
New Mexico		5	-	-	-	70	
New York		5	x	1		480	
North Carolina		2	-	-	-	-	
North Dakota		-	-	-	-	-	N.S.
Ohio		-	-	-	-	-	N.S.
Oklahoma	24	2a		x		-	
Oregon		3#		x		40	
Pennsylvania		6-4		x		296	
Puerto Rico	21	3a		x		240	
Rhode Island		-	-	-	-	-	N.S.
South Carolina		2a	-	-	-	-	
South Dakota		4a	-	-	-	108	
Tennessee	21	2a		x		18	
Texas		7		x	x	-	
Utah		6-4			x	-	
Vermont		3	-	-	-	100	
Virginia		6	x			-	
Washington		3#	-	-	-	75	
West Virginia	21	2a		x		72	
Wisconsin		3a		x		-	
Wyoming	21	3	x			108	

x Completed N.S. No School # Beyond the learning period
 - Not Listed Gen. Ind. General Industrial (In cities under 25,000)
 Right hand number under "trade experience" means years of apprenticeship;

Qualifications of Day Trade and Industrial Shop Teachers
by States Type B
(Summary of Table XIX)

A brief summary of the qualifications of day trade and industrial shop teachers, for the Type "B" school, appears below. It should be noted that eight states make no provisions for this type of school.

Age.— Twelve states report an entrance age requirement for this group of teachers. Nine of these states report an age between 21 and 25; one state reports 18; and one less than 50. A table of this brief summary is as follows:

Age	Number of States
18	1
*21	5
24	2
25	2
26	1
50-	1

Trade Experience.— Eight states have no school of this type, but all of the other states report a required number of years of trade experience for their shop teachers in the Type "B" school. The majority of the states (14/ 18) require from two to three years of trade experience beyond the apprenticeship or learning period. A summary of this requirement appears below:

Trade Experience (years)	Number of States
2	14
*3	18
4	4
5	4
6	2
7	1
States making no provision for this school	8

General Education.-- Of the 43 states sponsoring a day trade and industrial school, Type "B", thirteen do not report any specific number of years of general education requirement for shop teachers. The majority (16) of the rest of the states require that

the shop teachers be high school graduates and only seven states require less than high school. This summary is as follows:

General Education	Number of States
- (not listed)	13
Elementary education	6
One year of high school	1
*High school graduate	16
High school plus two years	2
High school plus three years	1
Bachelor's degree	4
States making no provision for this type of school	8

Professional Education.-- Only 30 states report a specific number of clock hours of professional training as an entrance requirement for shop teachers in the day trade and industrial school, Type "B". Of this number, 20 specify 180 (or less) clock hours. The remaining ten specify up to and including 576. A brief summary of this requirement follows:

Clock Hours	Number of States
- (not listed)	13
18	1
30	2
40	1
50	1
60	3
70	1
*72	3
75	1
80	1
*100	1
108	2
150	1
180	2
240	2

Clock Hours (Continued)	Number of States
252	1
296	1
316	1
324	2
402	1
480	1
576	1
Schools reporting no school of this type	8

It should be noted that the range disclosed (18-480) is very high, and that there is apparently no general agreement concerning this item.

TABLE XX

QUALIFICATIONS OF DAY TRADE AND INDUSTRIAL RELATED TEACHERS BY STATES

Type B--Gen. Ind.	Age	Trade Exp. Years	General Education			Prof. Ed. in Cl. Hrs.	Remarks
			Elem.	H.S.	Tec. Col.		
Alabama	21	3	x			-	
Arizona	50-	2a		x	2	180	
Arkansas		2		x	2	-	
California		-	-	-	-	-	N.S.
Colorado		5	-	-	-	60	
Connecticut		-	-	-	-	-	N.S.
Delaware		6		x	2	324	
D. of Col.		-	-	-	-	-	N.S.
Florida		2	-	-	-	72	
Georgia		3		x		-	
Hawaii		1		x	2	-	
Idaho		(1-5)		x	2	40	
Illinois	26	3		x	x	324	
Indiana		3		x	3	252	
Iowa		1		x		-	
Kansas		-	-	-	-	-	N.S.
Kentucky		1		x		402	
Louisiana		2		x		-	
Maine		2		x		50	
Maryland		2a		x		240	
Massachusetts		-	-	-	-	-	N.S.
Michigan		3		x		-	
Minnesota		3a	-	-	-	150	
Mississippi		3a		x	x	-	
Missouri		2	-	-	-	30	
Montana		1		x	2	-	
Nebraska		2	-	-	-	-	
Nevada		1	-	-	-	30	
New Hampshire		3		x		316	
New Jersey		3	x			576	
New Mexico		5	-	-	-	70	
New York		5		x	x	480	
North Carolina		2			x	-	
North Dakota		-	-	-	-	-	N.S.
Ohio		-	-	-	-	-	N.S.
Oklahoma		2		x	2	-	
Oregon		1		x		40	
Pennsylvania		-	-	-	-	-	Not Listed
Puerto Rico		2		x		-	
Rhode Island		-	-	-	-	-	N.S.
South Carolina		2a	-	-	-	-	
South Dakota		4a		x		108	
Tennessee	21	3		x		-	
Texas		6-4		x	2	-	
Utah		6			x	-	
Vermont		1	-	-	-	108	
Virginia		6		x	2	-	
Washington		3#	-	-	-	75	
West Virginia		-	-	-	-	-	
Wisconsin		3a		x	2	-	
Wyoming	21	2		x		180	

x Completed N.S. No School # Beyond the learning period
 - Not Listed Gen. Ind. General Industrial (In cities under 25,000)
 Right hand number under "trade experience" means years of apprenticeship;
 "a" beyond the apprenticeship period.

**Qualifications of Day Trade and Industrial Related
Teachers by States, Type B Schools
(Summary Table XX)**

The material presented in Table XX relating to the qualifications of day trade and industrial related teachers for Type B schools is briefly summarized below. Eight states make no provisions for a school of this type.

Age Requirement. Only five states specify an entrance age requirement for this group of teachers. The majority (3) specify that these teachers shall be at least 21 years of age, and the other two states specify 26 and less than 50 years.

Trade Experience. Of the 43 states making provisions for this type of school, only one state fails to specify the required amount of trade experience in years. Of the 42 states reporting, the majority (13-12) require from two to three years beyond the apprenticeship or learning period. A brief summary of the requirements appears below.

Trade Experience (years)	Number of States
- (not listed)	2
1	7
1-5	1
* 2	13
3	12
4	1
5	3
6	3

General Education. Eight states have no school of this type, and twelve states make no specific report as to the actual

number of years of formal education required for the related teachers in the day trade and industrial school, Type B. The majority of the remaining states (13/10) require this group of teachers to be at least high school graduates or have two years beyond high school. This summary appears below as follows:

General Education	Number of States
- (not listed)	12
Elementary Education	2
High school	13
* High school plus two years	10
High school plus three years	1
Bachelor's degree	5
States making no provision for this type of school	8

Professional Education.--- Only 22 states specify the number of clock hours of professional education for the related teachers in this school. Of this number 14 require 180 clock hours or less. Eight states require from 180 to 576 clock hours. A brief summary of this requirement appears on the following page.

Glock Hours	Number of States
- (not listed)	21
30	2
40	2
50	1
60	1
70	1
72	1
75	1
108	2
*150	1
180	2
240	1
252	1
316	1
324	2
402	1
480	1
576	1

As in the previous charts dealing with professional education requirements, a wide divergence in requirements appears.

