

CERTIFICATION OF INDUSTRIAL ARTS TEACHERS
IN THE UNITED STATES
POSSESSIONS AND TERRITORIES

BY

BEVERLY MASSIE FERGUSON

Bachelor of Science

CHADRON STATE TEACHERS COLLEGE

CHADRON, NEBRASKA

1950

Submitted to the School of Industrial Arts Education
and Engineering Shopwork

Oklahoma Agricultural and Mechanical College

In partial Fulfillment of the Requirements

For the Degree of

MASTER OF SCIENCE

1951

OKLAHOMA
AGRICULTURAL & MECHANICAL COLLEGE
LIBRARY

NOV 27 1951

APPROVED BY:

John B. Tate

Thesis Advisor and Instructor,
School of Industrial Arts Education
and Engineering Shopwork

C. L. Hill

Acting Head,
School of Industrial Arts Education
and Engineering Shopwork

Edward R. Hapley

Dean, Oklahoma Institute of Technology

W. M. Zutsch

Dean of the Graduate School

283427

ACKNOWLEDGEMENTS

An expression of appreciation is extended to the State Officials of the various States, District of Columbia, Territories, and Possessions for their cooperation; to the Librarians of Oklahoma Agricultural and Mechanical College for their assistance in securing inter-library loans and to the Special Collection Department for the use of their Documents and Bulletins. The completion of this study is largely due to their assistance and cooperation.

Special acknowledgement and appreciation is made to Mr. John Bruce Tate, Instructor of Industrial Arts Education and Dr. Dewitt Hunt, Professor and Head, School of Industrial Arts Education and Engineering Shopwork, Oklahoma Agricultural and Mechanical College, for their educational leadership and inspiration through my professional training, and for their personal interest and assistance in organizing, checking, and guiding this thesis to completion.

Grateful appreciation is extended to all my instructors who gave so generously of their time and patience during my undergraduate work at State Teachers College, Chadron Nebraska; to all my instructors at the Oklahoma Agricultural and Mechanical College, for their personal interest, and assistance through my graduate work.

Gratitude is extended to my wife, Alice K. Ferguson, for her assistance, inspiration, and encouragement through the preparation of this study.

B.M.F.

TABLE OF CONTENTS

Chapters	Page
I. The Problem and Sources of Information	1
The Problem	1
Statement of the Problem	1
Importance of the Study	1
Studies of Similar Nature	3
General Trends	4
The Scope of the Problem	6
The Limitations	8
Expected Uses of the Study	8
Procedure and Sources of Data	9
Sources of Data	9
Methods of Procedure	9
II. History of Certification	12
Certificating Authority	12
Early Data of State Certification	12
Qualifications Required for Certification	13
Effect of World War	14
Value of Certificates	15
Principal Features of Certification	15
Recognition of Special Subject	15
Excerpts of Letters	18
III. Philosophy of Industrial Arts Education	21
Industrial Arts and Life	22
Meaning of Industrial Arts	23
General Shops	23
Education and American Tradition	24
Industrial Arts Education Preparation	25
and Progress	
Progress Made by Industrial Arts Education	26
State Requirements	27
Local Requirements	28
Requirements of Standardizing Agencies	29
Need of Uniformity	30
IV. The Investigation	32
Findings for the Forty-eight States	32-117
Findings for District of Columbia	117
Findings for the Territories and Possessions	119
V. Conclusions and Recommendations	127

TABLE OF CONTENTS (Continued)

Appendix	Pages
A. Bibliography	132
B. List of Names of the Educational Officials Who Answered the Letter Questionnaire	134
C. Literature cited Regarding Certificates	140
D. Copy of Questionnaire Letter and Other Letters Used in Research	145

LIST OF TABLES

TABLE	PAGE
I. Semester Hours of Industrial Arts Required for Certificate	45
II. Semester Hours of Professional Education Required for Certificate	53
III. Semester Hours of Directed Teaching	57
IV. Date of revision of State Certification Laws	61
V. Validity of Certificates	64
VI. Health Certificate Requirement	71
VII. Oath of Allegiance	76
VIII. The States in Which Oklahoma A. & M. Graduates Fulfill the Requirement for a Teaching Certificate	91

Chapter I

THE PROBLEM AND SOURCES OF INFORMATION

In the past decade economic complexities have resulted in an increased migration of teachers from state to state which has developed a need for a more uniform and broader college preparation for the teaching profession. Many teachers are prepared for certification only in the states where their education has been obtained. In many instances the teachers cannot be certified in other states without additional preparation. The trends of certification in recent years have been toward increased college credits and in case of industrial arts, degrees are usually required before the granting of a teaching license or certificate.

THE PROBLEM

Statement of the Problem. The primary purposes of this study are: (1) to compare the state laws and regulations as approved by the certifying agencies for the teaching of industrial arts in the public schools; (2) to indicate the need for further study of certification and curricular requirements; (3) to indicate an idealized certification requirement.

Importance of the Study. The object of this study is to show for those interested in industrial arts teaching, the specific certification requirements of each state, territory and possession to qualify for a certificate to teach industrial arts in the various states. The standard qualifications demanded of the teachers has been steadily

increased through the laws and regulations established by states granting licenses or certificates to teach. Each state seems to have its own system and ideas of certificating its teachers.

Today public attention is being focused on public school teachers and the teaching profession more than ever before. The teachers, as an organized group, are becoming stronger than in the past. The national, state, and local organizations of teacher associations, have become of greater aid to the teaching profession by sending representatives to inform the legislative groups of the necessary laws and regulations for better education. The national and state legislative groups are beginning to recognize the needs of the teaching profession. In this modern age, the public school system has its place in the public welfare. The people seem to be more concerned than ever, as to value received for money expended, particularly public money. The public appears to have extended its sympathetic and professional attitude toward its teachers.

Progress has been made and will continue to be made in raising educational standards in the United States. This progress has and will be influenced to a considerable extent by legislation governing administrative practice. The subject of teacher certification is not new. Neither is it old, in the sense that it will cease to be a topic worthy of further investigation, study, and consequent evolution. Development has come slowly and has followed no particular scheme or pattern of organization. In this study there is presented information concerning the requirements and regulations which govern the issuance of certificates to industrial arts teachers for the standard four-year secondary schools, as these requirements are regulated by state legislation or state

administration departments.

Studies of Similar Nature. Since it has been hard to find many studies or surveys which have been made for certification of teachers in industrial arts, a general view of certification of all teachers was studied. In this study two theses have been carefully studied which dealt with certification of industrial arts teachers of 1939.

The thesis of Allen¹, dealt with Interstate Certification of Industrial Arts Teachers for Secondary Schools. Allen made a suggestion that additional investigations, similar to his be made concerning certification and curricula at least every five years, or more often if circumstances require that the existing conditions be better known and studied.

Sherman², made a study entitled The Certification of Industrial Arts Teachers in the United States. Sherman found that the tendency was toward the centralization of authority, the power to rest in a sovereign state. Sherman also delved into the certification of administrators, and teachers of special subjects; and further investigated the trends of certification requirements from which was proposed a uniform plan in certification. The literature reviewed has proved helpful to the writer in showing how certification studies are made, the work which has been

¹ Alfred Thomas Allen, Interstate Certification of Industrial Arts Teachers for Secondary Schools. Master's thesis, Oregon State College, Corvallis, Oregon. January, 1939.

² William M. Sherman, Certification of Industrial Arts Teachers in the United States, Master's thesis, Iowa State College, Ames, Iowa. 1939.

already completed in the field, and the conclusions which already have been drawn. The need for a specific study of certification requirements in the field of industrial arts is very apparent.

There is also a very important investigation of the certificates granted in various states in the annual publication by Woellner and Wood³ which summarizes the requirements for prospective teachers interested in obtaining the initial certificates for teaching in the elementary school, in the secondary schools, and the junior* colleges. The initial summary of state teaching certification requirements was compiled by the authors in 1933. The purpose was to provide accurate information to prospective teachers attending the University of Chicago. As time went on, instructors of education, advisors, and placement officers in other institutions were interested in obtaining copies of the summary and, therefore, the annual edition since 1935 has been published by the University of Chicago Press. At first, the summaries were limited to the secondary school teaching certification. More recently there has been added the requirements for elementary teacher and administrative certificates. This annual now includes information concerning the regulations of the regional accrediting associations and information concerning application for teaching positions in the United States and possessions.

General Trends. The same general trends are noticeable in all of these studies: (1) the granting of certificates for teaching specific

³Robert C. Woellner, and Aurilla M. Wood, Requirements for Certification of Teachers and Administrators. 15th Edition 1950-1951. The University of Chicago Press, Chicago, Illinois.

*Are certification requirements for junior college.

subjects, (2) the centralization of certification authority in a state department, (3) the requirement of special teacher-education, (4) the requirement of higher standards for all teachers, (5) the elimination of life certificates, (6) the elimination of low-grade certificates, and (7) the discontinuation of issuing permits, emergency or temporary certificates, as soon as the teachers with standard certificates can supply the demand.

The United States Office of Education has sponsored a number of the investigations. The more significant of these have been the investigations made by Updegraff⁴ in 1911; Hoods⁵ in 1915, and Katherine Cooks⁶ two publications of 1921 and 1928⁷, all of which present the certification rules and regulations of the various states at the time.

One of the most exhaustive studies along this line is the one, which Frazier made for the Office of Education in 1938⁸, and which was

⁴Harlan Updegraff, Teachers' Certificates Issued Under General State Laws and Regulations. Bulletin No. 18, 1911. United States of Education, Washington D. C. Government Printing Office 1911.

⁵William R. Hod, Digest of State Laws Relating to Public Education. In force January 1, 1915. Bulletin No. 47, 1915. Department of Interior, Bureau of Education, Washington D. C. Printing Office 1915.