TABLE XXI

QUALIFICATIONS OF DAY TRADE AND INDUSTRIAL COORDINATORS BY STATES

Type B--Gen. Ind.		Trade Exp- Years	General Education			Prof. Ed. in Cl. Hrs.	Super- visory Years	Re- marks
State	Age		Elem.	H.S.	Tec. Col.			
Alabama	21	3	x			-		
Arizona		-	-	-	-	-	Not Listed	
Arkansas		-	-	-	-	-		
California		-	-	-	-	-	N.S.	
Colorado		5	-	-	-	60		
Connecticut		-	-	-	-	-	N.S.	
Delaware		-	-	-	-	-	Not Listed	
D. of Col.		-	-	-	-	-	N.S.	
Florida		-	-	-	-	-	Not Listed	
Georgia		3		x				
Hawaii	25	3	x			80		
Idaho		(1-5)		x	2	40		
Illinois		-	-	-	-	-	State	
Indiana		3		x		54		
Iowa	25-45	(1-3)a		x	2	180		
Kansas		-	-	-	-	-	N.S.	
Kentucky		3		x		402	2	
Louisiana		3			x	-	1	
Maine		(2-3)a			x	50		
Maryland		-	-	-	-	-	Not Listed	
Massachusetts		-	-	-	-	-	N.S.	
Michigan		-	-	-	-	-		
Minnesota		-	-	-	-	-		
Mississippi		3a		x				
Missouri		-	-	-	-	-	Not Listed	
Montana		(1-3)#		x		60		
Nebraska		7	-	-	-	-		
Nevada		3	x			30		
New Hampshire		3		x		316		
New Jersey		8	-	-	-	412	State	
New Mexico		5	-	-	-	70		
New York		5			x	480		
North Carolina		-	-	-	-	-	Not Listed	
North Dakota		-	-	-	-	-	N.S.	
Ohio		-	-	-	-	-	N.S.	
Oklahoma		3			x			
Oregon		-	-	-	-	-	Not Listed	
Pennsylvania		-	-	-	-	-	State	
Puerto Rico	25	3a			x	240		
Rhode Island		-	-	-	-	-	N.S.	
South Carolina		4a	-	-	-	-	L.S.	
South Dakota		4		x		108		
Tennessee	21	3		x		180		
Texas		(6-7)		x	2	-		
Utah		6-4			x	-		
Vermont		-	-	-	-	-	Not Listed	
Virginia		-	-	-	-	-	No Plans	
Washington		3#	-	-	-	75		
West Virginia		3a			x	72		
Wisconsin		3			x	-		
Wyoming		-	-	-	-	-	Not Listed	

x Completed N.S. No School # Beyond the learning period
 - Not Listed L.S. Local Supervisor
 Right hand number under "trade experience" = years of apprenticeship;
 "a" years beyond the apprenticeship period.

Qualifications of Day Trade and Industrial
Coordinators by States, Type B Schools
(Summary Table XXI)

The brief summary presented below outlines the qualifications of day trade and industrial coordinators of Type B school, as reported in Table XXI. Eight states have no school of this type.

Age. While only five states in this group report an initial age; two report 21; two, 25; and one 25 to 45.

Trade Experience.-- Eight states have no school of this type, and fifteen others require no specific number of years of trade experience for these coordinators in the day trade and industrial school, Type B. Of the other 28 states, the majority (20 states) require that the coordinators have from one to three years of trade experience, and fifteen states require three years. A summary by numbers of states of this requirement is as follows:

Trade Experience (years)	Number of States
- (not listed)	15
(1-3)	2
(1-5)	1
2	1
(2-3)	1
* 3	15
4	2
5	3
(6-7)	1
7	1
8	1
States making no provision for this type of school	8

General Education.-- Eight states do not have this type of school, and 21 others fail to list any specific general education for the day trade and industrial coordinators for the Type B school. Of the remaining (22) states the majority (8/3/8) require that their coordinators be high school graduates, have two years beyond high school, or have a Bachelor's degree from a standard college or university. The summary of the general education requirements for coordinators of day trade and industrial school, Type B, is as follows:

General Education	Number of States
- (not listed)	21
Elementary education	3
High school graduate	8
High school plus two years	3
Bachelor's degree	8
States making no provision for this type of school	8

Professional Education.-- Eight states have no school of this type, and 25 states do not state any specific number of clock hours to meet this requirement in professional education for the coordinators of the day trade and industrial school, Type B. Of the remaining eighteen states that do specify this professional educational requirement, eleven states require 108 hours or less, and only seven states report more. A brief summary of the professional education in clock hours for this group appears on the following page.

Clock Hours	Number of States
- (not listed)	25
30	1
40	1
50	1
54	1
60	2
70	1
72	1
* 75	1
80	1
108	1
180	2
240	1
316	1
402	1
412	1
480	1

It should be noted that there is no general agreement among the states as to this requirement.

Supervisory Experience.-- Only two states report a required number of years of supervisory experience. One reports one year, and the other reports two years.

TABLE XXII

SUMMARY OF PERSONAL QUALITIES FOR VOCATIONAL PERSONNEL BY STATES

State	Personal Qualities
Alabama	Good leadership; a sympathetic appreciation for and interest in vocational education.
Arizona	Good attitude toward their work; good personality; willingness to do everything necessary to make classes successful and gain confidence and good will of students and supervisors; sympathetic understanding of the work pupils are being trained to do; ability to do satisfactorily the work required.
Arkansas	Must have personality and qualities of leadership necessary for a position of this kind; must have sufficient scholastic education to do the work; ability as a teacher; ability to teach certain phases of subject matter related to the trade.
California	Physically and mentally fit to engage in teaching service; evidence of special ability in the particular trade and industrial occupation.
Colorado	Must have those qualities of leadership and personality which command the respect of employers, employees, and educators; good attitude toward work, good personality, and prestige among fellow workers; ability to exert a wholesome influence upon boys and girls of rather immature age; possess the ability to analyze his trade for teaching purposes; must have the special ability to inspire interest in students; must possess a willingness to visit and study industrial plants, assist in placing students and must fully appreciate the problems and ambitions of the working youth.
Connecticut	Must have those qualities of leadership to assume promotional, inspectional, and instructional duties; develop and improve their teaching ability.

	must understand the management and supervision of trade and industrial education; must be prepared to present this phase of a teacher's responsibility effectively; ability to secure a passing grade in special trade school certification examination.
Delaware	Must have those qualities of leadership to assume promotional, inspectional, and instructional duties; a high standing as a skilled worker in the trade; ability to impart their knowledge; a thorough understanding of the subject to be taught; professional spirit; sufficient contact with office work to insure a thorough knowledge of employment.
District of Columbia	Must have those qualities of leadership to assume promotional, inspectional, and instructional duties.
Florida	Must have those qualities of leadership to assume promotional, inspectional, and instructional duties; sufficient direct contact with industry as to provide for an understanding; and understanding that will permit the carrying out in the State of the underlying plans of education under the Smith-Hughes Act; ability to impart their knowledge, hold the respect of the pupils, fellow workmen, teachers, and employers; must be able to relate the instruction of the school to the trade, economic, social, and civic life of pupils; must have a command of the methods of instruction and coordination necessary to make the instruction function in terms of pupils needs.
Georgia	Must have those qualities of leadership to assume promotional, inspectional, and instructional duties.
The Territory of Hawaii	Must have those qualities of leadership to assume promotional, inspectional, and instructional duties; master of the trade work to be taught.
Idaho	Good personality; good health and habits; must be recognized as knowing the trade to be taught; experienced in handling men or women, with ability to work with them and hold their interest; all trade preparatory part-time teachers must know how to handle adolescent youth; successful teaching experience; interest in and knowledge of the general content of part-time education;

sympathy for and interest in the social problems of the employed youth.

- Illinois** Squareness and fairness, pleasing personality, resourcefulness, good judgment, broad minded, general practical knowledge of work to be done, ability to get others to assume responsibility, to organize, to instruct others, to sell new ideas and to work with labor, employers and school people; important that the coordinator understands and likes people and has an unusual degree of tact and diplomacy in the handling of people; should have good personality, health, possess successful experience in instructing men, and know how to reach them on their own level; recognized by employers and fellow tradesmen as occupationally competent.
- Indiana** Shall possess the technique of imparting his skills or knowledge to others, and must be recognized by employers and employees as a tradesman; may teach related subjects, if he has acquired the technical training; must be an outstanding member of his craft; shall have had the training to lead a conference or the ability to be trained as a conference leader; must have demonstrated proficiency in the trade.
- Iowa** Such contact in a trade or in industry as to give him appreciation of the tradesman's work and viewpoint and to secure the working man's confidence; good health and habits, leadership ability with people; interested in boys and adults in the trades; proven ability as a teacher.
- Kansas** Qualities of leadership as may reasonably be expected to insure success; those decreed essential by the State Board; proven ability to impart skill to others; good standing as a workman and citizen; interest in and knowledge of the aims and purposes of general continuation of part-time schools or classes; special ability to teach, discipline, direct and interest pupils, such as will be likely to enter such schools or classes; interest in and knowledge of industry and labor and their habit of visiting industries, and places of employment and getting intimate, first-hand knowledge of working and living conditions, or ideals and aims of persons who enroll for work in such part-time schools or classes;

evidence of their ability to operate certain machines and tools in the trade or occupation concerned; gainfully employed at their trade within five years.