⁶Katherine M. Cook, State Laws and Regulations Governing Teachers' Certificates. Bulletin No. 22, 1921. Department of the Interior, Bureau of Education, Washington D. C. Government Printing Office 1921.

⁷Katherine M. Cook, State Laws and Regulations Governing Teachers' Certificates. Bulletin No. 19, 1928. Department of the Interior, Bureau of Education, Washington D. C. Government Printing Office 1928.

⁸Benjamin W. Frazier, Development of State Programs for the Certification of Teachers. Bulletin No. 12, 1938. United States Department of the Interior, Office of Education, Washington D. C., Government Printing Office, 1938.

followed in 1946⁹, by a brief summary of Teacher Certification Requirements.

The Scope of the Problem. Broad as has been the scope of publications of teacher certification in general, very few studies have been made emphasizing the specific requirements for the certification of Industrial Arts Teachers. Bachmans,¹⁰ contributions through the Division of Surveys and Field Studies of George Peabody College for Teachers, are noteworthy. Bachman had found through survey that certification on the basis of examination is decreasing, while certification on the basis of institutional teacher education preparation continues to increase. There are some states, however, which will not recognize a certificate outside its boundaries.

Little progress has been made, the studies show, toward reciprocal relations among states in the exchange of certificates. There is a tendency to favor preparation at an institution within a state, although most states recognize training from state normal schools, universities, and colleges. Some states require experience within their own boundaries. One good plan that some states requires is to give experienced teachers a probationary certificate. After two or three years of successful teaching the certificate may be exchanged for a permanent one.

⁹ Benjamin W. Frazier, Summary of Teacher Certification Requirements. Circular No. 233, Federal Security Agency, United States Office of Education, Wash. D. C. Government Printing Office, 1946.

¹⁰ Frank P. Bachman, Training and Certification of High School Teachers. Division of Surveys and Field Studies, George Peabody College For Teachers, 1930. Nashville, Tennessee.

In a number of the states life certificates are still issued, although there is a growing tendency, according to this study, to issue fewer life certificates than formerly. Some states issue first probationary certificates, which are later valid for long periods of time, if professional training is continued, and success is apparent.

Katherine Cook ¹¹, made a study which proved to be one of the most valuable to the writer in the study of the certification of teachers. It is a study of conditions of certification in the United States in 1927. Contrasts are given in this study with one in the year of 1921 by the same author.

The study shows that definite trend had been started toward raising the standards of teachers and teaching in 1921. There has been some establishment of academic and professional prerequisites for the lowest grade certificates granted; a tendency toward centralizing certification authority in the state department of education; a trend to eliminate examinations for judging scholarship qualifications by examinations for teaching certificates; and a tendency to require some degree of specialization.

This summarizing statement was by K. M. Cook:

As states discontinue the issuance of certificates on examination solely, as they establish scholarship prerequisites measured in units of academic or professional courses pursued in higher institutions of learning, and as they require

¹¹ Katherine M. Cook, State Laws and Regulations Governing Teachers' Certificates. Publications of 1921 and 1927. Bulletins No. 22, 1921, and No. 19, 1927. Department of the Interior, Bureau of Education, Washington D. C. Government Printing Office.

specialized training for certain certificates corresponding to the type of work required in the field of their validity, the number and variety of certificates issued on the basis of work in higher institutions increases. Prospective teachers, supervisors, and administrators now prepare for their respective vocations in higher institutions of learning almost exclusively. Cook- P. 30

The Limitations. It has not been within the scope of this study to venture to determine the degree of enforcement or adherence to state laws and regulations. Neither has it been possible to take into consideration certificates issued by city boards or city superintendents. The requirements in each instance have come directly from state superintendents of public instruction or other state officials of equivalent capacity.

Expected Uses of the Study. (1) It is expected that the study could be used by workers in each state to enable them to determine whether or not the state program of industrial arts teacher education is adequate from an out-of-state viewpoint. (2) The study may serve as a guide for prospective teachers and students preparing to teach, in selecting an institution for industrial arts education. (3) The study can be beneficial to the industrial arts teachers, by stating the specific requirements for each state. (4) The findings could be used by the colleges in preparing the students to meet the requirement for certification in the state of the students choice. (5) Students of industrial arts education courses could use the study as a guide in adapting the required education to fit the needs of the field in which the teacher intends to teach. (6) Institutions might gain in prestige because of: adequate preparation offered, large student body, excellent

faculty, and desirability of graduates. (7) The findings could be used as a measuring stick for institutions desiring to improve their industrial arts teacher-education departments. A large student body should mean more funds with which to secure the services, and hold in service, of prominent and well qualified faculty members. (9) The findings should also assist in a better understanding of the problems of other states and institutions in regards to the needs of industrial arts teachers.

Procedure and Sources of Data

Sources of Data. The principal sources of data used in this study includes the rules and regulations on certification published by the office in charge of certification in each of the forty-eight states and District of Columbia. Information was also received from the following territories of the United States; Alaska, Hawaii, Puerto Rico, American Samoa, Guam, Panama Canal Zone and the Virgin Islands. Where the regulations were not sufficiently specific, state school laws were investigated, personal letters were written to the certifying officers, and state college catalogues were consulted as an aid in clarifying the certification requirements. A canvass has been made of as much of the literature in the field of certification and closely related topics as could be found.

Method of Procedure. A short questionnaire letter was prepared and dispatched to each state official for the purpose of securing information about certification requirements for industrial art teachers to teach in the public secondary schools. This letter was produced by the

multilith process and a facsimile will be found in Appendix D. The replies (letters and bulletins) were filed as they were received, and later filed alphabetically for convenience. A list of the books, bulletins and unpublished materials will be found in the Appendix A. A list of the names of persons answering the letter will be found in Appendix B, the materials sent by the states will be found in Appendix C.

A schedule or directory of all the state school superintendents of the Department of Public Instruction of each state was prepared from The Fifty-third Nebraska Educational Directory of the State of Nebraska¹² school year of 1950-1951. The chief state school officers were found on page 8; the address, the name, and title of the state officer is given for all the forty-eight states, also the District of Columbia including the same for the territories and the possessions of the United States. This reference was of great value to the writer.

Progress has been and will continue to be made to raise educational standards by better preparation of teachers, and by limiting the number of life, temporary, and emergency certificates issued. Studies show that the certification requirements vary from state to state. In many states professional education, academic and directed teaching subject-hours have been made a part of the specifications, thus indicating a definite inclination to raise the level of industrial art education. Now seems to be the time for concerted action on the part of those who are directly interested and concerned. Those interested are the students in

¹²A. R. Lichtenberger, Director of research compiled; The Nebraska Educational Directory 1950-1951. Lincoln, Nebraska.

preparation, the teachers and administrators in the field, and the patrons of the public schools.

Chapter II

HISTORICAL SKETCH

The laws regulating teacher certification is not new as quoted by F. T. Struck¹. More than two thousand years before the birth of Christ ideas and laws relating to so-called useful learning were inscribed on stone, clay, and parchment.

Certificating Authority. Katherine Cook² gives an interesting account of the certification development which is stated as follows: The power of certificating teachers was vested in local authorities first in practically all the states. This was indeed a matter of necessity and convenience and followed precedent set by the earliest settlers of New England and New Amsterdam. The early state and county authorities had neither a sufficient number of assistants to carry out such authority if granted, nor traveling allowance or other requisites for effective enforcement of regulation over any extended amount of territory.

Early Data of State Certification. New York was among the early states to establish state certification, but it did not always exercise the legal authority granted. The authority to issue certificates was given the State Superintendent in 1843. After 1847, when the office of county superintendent was abolished, the authority for issuing

¹ Theodore F. Struck, Ph.D. Vocational Education for A Changing World. John Wiley & Sons, Inc., New York. 1947.

² Katherine M. Cook, State Laws and Regulations Governing Teachers' Certificates. Bulletin No. 22, 1921. Department of the Interior, Bureau of Education, Washington D. C. Government Printing Office 1921.

certificates was exercised by state and town superintendents. In 1856 certificates were issued by both local school commissioners and the state superintendent, but the latter was empowered to prescribe the regulations under which they were issued. It appears therefore that the power to control certificates was centralized, but the authority was not exercised, extensively at least until 1888.

Qualifications Required for Certificates. During the colonial period the requirements for teachers' certificates were very meager and indefinite, though some were always enacted. In New York, during the period of Dutch Colonization, teachers were licensed by civil and ecclesiastical authorities. No one was allowed to teach without a license so obtained. During the English control, 1683 to 1689 it was decreed that "no schoolmaster should teach without a license from the Archbishop of Canterbury or from the Bishop of London."

In New England, as in New York, the character of requirements were in some cases purely religious, some special form of religion being a prerequisite. In others, nationality was the determining factor, and on others, academic proficiency was the desideratum.

When States and Territories were organized, the laws prescribed qualifications more definitely. From the establishment of the first normal school in 1839², professional preparation for teaching becomes more and more common. Demands were increasing that certificates without examinations be given to graduates of professional schools. The rapid growth of the recognition of professional and academic study as preparation for teaching is shown by the fact that, by 1897², twenty-eight states recognized graduation from normal schools and universities as

evidence of qualification for certification without examination.

Katherine Cook³ stated in a later bulletin of 1928, teacher certification is now generally considered a state responsibility, it was originally conceded to be a local responsibility in nearly all states. As state departments of education were definitely established and assumed importance and prestige, more and more educational authority was granted them. Higher efficiency and more uniform requirements were secured under the new conditions by including among the legal duties of the state department that of granting certificates of state-wide validity and that of influencing or supervising the certification of teachers.

Scholarship requirements have undergone an evolution. From exceedingly indefinite requirements each state passed first to the stage in which the three "Rs" were required, until finally theory and practice teaching were added.

Effect of World War I. During the war and immediately following it, there was a serious exodus of teachers from the teaching profession into the industries, government service, the professions, business, into all types of positions formerly filled by men who had gone into the service of the country. To keep the schools open it became necessary to employ undertrained persons to teach, and pay increased salaries to obtain the teachers. In the meantime, public attention was focused on the teaching situation. That salaries paid teachers were lower than those paid in other occupations, that untrained persons in large numbers were

³ Katherine M. Cook, State Laws and Regulations Governing Teachers' Certificates. Bulletin No. 19, 1928. Department of Interior, Bureau of Education, Washington D. C. Government Printing Office 1928.

employed in the schools of the country, and that inferiority in the quality of the instruction given, and with other evils, resulting from this situation, became better and more widely understood to the public.

Value of Certificates. The value of a certificate is best measured by the amount of scholarship and successful experience to which it testifies. It is becoming more difficult to continue teaching without securing specified professional and academic preparation. States which require prerequisites and those which do not, have a tendency to require in addition to experience, certain prescribed professional training received through summer schools or extension courses before granting renewals. The State Board of Education of Arkansas has established regulations which became effective September 1, 1947 regarding credit allowed for certification purposes on work done by correspondence, extension and residence. These are still in effect.

Principal Features of Certificates. The most important facts relating to teachers certificates as stated by Updegraff⁴ are: (1) the agency which issued it; (2) its form--territory in which valid, school or position in which the holder is authorized to teach, and duration; (3) its content--the scholarship, experience, and professional attainments to which it certifies; and (4) the effect of meeting the requirements for it, or in other words, its persistence.

Recognition of Special Subject. There appears to have been little

⁴ Harlan Updegraff, Teachers' Certificates Issued Under General State Laws and Regulations. Bulletin No. 18, 1911. United States of Education, Washington D. C. Government Printing Office 1911.

if any recognition given to the "special subject" teacher prior to 1910⁵, when some of the states added special requirements for teachers of these subjects. Industrial arts was not recognized as such among the group at that time. The work did not come into prominence among the "special" group in education until later. Apparently little thought was given to this particular part of public education, because comparatively few schools throughout the entire country were offering any phase of industrial arts work as it is understood today. Some effort had been made to educate teachers for this type of work, but the demand was so small that they often entered some other branch of teaching. The few industrial arts or "manual-training" teachers required in the days before 1910 were recruited largely from the various trades, principally carpentry and cabinet making. The principal requirement for teaching industrial arts during earlier days was trade knowledge, and often this was overlooked or ignored. For the most part this condition was local and very little if any effort was made by an state to set up requirements for these teachers. The transition period from 1910 to 1920 marked a rather rapid change from "manual training" and its emphasis upon skills to "manual Arts", and a greater emphasis upon the aesthetic side of the program. Skill was still a large factor in the objectives, but art came to effect.

Manual training was developed on a contemporary basis in a number of countries⁶. The term manual training appears to have been used in

⁵ Alfred Thomas Allen, Interstate Certification of Industrial Arts Teachers for Secondary Schools. Master's thesis, Oregon State College, Corvallis, Oregon. January 1939.

⁶ Encyclopedia of the Social Sciences, See Manual Training. The Macmillan Company, Volume X.

the United States as early as 1877 by President John D. Runkle of the Massachusetts Institute of Technology.⁷ Somewhat later, in 1894, Charles A. Bennett referred to the movement as manual arts. Bennett had a life-long interest in applied art and did much as a teacher, author, and editor to broaden the concept of manual training and to stress appropriateness of materials, beauty of line, and suitability of pattern as well as the more practical aspects of the field.

A more recent influence was exerted by Charles R. Richards, Dean James F. Russell, and Dr. G. F. Bonser of Teachers College, Columbia University. Through their leadership, manual training and manual arts were further broadened, enriched, and modernized. To distinguish the newer program from those that preceded it and to call attention to it in an appropriate manner, they suggested the term industrial arts.⁷

The broader objectives of present day "industrial arts", consumer education, industrial information and appreciation, a degree of skill consistent with avocational or "handyman" application, developmental values for general education--all developed gradually over the period from 1915 to the present, each intensified in turn by the passages of the Smith-Hughes Act and its later modifications, which releaved industrial arts of the "trade" objectives, and by the development of the guidance and the junior high school movements⁸.

⁷ Theodore F. Struck, Vocational Education for A Changing World. John Wiley & Sons, Inc., New York. 1947.

⁸ Alfred Thomas Allen, Interstate Certification of Industrial Arts Teachers for Secondary Schools. Master's thesis, Oregon State College, Corvillis, Oregon. January 1939.

During the past ten years more new demands have been made upon the industrial arts teachers. These demands have developed primarily from the endeavors of school administrators to meet two major situations. One of these was the changed philosophy of education. The other was economic expediency.

In a measure these demands have been met and substantially satisfied. Industrial arts teachers, properly trained, have rendered satisfactory service in all types of professional positions. The professional development of industrial arts teachers has been accomplished largely through the programs offered in the teacher education institutions, and by desire on the part of the teachers training in such schools to render a professional service to the youth of today, through a curriculum program suited to the needs of a scientific and an industrial era.

The requirements for teacher certification is now granted by the state department of education of each state. Massachusetts being the last to pass such a legislation controlling certification requirement in that state. This law was passed during the last week of April 1951 according to a letter received from Mr. Everett W. Ireland, superintendent of the city schools of Somerville, Massachusetts dated May 4, 1951.

Reads as follows:

Last week end the Teachers' Certification Bill for Massachusetts was passed by the State Legislature. Of course these certification requirements are basic and each city or town may require such additional qualifications as it deems advisable.

An excerpt from a letter written by Mr. Clyde A. Erwin, State Superintendent of Public Instruction of Raleigh, North Carolina reads as follows: May 4, 1951

In 1917 our General Assembly gave to the State Board

of Education all authority with reference to the certification requirements for teachers, and other public school personnel. Since that date that responsibility has rested with the State Board of Education.

About 1920 we began issuing certificates in Industrial Arts.

An excerpt from a letter written by Mr. J. L. Blair Buck, Coordinator of Teacher Education Commonwealth of Virginia, dated May 17, 1951 reads as follows:

Since 1870 the division superintendents have been required to employ teachers who are certificated according to regulations determined by the State Superintendent of Public Instruction or the State Board of Education.

The terms, manual training and manual arts, were commonly used in Virginia until industrial arts began to displace them about 1925.

Certificates have always been required of teachers of industrial arts since this was first introduced between 1910 and 1915. Teachers of industrial arts have been required to have a bachelors degree since 1929 although we have a Special Purpose certificate which can be issued to a skilled tradesman who is needed in the school shop and who has not gone to college.

The importance of industrial arts is being recognized by many school administrators as a vital part of the school program. Some states are now issuing special certificates for the teaching of industrial arts. These certificate requirements vary considerably among the states. The educational standards of the schools have improved and progressed since the public and parents have taken an active interest in the education of the nations' youth. There have always been some form of laws regulating certificates of teachers. Early in the colonial days restrictions and specific requirements were made of the teachers. The tendency is similar today with more restrictions and greater

preparations demanded for certification.

CHAPTER III

PHILOSOPHY OF INDUSTRIAL ARTS EDUCATION

Man is responsible for many changes that have taken place on the earth's surface. He is endowed with the ability to think and to reason, and in addition, he alone, of all living creatures, has highly developed hands. These endowments have enabled man to acquire nature's gifts and change them into products that make for better and more convenient living.¹

Few of the materials which we possess are usable in their raw condition. Man learned to change the raw materials into a form which could be more conveniently used. Down through the ages man has added to his knowledge and passed that knowledge to the next generation by means of education. A great part of the early education of the youth was in the home. There they learned the trade or vocation of their parents.

As the modern industry developed and craftsmen became mere laborers in a fact, the education of the youth was left entirely to the schools. The schools were often unable, or sometimes unwilling, to shoulder the burden and the young people grew up with little or no practical experience to take with them into the present complicated society. Today, in many parts of the country, the need for a complete education by making industrial arts an important subject at all grade levels. If children are to receive an education that will be satisfying to them in their

¹ Louis Newkirk, and William H. Johnson, The Industrial Arts. 1948. The Macmillan Company, New York.

the study of life. Through the uses of tools, materials, the study of visual aids and the field trips, that the student comes in contact with in the industrial arts shop or laboratory, a better understanding of life will develop for the adolescent child. Industrial arts need not be confined to the secondary school, but should eventually become a part of the elementary and adult educational programs².

Meaning of Industrial Arts. The term industrial arts as used by L. V. Newcirk³ in his "Organizing and Teaching the General Shop", refers to a curriculum area that is a part of general education, extending from kindergarten through college. A committee appointed by the Commissioner of Education, in its report Industrial Arts--Its Interpretation in American Schools, defined industrial arts as follows:

Industrial arts is a phase of general education that concerns itself with materials, processes, and products of manufacture, and with the contribution of those engaged in industry. The learnings come through the pupil's experience with tools and materials and through his study of resultant conditions of life.

General Shops. The shops that are planned and equipped to teach two or more distinct types of shopwork at the same time under one teacher are known as general shops. For instance a shop which is equipped to teach metal-work, woodwork, electricity, plastics, and drafting at the same time under one instructor is a general shop. The general shop is widely used for teaching industrial arts courses at all grade levels and is frequently used for vocational-industrial courses in small schools. The marked trend toward the use of general shop for teaching industrial

³ Louis V. Newcirk, Organizing and Teaching the General Shop. The Manual Arts Press. Peoria, Illinois. 1947.

arts is clearly shown by Dr. Proffit⁴, and stated as follows:

If a single outstanding trend of the present were to be used to predict the future of industrial arts work, it would be most certainly the trend toward the organization of pupil experiences for instructional purposes around the central idea of the general shop. Probably nothing in industrial arts work has shown the growth on a country-wide basis as has the general shop--especially for the junior high school level. That this will continue seems to be beyond the shadow of a doubt.