Kentucky

Louisiana Trade competency will be determined by the Division of Certification of the Department of Education by test given through approved agencies as the Department may designate; special appreciation of the needs of persons over 14 years of age who have entered upon employment; shall be masters of the subject matter for which they are employed to teach.

Maine

Maryland Must have had experience with industrial organizations and the ability to make proper contact with the commercial and the industrial class; must have the respect of his fellow workers; is recognized as a master of his craft or technical field in the trade in which he is employed; must be certified by the State Department of Education; might be an individual brought in from industry.

Massachusetts Sound health and physique, neatness of person, befitting habits of conduct and speech, presumption of ability to manage pupils.

Michigan Ability to adapt their special knowledge and skills to the actual needs of the students.

Minnesota General qualities as will satisfy the State Board for Vocational Education concerning his general fitness for the position; must have natural ability to impart knowledge and skill to others as evidenced by his previous employment as a foreman or lead man; must be recognized as a journeyman.

Mississippi Recognized as an outstanding worker in his trade; masters of the subject matter for which they are employed to teach; some contact with actual store and office procedures sufficient to insure proper correlation of instruction and practice.

- Missouri Ability to impart knowledge and skill to others; sympathetic to the problems of the part-time school pupil; good standing in the occupation and as a citizen; tradesman with broad and appropriate experience.
- Montana Ability to instruct and to analyze his trade; ability to command the respect, confidence and good will of the students in his evening classes; an appreciation of part-time education problems and the needs of working youths; pleasant personality; in sympathy with work; able to adapt the courses to the varying needs of the pupils; able to instruct either in classes or by individual and private instruction; high standing among the workmen of his trade.
- Nebraska Such as will enable him to meet satisfactorily school administrators and representatives of the trade's industrial administrators; must be a master of all the technical content pertaining to the craft in which he is experienced; must be thoroughly familiar with the contemporary practice in applying the technical content to this craft; must have a general working knowledge of the general techniques and a working knowledge of the organization and operation of the general industry to which his craft is related; must satisfactorily meet and deal with the specified groups or individuals with whom he has to deal; must be thoroughly familiar with the manner in which his experience has been gained; a mastery of the technique of teaching plus the ability to impart that knowledge to others.
- Nevada Possess a pleasing personality; have proven ability as a leader; must be able to contact employer and employees and present intelligent plans for training for efficiency; some vocational experience and a broad understanding of and sympathy with the problems of young persons.
- New Hampshire
- New Jersey Must be in good health; no physical handicaps that would impair his functions; administrative and executive ability as to command the respect of labor representatives, employers, and educators; should be acquainted with the various fields of industry and industrial problems as

they exist in New Jersey.

- New Mexico The state supervisor will check character, attitude toward work, personality, honesty and prestige of the applicant among fellow workers and evening school instructors; ability to analyze his trade for teaching purposes; ability to manage a school shop according to the trade schools standards; ability to inspire interest in students; possess a willingness to visit and study industrial plants; assist in placing students; fully appreciate the problems and ambitions of the working youths; mechanical skill and ability to use technical knowledge in a practical way; thorough grasp of the subject to be taught with its application to the trade to which the subject is related.
- New York
- North Carolina Demonstrated ability in the occupation they are to teach.
- North Dakota Must have demonstrated that he has the personality and qualities of leadership necessary in a position of this kind; those necessary to become a good instructor; must understand the educational needs of boys and girls who have gone to work; ability as a teacher in the subject to be taught; good records in industry.
- Ohio Good characteristics which fit them as leaders of groups of men; possess the technique of imparting his skill or knowledge to others; one of the outstanding members of his craft; qualified to teach both shop and related subjects.
- Oklahoma Men and women shall be selected from the occupations, if possible, and shall be experts in the work which they teach; proved ability as a teacher.
- Oregon Such as are acceptable to the State Board for Vocational Education; proved ability as a teacher.
- Pennsylvania Must have attained recognized leadership in the field of vocational industrial education; evidence of trade or occupational competency.
- Puerto Rico Expert at the trade or particular branch of the trade to be taught; sympathetic understanding of problems of

employed boys and girls; equivalent training and experiences in social service work may be accepted in certain cases.

- Rhode Island Evidence of intimate knowledge and contact in several trades; evidence of skill as a craftsman; evidence of art as applied to industry; physical fitness; good health; oath of allegiance pledge; mastery of content of instruction and application.
- South Carolina Demonstrated ability in the field of trade and industrial education; ability to impart knowledge; ability to hold the respect of the students, fellow workers, teachers and employers will be prerequisite; must be able to relate the instruction of the skill to the trade, economic, social and civic life of the pupils; must have command of the methods of instruction and coordination necessary to make the instructions function in the terms of pupil needs.
- South Dakota Have the ability to impart knowledge and skill to others; should be recognized as a good workman; should be thoroughly acquainted with the community and the places where the students are employed; should be sympathetic with the problems of the part-time student; shall have good health; a good standing as a mechanic; ability to impart technical and related information to others.
- Tennessee Should be experts in the work to be taught; should have served as a foreman or superintendent in an industrial plant or on a construction job where he had apprentices under his supervision; must have the proper attitude toward vocational education; must have an understanding of the peculiar problems of the vocational school; shall be interested in boys and girls of pre-vocational age; have an understanding of their problems and a willingness to help them; acceptable moral habits and attitudes; proper work habits and attitudes; willingness to accept teaching suggestions; attitude toward self-improvement; resourcefulness; reasonable nature; have a high degree of skill in the trade subjects to be taught; teaching ability; understand the organization and purpose of the day trade school; good health; ability to secure and hold the interest and respect of the pupils; be interested in day trade school students and have an understanding of their problems.

- Texas May be either a tradesman or technical man; proven ability as a teacher.
- Utah Master of his trade; professional training for dealing with adolescents; shall be fitted by temperament and interest in the problems of the employed boy and girl to make successful teachers.
- Vermont Masters of the trade in which they are offering instructions; chosen because of their recognized ability as tradesmen.
- Virginia Evidence of a knowledge of the technical requirements of at least one trade or industrial pursuit; leadership; adaptability; ability to teach successfully; show a professional attitude toward teaching; willingness to participate in such conferences and teacher training classes as may be decreed advisable by the local superintendent of schools or the State Supervisor of Trade and Industrial Education; vocationally minded; personal interests of the students in mind; ability to deal with people honestly and successfully; ability to get things done, to size up situations, to make definite decisions based on facts, to organize the program and carry out the plans, and to command respect and confidence.
- Washington Must show evidence of leadership ability such as successful supervisory or foremanship experience in his trade; should be able to build up the proper working relations between labor, employers, and the public schools in the development of a trade and industrial education program; must be recognized by the industrial group; work with young people may be in the educational field, social field, personnel work; proved ability as a teacher.
- West Virginia Recognized ability as tradesman; willing to secure such training as is decreed necessary for the performance of their duties.
- Wisconsin
- Wyoming Ability to inspire pupils; understand how to deal with working pupils; must be willing to take courses to develop and improve their teaching ability.

Summary of Personal Qualities

Table XXII presents a summary of the personal qualities listed for vocational personnel in the various state plans. These qualities were so numerous and varied so greatly in the different states that it seemed best to make a state-by-state summary to disclose them. No attempt was made to segregate these items for the various types of school officers; since it was felt that little would be gained from such a detailed study. However this summary is very interesting because it discloses the opinions of administrators in the various states as to the type of personnel they wish to employ.

The reader will note that the state plans emphasize many personal qualities such as good health, good personality, interest and belief in the vocational work that the teacher is performing, as well as his ability to work with the boys and girls or adults in the various types of schools.

Types of Certificates by States

Table XXIII.— On account of the wide variety of certification procedures that are followed in the various states, some difficulty was encountered in working out suitable headings for studying these materials. The five captions listed below were finally chosen as adequate for covering the data involved.

1. Entrance requirements
2. Temporary certificate
3. Renewal and term certificates
4. Life or permanent certificate
5. Notes

The term "entrance requirements" was used because most states list the certification requirements of beginning teachers as well as the qualifications necessary to enroll in teacher training under such a heading. The term "temporary certificate" means the first teaching certificate labelled in various states as "first certificate", "temporary certificate", "provisional certificate", "vocational certificate" et cetera.

"Renewal" or "term certificates" are provided in the different states for various periods of time. Periods of three, four, five, and eight years duration appear frequently under the renewal captions of the various states.

A "life", or "permanent certificate", is indicated under caption four. The final heading, "notes", permits the inclusion of much valuable material regarding certification procedures of certain states.