Education and American Tradition. An interesting message was found in the address given by Boyd H. Bode⁵, before a group of officers of twelve chapters of Epsilon Pi Tau members. The message on Industrial Arts and the American Tradition, which concerns a universal education involving industrial arts that will be productive of an ever finer democracy, simply because it is directed at a new meaning of culture that exalts the common man. In this message Mr. Bode stated as follows:

A new era is dawning in American education. The old days when educational values were definitely established have gone by. The sense that we are living in a period of accelerated transition in which new values are coming to the fore has penetrated our educational system as deeply as it has anywhere else. A new orientation is required. The evidence that this is being progressively realized is to be seen in the feverish activity that is going on every where in the field of curriculum construction. It has been reported that Teachers College, Columbia University, has on file no less than 40,000 curricula.

All learning is a process of producing changes in our experiences by doing something about them. In general, the importance of interest, initiative, inner urge, in the learning process traces back to the role of bodily responses in shaping the quality of our experiences.

In the case of industrial arts it is assumed that a rich and abundant life may be achieved, not by turning to other-worldism or to the ideals of an aristocratic tradition, but by reeling the potentialities which are inherent in the every day activities of the common man. This is the new orientation which is at present struggling for recognition. It means that man creates his standards

⁵ Boyd H. Bode, Industrial Arts & The American Tradition, Epsilon Pi Tau University Station, Box 3111. Columbus, Ohio. 1942

for truth, goodness, and beauty out of the materials of his everyday activities, without reference to theological or other doctrines. It means that life can be so organized as to make these everyday activities a continuous source of intellectual, moral, social, and esthetic stimulation, and that it is not necessary to look anywhere else⁵.

Industrial Arts Education Preparation and Progress. The quality of industrial arts education in the schools of the nation depends to a large extent on the amount and quality of preparation of industrial arts teachers. Up to the present time it has not been the responsibility of the industrial arts profession to determine what is acceptable preparation. Through legislative action, the power has been vested in the chief school officers of the states, the responsibility of establishing requirements and issuing certificates. Certification requirements are inadequate as indicated in some of the state findings. For example, only 25 states require a bachelor's degree, 4 require 90 semester hours, 14 require 60 hours, and 11 require only 30 hours⁶. Many of the comparisons are startling. It is evident that the profession must share responsibility for insuring adequate preparation of industrial arts teachers, for certification alone is not enough.

Industrial arts, along with other professional areas, has had slow progress until teacher colleges were ready to enrich their industrial arts teacher education curricula; this is gradually taking place. In accepting the responsibility for the quality of industrial arts in the schools, instructors must be willing to subordinate personal likes and dislikes to allow the improvement of industrial arts.

⁶ Dean Ray C. Maul, Teacher Supply and Demand in the United States, National Commission on Teacher Education and Certification, Wash. D. C. 1950.

Progress Made by Industrial Arts Education. The philosophy of industrial arts in general education is being clarified, particularly in the more prominent institutions. Students now being graduated have a better understanding of the position of industrial arts in education than at any time in the past. The leadership in the teacher education institutions has risen in status in recent years. While the leadership is not uniform, it is of sufficient frequency to be a cause for encouragement. The faculty of industrial arts departments in these institutions is rapidly gaining status and, in many instances, can now match or surpass that of other departments in the combination of academic attainment and extra-mural experiences.

It should not be taken for granted, that the raising of requirements of semester credits in philosophy, social sciences, physical and biological sciences or other academic subjects, will in itself create the desired social understanding of a teacher. The conditions in which courses are taught and the viewpoints of the instructors are extremely important factors. However, it would be a mistake to conclude that the ability in the use of tools and elegance in craft expression should be minimized in favor of the study about industry and technology, since the social and personal growth on the part of adolescent students is evidenced largely through well-planned and well executed shop and craft projects. There still is resistance among administrative and academic groups in some institutions to recognize industrial arts on a level with older established areas of education. The resistance to progress also comes from the fact that teacher education in industrial arts is an expensive program and many institutions which want the program for prestige value or regional pride are unable to provide properly for the

required laboratories and equipment.

State Requirements. Every state has enacted statutes which govern the certification of teachers. Such statutes apply universally to teachers in the public schools, but in most states they apply also to teachers in the private and parochial schools. From the beginning of professional education the tendency has been for the states to assume the leading role in the control of teacher certification. In the early days the laws usually permitted local agencies to grant certificates; during the recent years, however, the tendency has been for the state to take all power of granting certificates from the local communities. The theory underlying this tendency is that the state is obligated to assure the highest type of teaching personnel possible throughout the state, and that when local officials have the power to certify teachers there is danger that the standards demanded by the state will not always be met.

Most states now grant, without further examination, either temporary or permanent certificates to all graduates of standard teacher preparing institutions of the state; the provision nearly always applies to the public teacher-training institutions and it frequently applies also to the private colleges and universities which have been authorized to prepare teachers. Most of the states also make provision for the exchange of certificates with states having equal standards. Most of the states grant the graduates of their standard teacher-preparing institutions at the school a temporary or provisional certificate of one to four years in length; at the end of that trial period, provided the teacher's experience has been satisfactory, a life, or permanent, certificate is granted.

A few states make provision for certifying teachers by examination. Such provisions are made for persons who are not graduates of standard teacher-preparing institutions and are therefore unable to qualify automatically for certificates. Provision is made for these examinations several times during the years at various places in the states; the questions for the examinations are usually prepared and marked by state officials.

Local Requirements. In no phase of educational endeavor does any state prohibit the local community from establishing higher standards than those provided for it. The state establishes minimum standards, not maximum ones. Many communities therefore require higher standards for the certification of teachers than the laws of the state prescribe. Many of the larger school systems, particularly the school systems of the larger cities, require all prospective teachers to pass a local examination in addition to meeting the requirements established by the state, and vacancies in the local school system are then filled from the list of candidates who have passed this local examination.

Another local requirement frequently found, especially in the school systems of cities, is teaching experience. In fact, in the school systems of the larger cities such experience is almost a universal requirement. One or two years of experience is generally required. These larger school systems pay higher salaries than the small school systems and in consequence feel justified in requiring all new appointees to have had successful experience elsewhere. Such a requirement, of course, makes it necessary for the beginning teachers to secure their experience in the rural and village schools.

In addition to the local requirements just mentioned, many schools require special abilities on the part of their teachers. For example, they frequently require ability to coach an athletic team or to sponsor one or more other extra-curricular activities; also many schools require some of their teachers to be able to teach special subjects such as music, drawing, or penmanship. These requirements are found especially in the smaller school systems in which most teachers begin their professional careers.

Requirements of Standardizing Agencies. The laws of the various states have always been calculated to bring the schools to a higher standard, and many laws have been enacted for that purpose. The state laws, therefore, may be regarded as the chief standardizing agencies of the schools. In addition to these laws, which may be regarded as public standardizing agencies, there are many private or quasi-public standardizing agencies and these have performed a noteworthy service in raising the standard of education. Practically every section of the United States now has one of these standardizing agencies. Usually the agencies operate in the secondary schools and the college, and do not operate in the elementary schools. The better known of the agencies are:

1. The North Central Association of Colleges and Secondary Schools.
2. The New England Association of Colleges and Secondary Schools.
3. The Middle States Association of Colleges and Secondary Schools.
4. The Southern Association of Colleges and Secondary Schools.
5. The Northwest Association of Secondary and Higher Schools.

The chief function of the agencies is to raise education to a higher plane. The associations have formulated certain standards which schools seeking

and retaining membership in them must meet; for example, they have established standards for graduation, length of school year, size of staff, program of studies, pupil load, preparation of teachers, and teaching load. School officials should be familiar with these standards.

Need of Uniformity. There is need for greater uniformity in offerings in teacher education programs, even after giving due recognition for regional and local conditions, for industrial arts teachers to promote the proper certifications requirements. It appears difficult to justify the sixty hours of skill and craft courses in one institution, to one as low as twenty semester hours in another, for the undergraduate teacher program. No doubt further studies need to be done in teacher education in industrial arts, leading in recommendations for minimum requirements and allocations of subjects in consideration of basic needs in the preparation of an industrial arts teacher. Probably this can be instigated by a suitable professional organization or an association of the colleges to arrive at the desired need of the industrial arts teachers. Steps should be taken to help the industrial arts teachers to qualify them for the positions they are trying to fill. Satisfaction and pleasure will be known not only by the students but the teachers as well. It is very desirable that the educators be dynamic, hopeful and optimistic to take their rightful position with respect to the students in the schools of America.

Summary. This study shows a great variation among the various states as to the requirements an industrial arts teacher must meet to obtain a certificate. In comparing this study with a similar study made twelve years ago a decided trend for higher standards is now evident.

The tendencies today are that each State Department of Education controls its own teacher certification. Certificates are granted to graduates from standard teacher preparation colleges and universities. However, some large school systems still require teachers to pass a local examination in addition to meeting the requirements established by the state. In some of the larger schools two or three years of teaching experience is required, before a new teacher will be employed. This invariably means that beginning teachers must seek teaching experience in small or rural schools. Many schools require special abilities on the part of their teachers, such as music, penmanship, art and the ability to assist in athletics. A suggestion for the prospective teacher is, that the teachers include in their college courses a major with several minors to meet special abilities demanded.

CHAPTER IV

THE INVESTIGATION OR FINDINGS

The primary purposes of this study were to compare the laws and regulations as approved by the certificating agencies for teaching industrial arts in the public schools, and to indicate the need for further study of certification and curricular requirements.