It is hoped that the preceding explanations will assist in clarifying the following state by state presentation of the certification procedures for the vocational teachers in the various states.

TABLE XXIII
SUMMARY OF TYPES OF CERTIFICATES BY STATES

State	Name of Certificate	Term
Alabama		
	Temporary	
	Vocational Trade and Industries Certificate	3
	Renewal of Term	
	Vocational Trades and Industries Certificate Renewal	3
	Class B Vocational Professional Certificate	8
	Class B Vocational Professional Certificate Renewal	8
	Class A Vocational Professional Certificate	10
	Class A Vocational Professional Certificate Renewal	10
	Life or Permanent	
	Class B Vocational Professional Certificate	*CP
	Class A Vocational Professional Certificate	*CP
Arizona		
	Temporary	
	Special One-Year Vocational Certificate	1
	Special Vocational Evening School Certificate	1
	Renewal of Term	
	Special One-Year Vocational Certificate Renewal	1
	Special Vocational Evening School Certificate Renewal	1
	Special Three-Year Certificate	3
	Special Three-Year Certificate Renewal	3
Arkansas		
	Temporary	
	Certificate	-
California		
	Temporary	
	Class A Credential	2
	Class B Credential	2
	Class C Credential	2
	Class D Credential	1
	Renewal of Term	
	Class A Credential Renewal	5
	Class B Credential Renewal	5
	Class C Credential Renewal	5
	Class D Credential Renewal (Special)	1
	Class D Credential Renewal	5

*CP - Conditional permanent

SUMMARY OF TYPES OF CERTIFICATES BY STATES (CONT'D)

State	Name of Certificate	Term
Colorado		
Temporary	Temporary Certificate	1
Renewal or Term	Certificate to Teach Trade and Industrial Subjects	-
Connecticut		
Temporary	Special Certificate	3
Renewal or Term	Temporary License	1
	Temporary License Renewal	1
	Limited Secondary Certificate	3
Life or Permanent	Limited Secondary Certificate	*P
Delaware		
Temporary	A State Certificate	-
Renewal or Term	Certificate in the Special Branches of Industrial Education	-
	Class B Certificate in Special Subjects	3
	Other Special Certificates Renewal	-
District of Columbia		
Temporary	Probationary Appointment	-
Florida		
Temporary	Temporary Certificate (Day Trade)	2
	Temporary Certificate (Part-time)	1
	Temporary Certificate (Continuation)	2
Renewal or Term	C Grade Certificate (Day Trade)	2
	First Renewal	1
	Second Renewal	1
	C Grade Certificate (Part-time)	2
	C Grade Certificate Renewal (Continuation)	2
	C Grade Certificate	2
	B Grade Certificate	3
	A Grade Certificate	5
Life or Permanent	B Grade Certificate	*P

* P Permanent

SUMMARY OF TYPES OF CERTIFICATES BY STATES (CONT'D)

State	Name of Certificate	Term
Georgia		
	Renewal or Term Three-Year State Industrial Education Teacher's License	3
Hawaii		
	Temporary Special Three-Year Certificate Renewal	3
	Renewal and Term Renewal Certificate	8
Idaho		
	Temporary Class A Specialist Vocational Certificate in Trade and Industrial Education	1
	Class B Specialist Vocational Certificate in Trade in Trade Technical Subjects Related to Trade and Industrial Occupations	1
	Class C Specialist Vocational Certificate in Trade and Industrial Occupations	1
	Renewal and Term Class A Certificate Renewal	1
	Class A Second Renewal	1
	Class A Third Renewal	1
	Long Term Specialist Vocational Certificate Class A	5
	Class B Certificate Renewal	1
	Class B Second Renewal	1
	Class B Third Renewal	1
	Long Term Specialist Vocational Certificate Class B	5
	Class C Certificate Renewal	1
Illinois		
	Temporary Emergency Certificate	-
	Limited State Vocational Certificate	4
	Renewal and Term Limited State Vocational Renewal	4
	Succeeding Limited State Vocational Renewal	4
Indiana		
	Temporary Permit	2
	Renewal and Term Second Grade License	3
	First Grade License	5
	First Grade License Renewal	5
	Life or Permanent Life License	*1

* L Life

SUMMARY OF TYPES OF CERTIFICATES BY STATES (CONT'D)

State	Name of Certificate	Term
Iowa		
	Temporary	
	Three-Year Special Subjects Certificate	3
	Renewal and Term	
	Three-Year Certificate Renewal	3
	Standard Secondary Certificate	-
	Advanced Secondary Certificate	-
Kansas		
	Temporary	
	Limited One-Year Certificate	1
	Renewal and Term	
	Limited One-Year Renewal	1
	Class C	-
	Class B	-
	Class A	-
Kentucky		
	Temporary	
	Special Trade and Industrial Certificate	1
	Renewal and Term	
	Special Trade and Industrial Certificate Renewal	1
Louisiana		
	Temporary	
	Temporary Two-Year Class T, or Three-Year Class T	2-3
	Renewal and Term	
	Renewal Class T	2
	Life or Permanent	
	Type A Certificate	*L
Maine		
	Temporary	
	First Provisional Non-Professional	2
	Evening School Certificate	2
	Renewal and Term	
	Second Provisional Non-Professional	2
	Standard Non-Professional	10
	Evening School Certificate Renewal	2

* L Life

SUMMARY OF TYPES OF CERTIFICATES BY STATES (CONT'D)

State	Name of Certificate	Term
Maryland		
Temporary	Provisional Certificate	1
	Certificate	3
Renewal and Term	Provisional Certificate Renewal	1
	Full Four-Year Certificate	4
	Full Four-Year Certificate Renewal	4
	Three-Year Renewal	3
	Full Three-Year Certificate	3
Massachusetts		
Temporary	Vocational Certificate	-
Michigan		
Temporary	Temporary Vocational Certificate	2
Renewal and Term	Certificate with a C Rating	2
	Certificate with a B Rating	3
	Certificate with A Rating	5
	Certificate with A Rating Renewal	5
Life or Permanent	Certificate with B Rating made Permanent	* P
Minnesota		
Temporary	Temporary Certificate	1
Mississippi		
Temporary	Temporary License	-
Renewal and Term	Class C Secondary Certificate	2
	Class C Secondary Certificate Renewal	2
	Class B Secondary Certificate	3
	Class B Secondary Certificate Renewal	3
Life or Permanent	Class A Secondary Certificate	-

*P Permanent

SUMMARY OF TYPES OF CERTIFICATES BY STATES (CONT'D)

State	Name of Certificate	Term
Missouri		
	Temporary	
	One-Year Certificate	1
	Renewal or Term	
	One-Year Certificate Renewal	1
	Second One-Year Renewal	1
	Third One-Year Renewal	1
	Fourth One-Year	1
	Fifth One-Year	1
	Sixth One-Year	1
	A Five-Year Certificate	5
Montana		
	Temporary	
	Special Certificate	1
	Renewal or Term	
	Special Certificate Renewal	1
	Secondary State Certificate (Temporary)	1
	Secondary State Certificate	-
	Six-Year Secondary Certificate	6
	Life or Permanent	
	Life Certificate	*1
Nebraska		
	Temporary	
	Temporary Certificate	-
Nevada		
	Temporary and Renewal or Term	
	Four-Year Vocational Certificate	4
	Two-Year Vocational Certificate	2
	One-Year Vocational Certificate	1
	Life or Permanent	
	Life Diploma	*1
New Hampshire		
	Temporary	
	Temporary Permit	1
	Renewal or Term	
	License to Teach	1
	State Teacher's Certificate	-

*1 Life

SUMMARY OF TYPES OF CERTIFICATES BY STATES (CONT'D)

State	Name of Certificate	Term
New Jersey		
	Temporary	
	Temporary Vocational Certificate	1
	Limited Vocational Certificate	1
	Renewal and Term	
	Second Temporary Vocational Certificate	1
New Mexico		
	Temporary	
	Three-Year Trade Certificate	3
	Renewal and Term	
	Temporary Grade Certificate	1
	Three-Year Certificate Renewal	3
New York		
	Temporary	
	Provisional Certificate	1
	Renewal and Term	
	Provisional Certificate Renewal	1
	Life or Permanent	
	Provisional Certificate	10
North Carolina		
	Temporary	
	Temporary Permit	-
	Special Trade and Industrial Certificate	-
North Dakota		
	Temporary	
	Certificate	-
Ohio		
	Temporary	
	Temporary Certificate	1
	Renewal and Term	
	First One-Year Renewal	1
	Second One-Year Renewal	1
	Third One-Year Renewal	1
	Four-Year Provisional	4
	Eight-Year Professional	8
	Life or Permanent	
	Permanent	*P

*P Permanent

SUMMARY OF TYPES OF CERTIFICATES BY STATES (CONT'D)

State	Name of Certificate	Term
Oklahoma		
	Temporary	
	Temporary Certificate	-
	Renewal or Term	
	Temporary Certificate	-
Oregon		
	Temporary	
	One-Year Vocational Certificate	1
	Renewal or Term	
	Five-Year Vocational Certificate	5
Pennsylvania		
	Temporary	
	Vocational Extension Certificate	1
	Provisional College Certificate	3
	Renewal or Term	
	Temporary Standard Certificate	2
	Provisional College Certificate Renewal	3
	Life and Permanent	
	Permanent Standard Certificate	*P
Puerto Rico		
	Temporary	
	Special Certificate	-
Rhode Island		
	Temporary	
	Provisional Certificate	1
	Renewal or Term	
	Provisional Certificate Renewal	1
	Five-Year Certificate	5
South Carolina		
	Temporary	
	Temporary Certificate	1
	Renewal or Term	
	Temporary Certificate Renewal	1
	Vocational Teacher's Certificate	-
South Dakota		
	Temporary	
	Certificate	-

*P Permanent

SUMMARY OF TYPES OF CERTIFICATES BY STATES (CONT'D)

State	Name of Certificate	Term
Tennessee		
	Temporary	
	Permit	1
	One-Year Limited Training Certificate	1
	Renewal and Term	
	Provisional Certificate	2
	Vocational Teachers Certificate	-
	One-Year Limited Training Certificate Renewal	1
	Four-Year Provisional Certificate	4
	Four-Year Provisional Certificate Renewal	4
	Teacher's Certificate	5
	Teacher's Certificate Renewal	5
Texas		
	Temporary	
	Temporary Vocational Certificate	2
	Renewal and Term	
	Temporary Vocational Certificate Renewal	2
	Life or Permanent	
	Permanent Vocational Certificate	*P
Utah		
	Temporary	
	Special Certificate	-
Vermont		
	Temporary	
	Limited Probationary Certificate (Shop)	1
	Professional Probationary Certificate (Related)	1
	Renewal and Term	
	Limited Probationary Certificate Renewal	1
	Limited Standard Certificate	5
	Limited Standard Certificate Renewal	5
	Professional Standard Certificate	5
	Professional Standard Certificate Renewal	5

*Permanent

SUMMARY OF TYPES OF CERTIFICATES BY STATES (CONT'D)

State	Name of Certificate	Term
Virginia		
	Temporary	
	One-Year Trade Certificate	1
	Renewal and Term	
	One-Year Trade Certificate Renewal	1
Washington		
	Temporary	
	One-Year Certificate	1
	Renewal and Term	
	One Year Renewal	1
	Three-Year Renewal	3
	Five-Year Renewal	5
West Virginia		
	Temporary	
	Special Trade and Industrial Certificate	1
	Renewal and Term	
	First Renewal of Special Trade and Industrial Certificate	1
	Second Special Trade and Industrial Certificate Renewal	1
	First Class Trade and Industrial Certificate	5
	Renewal of First Class Trade and Industrial Certificate	5
	Reinstated Certificate	-
Wisconsin		
	Temporary	
	Temporary Certificate	1
	Special Certificate	1
	Renewal and Term	
	Special Certificate Renewal	1
	Life or Permanent	
	Senior A Classification	*L
Wyoming		
	Temporary	
	Probationary	1
	Renewal and Term	
	Probationary Renewal	1
	Junior Certificate	-
	Senior Certificate	5

*L Life

Summary of Types of Certificates by States
(Summary Table XXIII)

The reader will note the wide variety of titles given to the vocational certificates that are issued in the various states. The titles not only vary greatly, but the number of years for which certificates are issued also show wide ranges.

Temporary certificates are issued for periods ranging from one to three years. Renewal or term certificates are issued for periods varying from one to ten years.

In regard to life certificates, most states issue life (or permanent) certificates. However, many states, for both vocational and regular public school work, are doing away with life certificates and are issuing final indefinite term certificates with rules and regulations for keeping such certificates in force.

The whole problem of vocation certification is most challenging, and constant revision is taking place in this field. Much study could be devoted to this area of work.

**Titles of Professional Education Courses for Vocational Personnel
Listed in the Various State Plans**

The apparent great diversity of offerings of professional education courses given for certification purposes is clearly disclosed in the list of courses entitled, "Titles of Professional Education Courses for Vocational Personnel Listed in the Various State Plans", that appear on the following pages (163-168). This list enumerates 199 separate titles. No attempt has been made to analyze the courses for similarities, except to make general groupings under 15 main headings, as follows:

1. Administration Courses
2. Conference Courses
3. Construction and Analysis Courses
4. History and Philosophy Courses
5. Industry and Labor Courses
6. Methods Courses
7. Organization Courses
8. Personnel Management Courses
9. Psychology Courses
10. Related Subjects
11. Shop Management
12. Supervision
13. Survey Courses
14. Tests and Measurements
15. Vocational and Educational Guidance

TITLES OF PROFESSIONAL EDUCATION COURSES FOR VOCATIONAL PERSONNEL
LISTED IN THE VARIOUS STATE PLANS

Administration courses:

1. Administration and supervision of trade and industrial schools
2. Administration of part-time education
3. Administration of vocational education
4. City school administration
5. Problems in administration and supervision of part-time education, including establishing of the school problems of attendance, records, reports, progress, etc.

Conference courses:

6. Conference leadership
7. Conference leading
8. Conference methods
9. Conference methods of teaching
10. Principles of conference leading
11. The conference method of training foremen how to organize and construct conferences

Construction and Analysis courses:

12. Advanced graphic analysis
13. Analysis and organization of trade and industrial content for teaching purposes
14. Analysis of part-time educational problems
15. Analysis of trades and occupations
16. Construction of vocational curricula
17. Curriculum construction in trade and industrial education
18. Graphic analysis
19. Job analysis
20. Maintaining and utilization of trade and job analysis
21. Making and using trade and job analysis
22. Making and using job analysis for the training of trade teachers
23. Making and utilization of trade and job analysis and organization of content for trade courses
24. Making and utilization of trade and job analysis for training trade teachers
25. Making and utilization of trade and shop analysis
26. Making and utilizing instruction sheets
27. Making and utilizing of job analysis
28. Making and utilizing of job analysis for training trade teachers and organization of content for training courses

29. Making and utilizing of job analysis or completion of an approved course in the theory and practice of vocational teaching
30. Making and utilizing of trade and job analysis for training teachers
31. Making and utilizing trade and job analysis
32. Making and utilizing trade and job analysis and organization of course content
33. Making and utilizing trade and job analysis for training trade teachers and organizing the content of trade courses
34. Making and utilizing trade and job analysis in training trade teachers and in curriculum construction
35. Making of trade and job analysis
36. Making trade and job analysis and organizing content for training courses
37. Occupational analysis
38. Trade analysis
39. Trade analysis and course of study construction
40. Trade analysis and course organization
41. Trade analysis and organization of subject matter for trade courses
42. Trade analysis, teaching methods
43. Trade and job analysis
44. Trade and job analysis for curriculum making
45. Trade and occupational analysis
46. Trade and subject analysis
47. Use of trade analysis in planning courses
48. Utilization and analysis of curriculum construction

History and Philosophy courses:

49. History and development of vocational education
50. History and philosophy of vocational education
51. History and principles of vocational education
52. History of industrial education
53. History, philosophy, problems and/or principles of education
54. Philosophy and problems of trade and industrial education
55. Philosophy of vocational education
56. Principles of High School teaching
57. Training in philosophy
58. Views and aims of trade and industrial education

Industry and Labor courses:

59. Coordination of part-time education
60. Economics
61. Educational and industrial coordination
62. Fundamental principles of trade and industrial education
63. Human relations problems in vocational education
64. Industrial economics

65. Industrial organization and management
66. Industrial organization and management problems
67. Industrial problems, including industrial organization and management, and labor relationships
68. Labor economics
69. Labor problems
70. Modern industries
71. Organization and administration of trade and industrial education
72. Problems in coordination
73. Problems in part-time education
74. Problems of industrial education
75. Problems of part-time and evening school
76. Public school finance
77. Social and economic factors
78. The latest ideas of industrial education

Methods:

79. Materials and methods of High School teaching
80. Methods and practice teaching
81. Methods and supervision of vocational education
82. Methods in commercial education
83. Methods of coordinating class trade and related work
84. Methods of handling classes
85. Methods of instruction
86. Methods of instruction for trade and industrial teachers
87. Methods of placement and follow-up
88. Methods of shop instruction
89. Methods of supervision and administration of trade and industrial education
90. Methods of teaching
91. Methods of teaching evening classes
92. Methods of teaching industrial subjects
93. Methods of teaching industrial subjects including practice teaching
94. Methods of teaching occupational subjects
95. Methods of teaching problems in apprentice training
96. Methods of teaching shop courses
97. Methods of teaching trade and industrial subjects
98. Methods of trade teaching
99. Methods of training instructors
100. Methods of training teachers
101. Methods of training teachers, local supervisors and conference leaders
102. Methods of training trade teachers
103. Methods of training trade teachers while in service

104. Procedures and methods in industrial teacher training
105. Promotional methods of vocational education
106. Principles and methods of teaching in the part-time school
107. Principles, materials and methods
108. Special methods in related subjects
109. Special methods, job analysis and instruction sheets
110. Special methods of teaching part-time education
111. Special methods of teaching trade and industrial education
112. Survey methods
113. Teacher-training method course
114. Teaching methods and devices for evening school teachers
115. Teaching methods and devices for trade and shop teachers
116. Techniques of teaching trades

Organization courses:

117. Curriculum construction
118. Development and organization of instruction material
119. Evening school, their organization and control
120. General continuation school organization
121. Observation and practice teaching
122. Organization and management of instruction
123. Organization and management of trade and industrial education classes
124. Organization and philosophy of vocational education
125. Organization for individual instruction and progression
126. Organization of content
127. Organization of content for instructional purposes
128. Organization of content for presentation
129. Organization of content for teacher training purposes
130. Organization of content for trade classes
131. Organization of content for trade courses
132. Organization of content for training courses
133. Organization of courses
134. Organization of instruction material
135. Organization of specific content for day trade teachers
136. Organization of subject material including the making and utilization of trade and job analysis in training trade teachers
137. Organization of subject matter for evening classes
138. Organization of teaching content
139. Organization of trade and related subjects courses
140. Organization, supervision, coordination and preparation of related subjects, materials for a diversified occupations program
141. Organizing and developing trade and industrial programs
142. Outlining courses of study
143. Practice teaching in academic subjects
144. Practice teaching in business English

145. Practice teaching in machine and pen bookkeeping
146. Practice teaching in major and minor subjects
147. Practice teaching in office practice and filing
148. Practice teaching in shorthand
149. Practice teaching in typing
150. Practice teaching in vocational industrial education
151. Theory and practice of industrial arts education

Personnel management courses:

152. Class management
153. Cooperative and apprentice education
154. Employer--employee relationships
155. Problems in coordination
156. Writing instruction sheets and problems of class management

Psychology courses:

157. Adolescent development or psychology for teachers
158. Educational psychology
159. Vocational psychology

Related Subjects:

160. Applied mathematics
161. Drawing
162. English
163. Related study material
164. Related subject content
165. Science
166. Teaching trade related subjects

Shop Management:

167. Class room and shop management
168. Shop layout and management
169. Shop management
170. Shop organization and control
171. Shop organization and management
172. Trade shop planning; organization and control

Supervision:

173. Supervised teaching in trade subjects
174. Supervision and administration of trade and industrial education
175. Supervision and administration of trade and industrial schools
176. Supervision and administration of trade and industrial schools or classes
177. Supervision and administration of vocational education
178. Supervision of industrial education
179. Supervision of trade and industrial schools

180. Supervision of vocational education

Survey courses:

- 181. Community surveys
- 182. Survey methods
- 183. Vocational education survey

Tests and Measurements:

- 184. Advanced occupational tests and measurements
- 185. Tests and measurements
- 186. Tests and measurements in trade and industrial education

Vocational education and guidance:

- 187. Adult education
- 188. All day, part-time, and evening school
- 189. Coordination of vocational education
- 190. Coordination responsibilities
- 191. Educational and vocational guidance
- 192. Educational theory and practice related to the vocational field
- 193. Principles and practices of vocational education
- 194. Seminar in vocational education
- 195. Techniques of vocational education
- 196. Theory and administration of vocational education
- 197. Vocational education
- 198. Vocational guidance
- 199. Vocational guidance and placement problems

Summary

In this summary the most significant data presented in the preceding tables of this chapter will be briefly recapitulated by outlining the qualifications of a representative vocational worker for each field studied. In so far as possible these qualifications are the starred items of the various brief summary tables of the chapter. Since these starred items represent the central tendencies of the data involved, this procedure discloses the general trends of the data revealed in the tables very clearly. In some few cases where such data could not be considered conclusive because of small numbers involved, or other causes, a complete range or other pertinent indication is presented.

State Supervisor.-- From the data presented in Table I, and the summary that follows it, the representative state supervisor of trades and industries of the various states and territories will be found to possess qualifications as follows:

Age	20-45 years
Trade experience	3 years
Teaching experience	3 years
Supervisory experience	3 years
Professional education	540 clock hours
General education	Bachelor's degree

Teacher Trainer.-- From the material presented in Table II, the representative teacher trainer in the various states and territories possess qualifications as follows:

Age	25 years
Trade experience	3 years
Teaching experience	2-3 years
Supervisory experience	3 years
Professional education	540 clock hours
General education	Bachelor's degree

State Coordinator.-- The results from the chart of the five state coordinators may or may not be a representative picture of all of the various states and territories. Should the other states and territories employ state coordinators at some future date, the report may or may not be changed. However, as it exists today, the state coordinator possesses qualifications as follows:

Age	- (not listed)
Trade experience	2-3 years
Teaching experience	2-3 years
Supervisory experience	2 years
Professional education	432 clock hours
General education	Bachelor's degree

Evening Trade Extension Shop Teachers.-- This representative evening trade extension shop teacher possesses qualifications as follows:

Age	24 years
Trade experience	3 years
General education	High school-plus two years
Professional education	60 clock hours

Evening Trade Extension Related Teacher.-- The findings of this study show that a representative related teacher of the evening trade extension school is required to have the following qualifications:

Age	24 years
Trade experience	2 years
General education	High school plus two years
Professional education	40 clock hours

Evening Trade Extension Coordinator.-- This study pictures the representative coordinator of this type of school as one who possesses the following qualifications:

Age	24-25 years
Trade experience	3 years
General education	High school plus one or two years of college
Professional education	60 clock hours
Supervisory experience	2 years

Part-time Trade Extension Shop Teachers.-- The representative part-time trade extension shop teacher, as presented in this study, possesses the following qualifications:

Age	24 years
Trade experience	3 years
General education	High school graduate
Professional education	50-60 clock hours

Part-time Trade Extension Related Teachers.-- The qualifications as revealed from this study for the representative part-time trade extension related teacher are as follows:

Age	24 years
Trade experience	2 years
General education	High school plus one year
Professional education	50-60 clock hours

Part-time Trade Extension Coordinators.-- The coordinators for this type of school or class possesses the following qualifications:

Age	25 years
Trade experience	3 years
General education	High school plus two years
Professional education	70 clock hours
Supervisory experience	2 years

Part-time Trade Preparatory Shop Teachers.-- The qualifications for the representative shop teacher of the part-time trade preparatory schools are as follows:

Age	25 years
Trade experience	3 years
General education	High school graduate
Professional education	60 clock hours

Part-time Trade Preparatory Related Teachers.-- The representative related teacher for this type of school possesses the following qualifications:

Age	24-25 years
Trade experience	2 years
General education	High school / 2 years of college
Professional education	60 clock hours

Part-time Trade Preparatory Coordinators.-- The qualifications for the representative part-time trade preparatory coordinator, as pictured in this study, are as follows:

Age	25 years
Trade experience	3 years
General education	2 years of college
Professional education	60-72 clock hours
Supervisory experience	2 years

Part-time General Continuation Shop Teachers.-- A representative shop teacher of this type would possess the following qualifications:

Age	24-40 years
Trade experience	2 years
General education	2 years of college
Professional education	108-120 clock hours

Part-time General Continuation Related Teachers.-- A representative related teacher of this type would possess qualifications as follows:

Age	24 years
Trade experience	(1-2) - (1-3) years
General education	Two years of college
Professional education	128 clock hours
Teaching experience	2 years

Part-time General Continuation Coordinators.-- A typical coordinator in the part-time general continuation school, as analyzed in this study, will possess the following qualifications:

Age	24-40 years
Trade experience	(2 -3) years
General education	Bachelor's degree
Professional education	108-120 clock hours
Supervisory experience	2 years

Day Trade and Industrial Shop Teacher, Type A.-- An all-day trade shop teacher of the **Type A** school would possess typical Qualifications as follows:

Age	24 years
Trade experience	3 years
General education	High school graduate
Professional education	120 clock hours

Day Trade and Industrial Related Teacher, Type A.-- A typical related teacher of the all-day trade, Type A, school would possess qualifications as follows:

Age	24 years
Trade experience	2 years
General education	2 years of college
Professional education	150-180 clock hours

Day Trade and Industrial Coordinators, Type A.-- an all-day trade and industrial coordinator from a Type A school will have typical qualifications as listed below:

Age	24-25-45 years
Trade experience	3 years
General education	High school education
Professional education	72 clock hours
Supervisory experience	2 years

Day Trade and Industrial Shop Teachers, Type B.-- The representative shop teacher in this school would be required to possess qualifications as listed below:

Age	21 years
Trade experience	3 years
General education	High school graduate
Professional education	100 clock hours

Day Trade and Industrial Related Teachers, Type B.-- A representative related teacher of the Type B school would possess the following qualifications:

Age	21 years
Trade experience	2 years
General education	High school graduate plus
Professional education	Two years of college and 108-150 clock hours

Day Trade and Industrial Coordinators, Type B.-- The typical coordinator for this general industrial school would possess the following qualifications:

Age	25 years
Trade experience	3 years
General education	Two years of college
Professional education	75-80 clock hours
Supervisory experience	1-2 years

The above summaries show the qualifications of each representative vocational worker for each field studied and should give the reader some type of a standard to use in judging the vocational personnel in his own state or territory.

CHAPTER VII
SUMMARY AND CONCLUSIONS

Introduction

In this study the sections of the state plans dealing with trade and industrial education in all the states and territories have been analyzed as to qualifications of the state supervisors, state coordinators, and teacher trainers. In addition, all states have been analyzed for the qualifications and certification procedures for the shop teachers, related teachers, and local coordinators in all six types of schools (as defined in Chapter V). The qualifications listed for these teachers concern entrance requirements for the teacher training classes and for the first certification. As many types of advanced certification as could be located in the state plans were recorded and additional data were taken from separate state certification bulletins when such bulletins could be secured. Permission was also obtained to examine the certification files in the Office of Education, Federal Security Agency in Washington, D. C., and all pertinent certification data that could be located were recorded. Some states were found to have done very little on advanced certification. Many of the more progressive states have very efficient trade and industrial schools and very definite and advanced patterns of certification procedures.

Summary

On the following pages the reader will find a brief review of the findings of this study and conclusions drawn regarding the materials presented in the various chapters.

As stated in Chapter I the major objectives of this study were to analyze and compare the qualifications and certification requirements of the vocational teacher training programs in trades and industries in the several states and territories first, according to the required practical experience necessary to be eligible to receive the first certificate to teach in the various schools and classes offering vocational trade and industrial education; second, to analyze and compare the academic education necessary to be eligible to teach in these schools and classes; and third, to analyze and compare the various vocational teacher training pre-employment and in-service courses required of these trade and industrial teachers in connection with the certification requirements of their states.

As stated in Chapter II the investigational procedures for this dissertation consisted of thorough and detailed studies of text books, state plans, state bulletins, related studies, and a special trip to the Office of Education, Federal Security Agency, Washington, D. C., to round out incomplete data. No amount of time and effort was spared to gather all available material that could be located in public libraries, college libraries, and through conferences, telephone calls, and personal interviews.

Chapter III reports all the related studies that could be located pertaining to this particular survey.

Very little in the way of research in the field of teacher training in trades and industries could be found that dealt with the analysis of the certification and qualifications of vocational teachers. A few regional reports by Paine, De Forest, McGarvey, Emens, Whitney, Spofford, Johnson, and Myers dealt with administration and certification procedures in a few states or small territories. Weaver studied the qualifications of vocational teachers for the unit trade, day school (Type A) on a national basis; and Woellner and Wood compiled certification procedures according to the various states for the regular public school teachers. Consequently this study should make a valuable contribution and serve as a basic reference for information concerning the qualification and certification of teachers in trade and industrial education.

Chapter IV presents the historical background necessary to understand federal legislation in the trade and industrial field.

The first Morrill Act provided land grants to colleges for the establishments of Agriculture and Mechanic Arts. This was followed by the Hatch Act, which established experiment stations in these land-grant institutions. The second Morrill Act provided funds for the related studies applying to the industries of life. The Adams Act appropriated continuing funds for the experiment stations established by the Hatch Act.

The Smith-Lever Act provided funds for cooperative extension work in Agriculture and Home Economics. It brought the college to the farm and home, but had little to do with trade and industrial education. However, it introduced the principle of detailed specifications governing the expenditure of federal funds when used for state aid purposes. Many of the characteristics of the Smith-Lever Law appear in later legislation that dealt with specific vocational problems.

The Smith-Hughes Act provided funds for instructional purposes and teacher training in the fields of Agriculture, Home Economics, and trades and industries. This act, passed in February, 1917, was the first basic law to promote vocational education on a national basis for students of less than college grade. Like the Smith-Lever Act, the legislation is detailed and specific.

The Smith-Sears Act and the Smith-Bankhead Act dealt with rehabilitation of returned veterans of World War I as well as the rehabilitation of civilians disabled in industry. The George-Reed Act extended appropriations for instructional purposes in the agriculture and home economics subjects, but had nothing to do with activities in trades and industries. The George-Ellzey Act was a temporary extension of the provisions of the George-Reed Act.

However, it was not until the passage of the George-Deen Act that appropriations were authorized to continue the provisions of the Smith-Hughes Act on a permanent basis, and added appropriations for distributive education were provided.

Chapter V clarifies the definition of vocational education for trades and industries as being the type of education and training that is intended (1) to assist the individuals already employed in trades and industrial occupations to add to their special knowledge and skill appertaining to their work; to improve their prospects for steady and permanent employment, or to prepare themselves for promotion and advancement; (2) to prepare individuals for profitable and advantageous entrance into the mechanical trades or industrial pursuits with known marketable assets in the way of special knowledge and skill; and (3) to assist employed miners in adjusting themselves to their work and to the existing social order through such types of education as are properly given in the general continuation school.

Chapter V further defines vocational education as being instruction of less than college grade, for persons over 14 years of age, to fit these persons for useful employment or to increase their skills, related knowledge, and civic intelligence. The Federal Board for Vocational Education was created by the Smith-Hughes Act. It was composed of seven members (four ex-officio and three lay members) and controlled the work of vocational education. Its present status is advisory, and its original functions are carried out by the Office of Education, Division for Vocational Education.

The two types of state supervision or control (dual and unit) were explained in detail; dual meaning that the department of vocational education in a state operates entirely apart from the general department of education. In the unit program both departments operate under one head, the state director of education or state department of public instruction.

The types of schools or classes were explained and defined in Chapter V as follows:

1. Evening trade extension for persons over 16 years of age who have entered employment; classes to be given at any time the group can meet.

2. Part-time trade extension for persons 14 to 18 years of age who have entered upon the work of a trade or industrial pursuit; classes offered during the hours of work and considered as part-time instruction.

3. Part-time trade preparatory for persons 14 to 18 years of age who have entered upon employment; instruction designed to fit such persons for a trade other than the one in which they are engaged.

4. Part-time general continuation for persons 14 to 18 years of age who have entered employment, yet need to enlarge their civic or vocational intelligence.

5. The day trade and industrial, Type "A", for the purpose of preparing persons over 14 years of age for useful employment

in a particular trade or industrial pursuit; classes to extend over a period of not less than 36 weeks, one half the time to be practical work on a productive basis and to operate not less than 30 clock hours per week.

6. The day trade and industrial, Type "B", for the same work as Type "A", except that this type of school or class is designed for cities of less than 25,000 population and certain requirements are relaxed to fit the needs of the smaller communities.

Chapter VI contains a comparative analysis of the qualifications of state supervisors, state coordinators, teacher trainers, and vocational teachers as well as teacher certification requirements. The materials concerning the vocational personnel were presented in chart form according to the age, trade experience, general education, professional education, teaching experience, and supervisory experience. The qualifications for the shop teachers, related teachers, and coordinators for each type of school were analyzed in separate tables, and a representative individual from each group was described according to the findings of the study.