It was decided that the most practical way to gather the necessary data was by means of a short questionnaire letter sent to each State Superintendent of Public Instruction of each State, Territories and Possessions. The letter was written, and then approved by the thesis advisor. A copy of the letter will be found in Appendix D. Of the fifty-seven letters sent out fifty-seven replies were received. Several were of such a nature that other information had to be obtained.

The materials sent by each state were consulted to determine the nature and scope of the industrial arts requirements for secondary certification. This process of checking each state against the other proved a great time consumer. These findings form a principle part of this investigation.

FINDINGS FOR THE STATE OF ALABAMA

The certification requirements of Alabama were revised May 31, 1950, offering two types of secondary professional certificates instead of three as in the past. A "Class A" Secondary Professional Certificate is issued to a person who has graduated with a Master's Degree from a standard institution in a curriculum approved for the training of teachers

who have met all professional and academic requirements for the "Class B" Secondary Professional Certificate. With the approval of the institution, an applicant who has had three years of successful experience as a teacher may be excused from directed teaching, provided additional courses in secondary education are completed to give the required total of 36 semester hours of credit.

A "Class B" Secondary Professional Certificate, valid in periods of eight years, may be issued to a person who presents credentials showing 24 semester hours of education, 12 semester hours of English, 12 semester hours of social studies, and 6 semester hours of science.

REQUIREMENTS FOR SPECIAL PROFESSIONAL CERTIFICATES ARE:

A "Class B" Special Professional Certificate, authorizing the holder to teach the special subject named in its face, may be issued to a person who has graduated with a Bachelor's Degree from a standard institution approved for the training of teachers of such special subject, provided the applicant has pursued an approved curriculum and has a minimum of 30 semester hours of credit, properly distributed, in the subject in which the special certificate is sought. The special subject in which "Class B" Special Professional Certificates may be granted on the above basis include: Art, Industrial Arts, Occupational Studies, Piano, Public School Music, Violin, Band, and Orchestra.

Note:

A person who meets requirements for a "Class B" Secondary Professional Certificate is entitled to have any special subject in which he has had as many as 12 semester hours of credit named in the face of the certificate as one of

the subjects which he is authorized to teach, provided the required distribution of courses is presented. An applicant has to credit an academic major of 18 semester hours in the approved subject and a minor of 12 semester hours in the approved subjected.

ARIZONA

Teachers of industrial arts must now qualify for the basic certificates: Elementary and/or Secondary.

A. Elementary Certificates: (Valid in grades 1 thru 9)

B. Secondary Certificates: (Valid in grades 7 thru 12)

Until September 1st, 1950, Arizona issued a Special Certificate in Industrial Arts, but that has been discontinued.

FOUR YEAR RULE - (Applies to all certificates)

Any applicant for a certificate must furnish evidence that:

At least 10 semester hours of college work offered as a basis for said certificate have been procured within the four years immediately preceding application for said certificate. If desired, two years of successful teaching experience in the four year period and five semester hours may be substituted for the 10 semester hours.

Secondary Certificates: (Valid in grades 7 thru 12)

A. Secondary Certificates shall be granted to holders of the Bachelor's Degree from the University of Arizona or the Arizona State Colleges, or from any other accredited university or college authorized to prepare teachers, who shall present, in addition, a Master's Degree or evidence of the satisfactory

completion of not less than 30 semester hours of graduate work acceptable toward an advanced degree at an accredited institution.

B. Requirements include:

1. A major of not less than 24 semester hours and a minor of not less than 15 semester hours in fields or subjects usually taught in high schools.
2. Twenty-four semester hours in Education and Psychology appropriate to secondary school teaching, to include: Psychology, Educational Psychology, Philosophy or History of Education, Educational Tests and Measurements, Methods, Curriculum and Principles of Secondary Education.
3. Not less than 5 semester hours of directed practice teaching in grades 7-12, inclusive.
4. Not less than 6 semester hours of graduate work in the field of Education.
5. Health Education.
6. United States and Arizona Constitutions.

ARKANSAS

Arkansas revised its certification regulations January 1, 1951. All work must be done in an approved institution and no new certificate is issued on less than 30 semester hours of specified courses for the various types of certificates. Three types of Secondary Certificates are issued. Industrial Arts is classed in the certified fields.

SECONDARY CERTIFICATES

- A. Four year Junior High School Certificate—minimum of 60 semester hours required.

English	9	semester	hours
Social Science	9	"	"
Science	6	"	"
Phy. Edu., Health & Safety	6	"	"
General Psychology	3	"	"
Education	12	"	"

Conservation may be included in the total credits for Science or Social Science.

Education may include Introduction to Education, Educational or adolescent psychology, General Secondary Methods, plus 3 semester hours of directed teaching**.

- B. Five year Junior High School—minimum of 90 semester hours required.

English (may include 3 semester hours of Speech)	12	semester	hours
Social Studies	9	"	"
Phy. Edu., Health & Safety	6	"	"
Science (may include 3 semester hours of Math.)	9	"	"
General Psychology	3	"	"
Education	12	"	"

Education may include introduction and orientation, education or adolescent psychology, general methods and observation, and 3 semester hours of directed teachings**.

- C. High School (certified fields) - Bachelor's degree is required.

English	12	semester	hours
Social Science	12	"	"
Science	12	"	"
Phy. Edu., Health & Safety	6	"	"
Education	18	"	"

** Three (3) years teaching experience waive this requirement.

Conservation may be included in the total credits for Science and Social Science.

Education is to include introduction to education, education or adolescent psychology, general secondary methods, and 5 semester hours of directed teaching**.

D. Industrial Arts

In addition to the general, professional, and conservation education requirements, Industrial Arts teachers must meet the following specialized requirements.

1. Technical Courses, 12 semester hours.
Including such courses as mechanical drawing, metallurgy, blue print reading, or related science courses.
2. Shop Courses, 24 semester hours.
Including such courses as woodworking, metalworking, printing, home mechanics, crafts.
3. Professional Courses in Industrial Education, 12 semester hours.
Including such courses as Shop Organization, history and principles of industrial education, and methods of teaching industrial education.

CALIFORNIA

California revised its certification requirements in February, 1950. An applicant for the special secondary credential in industrial arts shall comply with the procedure prescribed for application and shall have completed a program including the following minimum requirements:

- a. A four year college course with a bachelor's degree.
- b. A minimum of 16 semester hours of work in the subject fields of English, science, social studies, and physical education.
- c. Fifteen semester hours of professional work in education including the following areas:

** Three (3) years teaching experience waive this requirement.

- (1) The scope and function of the elementary and secondary school.
 - (2) Methods of teaching industrial arts.
 - (3) Six semester hours of directed teaching in industrial arts.
 - (4) Other appropriate professional courses in education.
- d. Forty semester hours of special technical training in industrial arts education selected from the following fields:
- (1) Required subject group. (Fifteen semester hours selected from five of the following six fields)
 - a. Automobile¹ and transportation
 - b. Woodwork
 - c. Drawing
 - d. Electricity and radio
 - e. Metal work
 - f. Printing and graphic arts
 - (2) Elective subject group. (Twenty-five semester hours of shop electives made up of additional courses in the subject fields listed in the required group, or selected from the following or similar subject fields)
 - a. Battery construction and repair
 - b. Vulcanizing and tire repair
 - c. Home mechanics and general shop
 - d. Forging and welding

¹In automotive or printing work a minimum of 416 clock hours of practical experience in the subject field in a commercial establishment, or a three-unit course in research and developmental experience in the automotive or printing industry is required before a credential to teach these subjects will be granted.

- e. Wood finishing and painting
- f. Leather work
- g. Upholstery and caning
- h. Construction work for elementary grades
- i. Art metal work
- j. Pattern making and foundry work
- k. Pumps and irrigation equipment
- l. General shop
- m. Eight semester hours of printing¹
- n. Aircraft mechanics and allied courses

Authorization for Service. The special secondary credential in industrial arts authorizes the holder to teach the industrial arts subjects to be named in the credential in elementary and secondary schools.

Term. The special secondary credential in industrial arts may be issued for a period of two years and may be renewed for periods of five years.

COLORADO

Colorado Requirements For Certificates for Teaching Manual
Training. (valid for five years)

General Requirements:

1. The applicant must be a graduate of a standard four year high or must have had educational training equivalent to such a course.
2. In addition to the foregoing, two years, (60) semester hours, of collegiate training are required. This training must have been completed in accredited institutions of higher learning.
3. At least 10 semester hours of credit in education must be included

in the collegiate training as follows:

- | | |
|----------------------|------------------|
| a. Psychology | 2 semester hours |
| b. Practice training | 2 " " |

The requirements in practice teaching may be waived by the issuing authority on evidence of at least one year of **successful experience in teaching the subject under supervision.**

- | | |
|------------|------------------|
| c. Methods | 6 semester hours |
|------------|------------------|

Method in teaching the special subject and such general methods of teaching as are applicable to the subject.

Special Requirements;

Twenty-six and $2/3$ semester hours must be distributed as follows:

- | | |
|---|------------------------|
| 1. Ten and $2/3$ semester hours in the special subject in which the applicant wishes certification. | |
| 2. Mechanical Drawing | 3 $1/3$ semester hours |
| 3. Shop Mathematics | 2 $2/3$ " " |
| 4. Physics or chemistry | 2 $2/3$ " " |
| 5. Vocational guidance
(This may be met with suitable current trade reading) | 2 $2/3$ " " |
| 6. English
(2 $2/3$ semester hours must be English Composition) | 5 $1/3$ " " |

Colorado issues the Graduate Temporary Certificate which is valid for five years for teaching any subject or for performing any administrative duties in any school in the state of Colorado.