A brief summary of the materials developed in Chapter VI will be found on the following pages. Insofar as possible the work is summarized in the same order as developed in Chapter VI and is presented as a brief recapitulation of the qualifications of administrators and teachers in the field of trades and industries.

The representative initial age for state supervisors is 20-45 years, while the teacher trainers is 25 years. The state coordinators was not available. Trade, teaching, and supervisory experience required three years each, some variation being allowed in the case of the state coordinator who might be required to have only two years of experience in each of the above fields. General and professional education were found to be quite uniform, a bachelor's degree being necessary for all three positions. Five hundred forty clock hours of professional education were required of state supervisors and teacher trainers, while considerably less, 432 clock hours, were required of state coordinators.

Evening trade extension shop teachers were required to be 24 years of age and have at least three years of trade experience. The evening trade extension related teachers may be the same age but must have two years of trade experience. The evening trade extension coordinator is permitted to begin his job at 24-25 years of age. In addition to three years of trade experience, he must possess also two years of supervisory experience.

All three of the above positions require a high school education, with an additional two years of college for the related teacher and coordinator. The shop teacher and coordinator must have 60 hours of professional education, while the related teacher may have but 40 hours.

No doubt this is due to the fact that the general education of the related teachers usually has been more extensive.

The part-time trade extension shop teacher may begin his work as an instructor or at the age of 24 years, and the related subjects teacher may begin at 24 years also. The shop teacher is required to have two to three years of trade experience, while the related teacher may have only two years. This is reversed as far as general education is concerned, in that the related teacher is required to have approximately two years of college work as compared with high school graduation only for shop teachers. The number of hours of professional education required of the shop teacher is quite definite, 50-60 hours, and the related teachers may begin also with 50-60 hours.

No doubt the reasoning back of this corresponds to the fact that the shop teacher should have as much professional training as the related teacher.

The coordinator of the part-time extension school is required to have qualifications equal to or beyond both the shop and related teacher, with more definite number of clock hours, namely, 70, of professional education; he must have two years of work beyond his high school education, and have had two years of supervisory experience.

Part-time trade preparatory shop and related teachers have practically the same age range, namely 24-25. The trade experience requirement for the shop teacher and the related teacher is approximately the same except that the shop teachers need three years, while

the related teacher may begin teaching with only two. The related teacher must have two additional years of formal education, as was the case for the part-time trade extension instructor.

The number of clock hours of professional education required for the shop teacher and the related teacher is 60 hours for the majority.

The part-time trade preparatory coordinator must possess at least the same qualifications as those of the shop and related teacher. His professional education ranges from 60 to 72 clock hours with two years of supervisory experience also required.

In the part-time general continuation school, the shop and related teachers have the same beginning age of 24, but the shop teacher may begin as late as 40 years. The trade experience for the shop teacher is two years, while that of the related teacher may be as low as one year. Both groups are required by the majority of the states to have at least two years of college work.

The beginning number of hours of professional education is 108 to 120 for the shop teacher as compared with 120 hours for the related teacher. It should be noted that none of the other groups of related teachers is required to have teaching experience before employment; however, eight states require that their related teachers in the general education continuation school have at least two years of such experience.

The part-time general continuation coordinator may begin work between 24-40 years of age, and is required to have from one to

three years, preferably two years, of trade experience, hold a Bachelor's degree, have 108 to 180 clock hours of professional education, and have spent two years in supervisory work.

The all-day trade shop teachers are, as a rule, about the same age as the related teachers in the all-day trade school, when they enter their profession, both enter at approximately 24 years. The coordinator in this school may start also at the age of 24 years.

The trade experience for the shop teacher is three years, while that of the related teacher is two years. Shop teachers must be high school graduates, but related teachers and coordinators must have at least two years of education beyond the high school level.

Shop teachers, in this school, may begin with 120 hours of professional education, related teachers with 150-180 hours, but coordinators begin at approximately 72 hours.

Only the coordinator in the all-day trade school is required to have from two to three years, preferably two years, of supervisory experience as an entrance requirement. It is interesting to note that only one state out of the 48 states and three territories fails to make provisions for schools of this type.

The day trade and industrial shop teacher of the Type B school teaches in cities of less than 25,000 population. Both shop and related teachers must be at least 21 years of age. The shop teacher must have three years of trade experience, while the related teacher needs but two. The shop teacher must be a graduate of a

high school, but the related teacher must have at least two years of college work. The shop teacher may begin teaching with 100 clock hours of professional education, while the related teacher is required to have 108-150 clock hours.

The coordinator possesses qualifications similar to the shop and related teacher except that he is required to be 25 years of age, have two years of supervisory experience, and have completed 75-80 clock hours of professional education.

Conclusions and Recommendations

From this study of the requirements for vocational teacher training and certification in trades and industries in the various states and territories, several very definite conclusions may be drawn:

First, little has been done, on a national scale at least, in compiling and analyzing materials dealing with the selection and certification procedures for the many types of vocational personnel in the various states and territories. There is a marked dearth of these federal bulletins or other materials concerning these procedures.

Second, this study discloses great variation in the many state plans regarding the trade experience, general and professional education, and other qualifications required for the vocational trade and industrial personnel of the different states. Much apparently remains to be done in these areas if America is to develop standardized procedures in these fields.

Third, certification procedures revealed by the study vary greatly throughout the nation. For example, all states require some form of temporary certificate, but many states present no further provisions for advanced certification, at least in their state plans. Other states have a well developed and progressive certification

program, with definite requirements for advanced certificates. Many states also make provisions for a life or permanent certificate; other states issue a provisional type of life certificate, setting up definite stipulations as to the procedures required to keep it functioning. Still other states issue only certificates that must be renewed from year to year. Certification procedures can be said to be as varied in the vocational education field as in the field of general education. A thorough study of this area by the United States Office of Education or a committee appointed by it should do much to improve certification procedures.

Fourth, the vocational teacher training or certification courses required in the various states vary greatly. A list, pages 163 to 168, discloses 199 titles. Obviously a very valuable and interesting study could be made in this field if data could be secured regarding the content of the courses offered in the various states. Such an investigation would doubtless show similarity of content for courses listed under different titles. This would tend to verify the conclusion sometimes drawn that course titles may often be the result of an individual desire to exhibit originality at the expense of uniformity of terminology. It would seem that teacher training courses embracing similar content might be designated more uniformly and thus simplify and clarify the evaluation of teacher qualifications between states. Like the matter of certificates discussed above, a centrally sponsored study should prove to be of great benefit in developing more uniform procedures.

In this dissertation the writer has attempted to cover the requirements for vocational teacher training and certification in the trades and industries in as thorough and complete a manner as possible. However, it is realized that much more detailed and thorough studies of various separate areas included in the present work would unearth additional interesting and valuable material. If possible such investigations should be made at an early date, since much interest exists in the vocational education movement at this time, and the program undoubtedly faces the possibility of marked expansion in the post-war period immediately ahead.

The detailed study of the content of certification previously suggested would unquestionably prove extremely interesting, and the vocational teacher trainers in the various states, as well as the administrative officers, should profit greatly from such a study. Detailed analyses of administrative and other relationships existing between the vocational and general certification procedures in the various states should be of value to both general and vocational education in pointing out trends and suggesting possibilities of improvement.

Furthermore, it is hoped that additional inquiries such as the present study will be made not only in the field of trades and industries, but in vocational agriculture, home economics, and distributive education as well. If the present dissertation is of assistance in setting them up, or if it furnishes a pattern for

prosecuting them, the writer will be greatly pleased. As already pointed out much work can be done in the field of vocational education to establish more uniform methods of selecting and certifying vocational personnel. Apparently little stereotyping exists in the various states' plans, and as these plans are revised every five years, as required by the Federal Office of Education, state directors and supervisors should study the data presented in this and other studies of a similar character to develop better certification procedures in their own states.

The data and reference materials presented in this dissertation should be made available for study in regional and national meetings of state directors, state supervisors, teacher trainers, and others interested in improving vocational education procedures. Obviously this would mean publishing and distributing the study to the interested individuals on a nation-wide basis. This could best be done by the Office of Education. Several members of the office have indicated their interest in such a project by requesting that the completed dissertation be sent to them for review with that purpose in mind.

Finally, it is hoped that this and similar studies will contribute to producing better vocational teaching and better programs of vocational education in America by disclosing opportunities for improving and standardizing (without stereotyping) our vocational teacher selection, teacher certification, and teacher training procedures.

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