The Special Temporary Certificate is valid for five years for teaching **ONLY** the subject specified on the face of the certificate.

CONNECTICUT

The information from Connecticut only stated that an applicant

for a certificate to teach industrial arts must have a degree.

An excerpt from a letter written by Nellie C. Newberry,
Supervisor of Teacher Certification reads as follows:

March 6, 1951

Our present requirement for the certification to teach industrial arts calls for a degree from an accredited college certifying to completion of an approved four-year teacher training course in this special field.

DELAWARE

The Delaware State Board of Education at its meeting in January, 1948, adopted the following revision of the rules and regulation for the certification of Superintendents, Supervisors, Principals, and Teachers, to become effective as of February 1, 1948. Further revisions were adopted in May, 1949 and April, 1950, to become effective immediately.

GENERAL REGULATIONS

1. No person shall be employed as superintendent of schools, supervisor, principal, or teacher, nor shall any salary be paid to such person unless he or she shall hold a certificate issued by the State Board of Education, of the kind and grade required for the position; provided, that no person who has been holding a position as superintendent, supervisor, principal or teacher since July 1, 1947, shall be removed from such position by virtue of holding a regular certificate of lower grade than that required by these rules.
2. No certificate shall be issued to any applicant unless it shall be shown that the said applicant is of good moral character.
3. A certificate from a legally qualified physician showing that the applicant is free from any disease or physical defect or emotional instability that will interfere with his

or her success as a teacher, shall be filed by the applicant, and may be required for the renewal of a certificate.

4. One year's experience in teaching is to be considered equivalent to the usual practice teaching now given in normal schools or colleges. The 6 semester hours practice teaching requirement noted in the various rules is equivalent to 90 clock hours of actual teaching.
5. No teacher's certificate will be issued to any applicant under 20 years of age; nor after June 30, 1950 will any certificate be issued to or renewed for any teacher to teach after reaching 70 years of age.
6. No in-service teacher will be permitted to take more than four semester hours of undergraduate extension work in one semester, nor a total of more than 6 semester hours in one school year, nor a total of more than 4 semester hours of graduate work in one school year, unless special permission is granted by the State Superintendent on the recommendation of the immediate supervisor.
7. Exchange Teachers. Recognizing the special value of exchange teachers between states or foreign countries, the State Superintendent of Schools is hereby authorized to issue a permit to teach in the schools of Delaware to a person or persons legally qualified to teach in their own State or country for a period not to exceed two years, provided similar recognition is granted to holders of Delaware certificates to teach as exchange teachers in such other states or foreign countries.

A certificate in the Special Branches of Industrial Education, may be granted to an applicant who has satisfactorily completed the work for a bachelor's degree in a standard college or university, and who has specialized in the particular branch for which the certificate is issued to the extent of at least 60 semester hours, including at least 6 semester hours in methods of teaching his particular specialty, 6 semester hours in practice teaching, and 6 semester hours in professional subjects, which may include philosophy of education, principles of education, introduction to teaching, educational or adolescent psychology.

Trade and Industrial Teachers

A. Qualifications of Shop teachers for certification to teach all-day and cooperative part-time trade classes.

1. Trade Experiences. All shop teachers must have a high standing as skilled workers in the trade and ability to express themselves clearly, a minimum of 6 years approved industrial experience or 4 years approved industrial and 2 years technical training of college grade which was secured in the related occupational field.
2. Technical Training. Two years of college training over and above high school, or the equivalent in special technical courses related to the occupation to be taught.

FLORIDA

Florida revised its certification requirements in 1938 and in 1951. Beginning October 1, 1951, all applicants for the Post Graduate Certificates must present two years of teaching experience and those for the Advanced Post Graduate Certificate must present three years of experience.

Graduate Certificate

A. Common Requirements

1. Four year graduation from a standard institution.
2. Oath to United States Constitution.
3. Age - 20 years.
4. United States Citizenship.
5. Recency-of-credit.
6. General "C" average.

General Preparation Requirement

A total of 45 semester hours from following 5 areas with at least eight

in each area:

1. Arts of Communication (reading, writing, speaking English, speech)
2. Human Adjustment (health, physical education, psychology, religion)
3. Science and Mathematics (biological science and physical sciences and/or mathematics)
4. Social Studies (credit in at least 2 social studies subjects)
5. Humanities and Applied Arts (humanities, literature, art, music, technological arts)

Professional Preparation "Education Courses"

A total of 14 semester hours as follows:

1. Six semester hours Foundations of Education
2. Six semester hours Teaching in Secondary School
3. Two semester hours Special Methods in Secondary school

"Practical Experience" An applicant must have fulfilled one of the following three plans for obtaining classroom experience:

1. Six semester hours in approved college internship program (or)
2. Six semester hours in observation and practice teaching (or)
3. Three years' actual public school teaching experience and six semester hours in education courses providing opportunity to study and analyze teaching.

"Specialization Requirements"

Industrial Arts 30 semester hours

Semester hours of Industrial Arts required for certification varies from two states requiring 60 semester hours to one state requiring only eight semester hours. The greatest number of states is ten, that require 30 semester hours and 10 that require 24 semester hours. The average number of semester hours in the 48 states is 27.06.

TABLE I

SEMESTER HOURS OF INDUSTRIAL ARTS REQUIRED FOR CERTIFICATE
NUMBER OF STATES REQUIRING COURSES

NUMBER OF STATES	SEMESTER HOURS OF INDUSTRIAL ARTS
2	60
1	50
1	48
1	46
2	45
1	42
1	40
4	36
10	30
2	26
10	24
1	20
3	18
3	15
1	8
5	*

*The requirement for these states could not be determined.

Certification For Teaching In The High Schools of Georgia

The standard credential for teaching in the high schools is the **Teacher's Professional High School Certificate** based upon the bachelor's degree and a four years curriculum including approved courses in general special and professional subjects. A lower certificate for this service may be issued on 90 semester hours or three years of college work with specified professional courses.

Industrial Arts requires 45 semester hours in general shop, woodwork, metalwork, and elementary crafts.

Professional High School Certificate

The Professional High School Certificate is based upon three or four years of college. (Valid for 7 years and renewable upon four years of successful teaching during the term of the certificate.)

1. **General Education:** Approximately half of the total credit in academic fields including English, social science, natural science, mathematics and the humanities. Should include American history and Government.
2. **Specialized subject matter** for a high school teaching field or service: (May be included in above requirements for General Education.)
3. **Professional Education:** Six courses or 18 semester hours in professional education, distributed as follows:
 - a. **Back ground courses:**

(Six to twelve hours in three of these areas including Educational Psychology.)

 1. Orientation in Education
 2. Educational Psychology

3. The School and Society
4. High School Curriculum
- b. **Functional Courses***:

(Six to twelve semester hours including three semester hours in Practice Teaching.)

 1. Materials and Methods in the Teaching Field.
 2. Directed Observation and Practice Teaching in typical high school situations.

* Functional courses must be taken in residence in institutions approved for practice teaching.

Not more than one-fourth of each year's work, approximately two courses, may be earned by correspondence or extension.

IDAHO

Idaho issues two types of certificates for secondary teaching.

(1) Standard High School Certificate. (2) The Advanced High School Certificate.

Requirements for the Standard High School Certificate.

1. Bachelor of Arts or a Bachelor of Science Degree
2. Twenty semester hours in Education
3. Fifteen semester hours in two teaching fields:
4. Three semester hours of High School Practice Teaching
5. Two semester hours of Educational Psychology
6. Two semester hours in one of the following:
 - a. History of Education
 - b. Educational Sociology
 - c. Philosophy of Education

7. Two semester hours in Principles or Theory of Secondary Education
8. Two semester hours in Methods of Secondary School Instruction. (Example: High School Methods)

Advanced High School Certificate

The individual must meet the requirements for the Standard High School Certificate, plus:

A Master's Degree or not less than thirty semester hours of credit applicable toward a Master's degree.

This must include eight semester hours in Educational subjects, and eight semester hours in a teaching field or subject of Educational service.

ILLINOIS

Limited State Special Certificate

Limited State Special Certificate, valid for four years for teaching and supervising the special subject or subjects named in the certificate in any and all grades of the common schools, renewable in periods of four years upon successful teaching and professional growth satisfactory to the county superintendent of schools. This certificate may be issued to graduates of a recognized college with a Bachelor's degree, who present certified evidence, accompanied by faculty recommendation, of having earned the following credentials:

	Semester hours
I. General Education	33
a. English	8
b. Natural Science	6

c.	Social Science	6
	(Including a course in American History and/or Government)	
d.	Humanities	6
e.	Health and Physical Education	3
f.	Additional work in any above fields . .	4
II.	Educational (Professional)	16
a.	Pupil development and the learning process	2 or 3
b.	Organization of subject matter and methods of teaching the subject or subjects of specialization	2 or 3
c.	The American Educational System	2 or 3
d.	Electives from the areas of guidance, and/or tests and measurements	5
e.	Student Teaching (Subject of specialization)	5
III.	Electives	35
IV.	Specialization - Industrial Arts	36

Total 120 Semester Hours

Note: One year actual teaching experience will be accepted in lieu of student teaching.

INDIANA

General Education Requirements

Credit of thirty semester hours in general education, with a minimum of 3 hours in language, arts, and literature; 3 hours in social studies; 3 hours in physical science and mathematics or biological

science; and 3 hours in any three of the following: fine arts, psychology, philosophy and ethics; practical arts; foreign language. The credit earned in general education may be used in the area in which it is applicable to meet the requirements for any teaching certificate.

Professional Education Requirements

Credit of eighteen semester hours in professional education, with a minimum of 2 hours in each of the five following areas: Educational psychology, general methods, principles of secondary education, guidance, and special methods in the comprehensive area. To complete the eighteen semester hours, elective up to 3 hours may be selected from the afore mentioned areas or from tests and measurements, mental hygiene, psychology of adolescent, extra-curricular activities, history of education, philosophy of education. In addition to these eighteen semester hours permission is granted to apply not more than 2 or 3 semester hours of professionalized subject matter toward any comprehensive or restricted area. Credit of 5 hours shall be earned in student teaching.

Any institution preparing teachers may, with the approval of the Commission on Teacher Training and licensing, modify this pattern in accordance with institutional facilities to provide for desirable experimentation.

I. Industrial Arts

18 Semester hours are required for a conditional certificate.

24 Semester hours are required for a restricted certificate.

60 Semester hours for a comprehensive certificate.

A. Approximately thirty hours in shop practice and mechanical drawing distributed as follows:

1. Approximately one-fourth in general metal area; including sheet metal, bench metal, machine operation, foundry, welding, forging, etc.
2. Approximately one-fourth in mechanical drawing area; including freehand sketching, blue print reading, etc.
3. Approximately one-fifth in printing area; including bookbinding, etc.
4. Approximately one-tenth in woodworking area; including cabinet making, pattern making, carpentry, etc.
5. Approximately one-tenth in electrical area; including theory and practice.
6. Approximately one-tenth in ceramics area; including concrete, pottery, etc.

B. Approximately ten hours in professional, theoretical, and related subject matter.

Non-laboratory courses in electricity, metallurgy, gas engine, etc., job and occupational analysis; history and philosophy of industrial education; industrial information; shop management, organization courses in the use of specific methods such as the instruction sheet, etc.; art and design, organization and supervision of industrial education; shop mathematics and shop science.

IOWA

Classes of Certificates

1. Secondary Teachers' Certificates
 - a. Advanced Secondary Certificate---valid for a term of five years, for teaching in the seventh and eighth grades, in a public junior college.
 - b. Standard Secondary Certificate---valid for a term of five years, for teaching in the seventh and eighth grades and in a high school.

- c. **Special Teachers' Certificates**---valid for teaching a specified subject or rendering a special service in the secondary school field for terms from one to five years as determined by the Board of Educational Examiners. Special certification based on college degrees are valid for five year terms except as otherwise specified.

2. Academic Courses Required of Teachers Seeking the Special Subject Certificate.

- a. **Industrial Arts.** In addition to qualifying for an advanced elementary certificate, a standard secondary certificate, or an advanced secondary certificate, and completing the professional preparation specified for special teachers of industrial, each candidate for a special certificate for industrial arts must complete 26 semester hours of cred, distributed as follows:

At least three semester hours in each of the following areas:

1. Auto and farm mechanics
2. General electricity
3. General metals
4. General woods
5. Graphic arts including drawing

- b. Eleven semester hours of additional credit either in the above courses or other credits in industrial arts or art.

3. Supervisors of Special Subjects

1. Industrial Arts

- a. **Professional and Academic Preparation**

Eligibility for the special industrial arts certificate; and completion of 9 additional semester hours in secondary school supervision, elementary-school supervision, and supervision of industrial arts.

- b. **Experience**

Four years of successful teaching experience

- c. **Institutional Recommendation**

Each applicant for the supervisor of industrial arts certificate must be recommended by designated officials of the institution where the specialized preparation for the certificate was completed.

4. Teachers of non-academic subjects

Definition: The so-called non-academic subjects include agriculture, business education, driver education and safety, home making, and industrial arts.

Semester hours of Professional Education required for certification varies from one state requiring 45 semester hours to three states requiring twelve semester hours. Seventeen states require eighteen semester hours. The average of the forty-eight states is 18.17.

TABLE II

SEMESTER HOURS OF PROFESSIONAL EDUCATION REQUIRED FOR CERTIFICATE
NUMBER OF STATES REQUIRING COURSES

NUMBER OF STATES	NUMBER OF SEMESTER HOURS REQUIRED IN PROFESSIONAL EDUCATION
1	45
2	33
6	24
6	20
17	18
1	17
4	16
4	15
1	14
3	12
3	*

*The requirement for these states could not be determined

KANSAS

Requirements for Secondary Teachers

In order to be eligible to teach in any of the secondary schools of the state, the applicant shall have the following minimum requirements.

1. Forty-five semester hours of general education including the following:

	Semester hours
a. Social Sciences (including history) . .	10
b. Literature, language, art, philosophy, or general religion	10
c. Physical and biological sciences . . .	10
d. Electives in above areas (3 semester hours in general psychology may be included)	15
Total	45

2. Eighteen semester hours of professional education including:
 - a. Six semester hours directed toward understanding the individual. Courses in Educational Psychology, Child Psychology, Child Development, Human Growth and Development, the Nontypical Child, Guidance, Theory of Personality, etc. (Such courses should be taught under the supervision of the department or college of education by a person highly qualified as a professional educator who also understands children and public school problems)
 - b. Six semester hours directed toward understanding the school as a social institution. The various educational courses in history, supervision, principles, philosophy, curriculum, extra-class activities, school finance and laws are examples.
 - c. Six semester hours directed toward obtaining competence in instruction at the secondary level which must include at least three semester hours in directed teaching. Other courses in this field may be general or special methods, or curriculum.
3. Certificates issued to secondary teachers shall limit their

teaching to the secondary field.

4. In specialized fields five semester hours of basic courses may be applied to meet the forty-five semester hours of general education requirement.
5. Students majoring in specialized fields such as industrial arts, meeting the same general education requirements as those majoring in liberal arts fields shall receive the regular degree certificate issued to the liberal arts majors who qualify for a certificate.

Industrial Arts

1. Teacher preparation Requirements:

Class A: Fifteen semester hours in the Industrial Arts field with five or more semester hours in the subject taught.

Class B: Twelve semester hours in the Industrial Arts field with five or more semester hours in the subject taught.

Class C: Eight semester hours in the Industrial Arts field with three semester hours in the subject taught. Two semester hours may be deducted from the field for one or more units in high-school work.

KENTUCKY

Kentucky revised its Certification Laws and Regulations February 1948. The Provisional High School certificate valid for

four years shall be issued to a person who meets the general requirements of the law and the regulations of the State Board of Education, and files a transcript of standard college credits showing the completion of a curriculum.

Professional Preparation

1. Student Teaching. The professional requirements for teachers shall be 18 semester hours, at least 8 of which shall be in student teaching. Practice teaching shall should include actual experience in all phases of a teacher's work with a minimum of 144 clock hours devoted to the total experiences and with not less than 90 clock hours in actual observation, participation, and teaching. It is recommended that one-half of the student teaching be done in off-campus schools where possible, and that the work be on all-day basis. Actual practice teaching should be preceded and supplemented by observation and other types of experiences with children, parents, and teachers in a variety of situations.
2. Other Professional Courses. There shall be a minimum of 9 semester hours of professional courses in addition to student teaching in the following areas:
 - a. Child Growth and Development
 - b. Fundamentals of Secondary Education
 - c. Organization and Administration of the Public School System
 - d. Completion of a Baccalaureate Degree

3. **Industrial Arts:** A teaching area in industrial arts shall consist of a minimum of forty-two semester hours distributed as the following:

1. General Shop	3 semester hours
2. Woodworking	9 " "
3. Metal Working	9 " "
4. Graphic Arts (drawing, printing, design)	9 " "

Electives, including, if possible, electricity, leather craft, plastics, and other subjects to be determined by needs of the student a sum of twelve semester hours, totalling 42 semester hours.

Semester hours of Directed Teaching required for certification varies from one state requiring 15 semester hours to eight states requiring three semester hours. Fifteen states require six semester hours. The average for the forty-eight states is 4.44.

TABLE III
SEMESTER HOURS OF DIRECTED TEACHING REQUIRED FOR CERTIFICATE
NUMBER OF STATES REQUIRING COURSE

NUMBER OF STATES	SEMESTER HOURS OF DIRECTED TEACHING
1	15
1	8
15	6
9	5
7	4
9	3
6	*

*The requirement for these states could not be determined

LOUISIANA

The Requirements for Certification of Teachers and Administrators in Louisiana adopted by the State Board of Education became effective July 1, 1947.

1. To teach in high schools the applicant must have completed forty-six semester hours of General Education as follows:

a. English	12	semester	hours
b. Social studies (3 semester hours must be in American History)	12	"	"
c. Sciences—distributed as follows	12	"	"
1. Biological science	3	"	"
2. Physical science	3	"	"
3. Electives in science	6	"	"
d. Mathematics	6	"	"
e. Health & physical education	4	"	"

The applicant must have a Bachelor's degree from an approved college to receive a Type C. Certificate which is valid for three years.

2. Professional requirements in education may be distributed as follows to a total of eighteen semester hours.

a. Introduction to education, history of education, foundations of education, and/or philosophy of education	3	semester	hours
b. Educational psychology and/or principles of teaching	3	"	"
c. Student teaching at high school level	4	"	"
d. An additional professional education appropriate to the teaching level	8	"	"

Requirements to teach specific subjects:

Industrial Arts classes:

A Type T, vocational certificate, will be issued to an applicant who has a baccalaureate degree awarded by an approved college, earned in a curriculum designed to train teachers of industrial arts. The applicant shall have a minimum of forty-two semester hours in industrial arts education.

This certificate shall authorize employment on elementary and/or high school levels.

For authorization to teach one activity on a unit-shop basis, the applicant shall have earned six semester hours of credit in that particular activity; for authorization to teach in more than one activity on a general-shop basis, the applicant shall have earned three semester hours of credit for each activity included in the general-shop set-up. Upon meeting the foregoing requirements satisfactorily, a temporary three-year Type T vocational certificate will be issued. A Type A certificate valid for life will be issued after five years of satisfactory teaching experience; provided all other requirements for the issuance of the Type A certificate are met.

MAINE

The State Department of Education of the state of Maine require the following for State Certification of Teachers to teach Industrial Arts:

Authorization: To teach industrial arts in the elementary and secondary schools.

Requirements: Eligibility to this certificate will be established by

the following methods:

1. An accredited bachelor's degree in professional industrial arts education.
2. A minimum of thirty semester hours credit in the following industrial arts technical areas:
 - a. Not less than five semester credit hours in each of the following areas:
 1. Wood
 2. Electricity
 3. Metal
 4. Transportation
 - b. Not less than ten semester credit hours of advanced work in one of the defined areas, or
Not less than five semester credit hours of advanced work in each of the two of the defined areas.
3. A minimum of eighteen semester credit hours in approved general professional education as follows:
 - a. Not less than six semester credit hours in industrial arts education, exclusive of student teaching.
 - b. Not more than six semester credit hours from the field of psychology (including educational psychology), and
 - c. Additional semester credit hours from the field of general professional education.
4. Completion of an accredited course in general shop practice.
5. Completion of an accredited student program.

Term: Types of Certificates for Industrial Arts.

1. A Professional Grade (A) Certificate issued to eligible applicants is valid for a five-year period. Upon four years of successful experience within the scope of the professional certificate and the completion of not less than six semester credit hours in approved industrial arts education,¹ it may be changed to a five-year, standard certificate.

The date of revision of certificate requirements vary from eight states revised their certification law in 1951 to one state revised its certification law in 1938.

TABLE IV

THE DATE OF REVISION OF STATE CERTIFICATION LAWS
NUMBER OF STATES REVISING THEIR LAWS

NUMBER OF STATES	DATE OF REVISION OF CERTIFICATION REQUIREMENT
8	1951
16	1950
3	1949
2	1948
1	1947
1	1946
1	1942
1	1940
1	1938
13	*

¹ Six semester credit hours in Professional or technical industrial arts education

* The date of these states could not be determined.

MARYLAND

All teachers' certificates in Maryland are issued by the State Superintendent on the basis of school or college credits earned in standard institutions. Before any regular Maryland certificate can be issued to a public school teacher or other school official, the applicant must undergo a special medical examination by one of the county physicians especially appointed for this work, and the report of the physician must be accepted by the Medical Board of the Teachers' Retirement System. Only citizens of the United States shall be employed in the public school system in the counties or admitted to the State Teachers Colleges.

Certificate For Supervisors of Special Fields

Required of special supervisors of physical training, music, fine and applied arts, home economics, manual or industrial arts, or agriculture; valid for three years; renewable for four years and then for six-year periods upon evidence of successful experience and professional spirit.

Requirements:

- a. Completion of a standard four-year college course.
- b. A year of graduate work at a recognized university, chiefly in methods and supervision, including methods and supervision in the special field.
- b'. Upon special request of a county superintendent the State Superintendent may issue such a certificate on a minimum of twelve semester hours of graduate work, chiefly in methods and supervision in the special field, with the provision that eighteen semester hours of additional graduate work, approved by the State Superintendent, shall be completed within five years.

- c. In the college or graduate work the applicant must have included approximately forty-five semester hours of work in the special field.
- d. Four years of successful teaching experience, including at least two in the special subject in which the certificate is issued.

Certificate In Special Subjects

Required of teachers of general home economics, physical training, music, fine and applied arts, manual or industrial arts, and business education; valid for three years; renewable for four years upon evidence of successful experience and professional spirit and completion of a six-week summer term; and renewable subsequently for six-year periods upon the same conditions.

Requirements:

- a. Four years of work of college grade, including sixteen semester hours in Secondary Education and approximately thirty semester hours in the special subject to be taught. Rank in the upper four fifths of the class and a grade of at least C in practice teaching in the special subject (D being the passing grade) are necessary. Credit for special methods in the special subject must be presented. The thirty hours in the subject should include the courses indicated under the corresponding heading as follows:

Industrial Arts:

Mechanical drawing, general metal work, woodworking, electrical work, and sheet metal work.

The life of the certificate issued to Industrial Arts Teachers varies from three states issuing life certificates, to one state issuing a certificate valid for one year.

TABLE V

THE VALIDITY OF CERTIFICATES IN YEARS
ISSUED BY STATES

NUMBER OF STATES	VALIDITY OF CERTIFICATE
3	LIFE
2	10
2	8
2	6
12	5
5	4
7	3
2	2
1	1
12	*

*The information for these states could not be determined.

THE COMMONWEALTH OF MASSACHUSETTS

The material received for the State of Massachusetts was hard to use because of the numerous sources. When this study was started the State of Massachusetts did not have a State Law regulating the requirement for certification of teachers. Each city and township established laws regulating education. Letters were written to the

cities and towns having a total population of over 80 per cent of the total State Population. From those findings all are very similar. They all require a Bachelor's degree or its equivalent. The following averages are universal. An average minimum of twenty semester hours of education are required. Four semester hours in practice teaching and a major in the subject taught is included in the requirements.

The following is an excerpt from a letter written by Mr. Thomas A. Phelan, Supervisor of Teachers Registration Bureau. March 21, 1951

There is no general certification law for the qualification of teachers at the present time in the Commonwealth of Massachusetts. Requirements are enacted by the separate cities and towns in this State.

MICHIGAN

The State Board of Education of Michigan revised its Teachers' Certification Code in 1942 which may be found in Bulletin No. 601. Principle changes in Michigan certification included: The 15 former kinds of Michigan teachers' certificates were replaced by five significantly named certificates---The Elementary Provisional and Permanent Certificate, the Secondary Provisional and Permanent Certificate, the Junior College Permanent Certificate, the State Limited Certificate and Renewal, and the County Limited Certificate and Renewal. "Blanket" certification was discontinued and replaced by certificates for elementary grades, or secondary grades, or Junior Colleges. Life Certificates were not granted after June 30, 1939. Limited certificates have restricted validity. A loyalty oath must be signed by all applicant in the presence of Notary Public before any certificates will be issued by the State Board of Education to the respective

applicants.

Minimum Requirements for the State Secondary Provisional
Certificate

The candidate must present the following credentials:

1. The candidate must have been graduated with a Bachelor's degree from an approved or accredited teacher education institution.
2. The academic training shall include one major and two minors in subjects or subject fields in which the applicant expects to teach.
3. A minimum² of 20 semester hours in professional courses, including the following, must be submitted:
 - a. Directed Teaching in secondary grades--five semester hours.
 - b. Methods in major or minor subject.
 - c. Principles of Teaching, or equivalent.
 - d. Psychology of Education, or equivalent.
 - e. History of Education, or Philosophy of Education, or equivalent.
 - f. Electives (Education) to complete 20 semester hours.

Special Curricula Leading to Both Elementary and Secondary Certificates

A candidate who has been graduated from a specific four year curriculum such as fine arts, industrial arts, library science, music,

² In an institution in which elementary psychology is a prerequisite for educational psychology, the minimum requirement of 20 semester hours of education may be reduced not more than three semester hours.

physical education, public health, etc., and who has been granted either the State Elementary Provisional or Permanent Certificate or the State Secondary Provisional or Permanent Certificate, shall be authorized to teach such specified special subject in elementary and secondary grades when the candidate qualified in both fields.

Applicants who have completed a program leading to a Master's degree, and who have met the specific requirements for the elementary and secondary certificate may be granted both certificates.

Oath of Allegiance for Teacher Certification

"Before any teacher's certificate shall be valid in this state, the holder thereof shall make and subscribe the following oath (or affirmation): 'I do solemnly swear (or affirm) that I will support the constitution of the United States of America and the constitution of the State of Michigan and that I will faithfully discharge the duties of the office of teacher according to the best of my ability.' Any teacher's certificate issued after the effective date of this act shall have attached thereto or superimposed thereon said oath of allegiance signed by the teacher, a duplicate of which oath shall be signed and filed with the superintendent of public instruction: Provided, that said duplicate oath need not be so filed if the teacher has heretofore filed with the superintendent of public instruction an oath in the form herein prescribed. All teachers who hold certificates issued in this state prior to the effective date of this act shall file said oath with the superintendent of public instruction. The oath in all cases shall be notarized".

Section 10, Chap. 27, Pt. II School Code as amended by Act 133, P.A. 1941, being sec. 7615 C.L. 1929.

Age and Citizenship

"No certificate qualifying a person to teach in the public schools of this state shall be granted to any person who is not at least eighteen years of age and who is not a citizen of the United States or who has not declared his intention of becoming a citizen."

MINNESOTA

Regulations For The Certification Of Teachers

I. High School

A. A teacher's certificate may be issued to an applicant holding a degree from the College of Education of the University of Minnesota, Duluth Branch of the University of Minnesota, a Minnesota state teachers college, or an independent liberal arts college in Minnesota, providing it is an accredited teacher training institution and is approved by the State Board of Education to prepare teachers in the subject or field for which the application is made. This certificate shall qualify the holder thereof to teach in any secondary school and in the 7th and 8th grades of an elementary school those subjects or fields in which he has a major area of concentration in a teaching field (at least 24 semester hours of college credit).

B. A teacher who spends over one-half time in a special field will be required to have a major area of concentration in that special field. A certificate based on a major area of concentration in a special field is also valid to teach such special field in the elementary grades.

These special fields are as follows:

- | | |
|--------------------|-----------------------|
| 1. Agriculture | 5. Music |
| 2. Home Economics | 6. Physical Education |
| 3. Industrial Arts | 7. Business Subjects |
| 4. Fine Arts | |

Note: Certificates valid to teach in Vocational departments will be so indicated.

C. A teacher applying for a certificate before March 1, 1951 must have fifteen semester hours of professional education as follows:

- | | |
|---------------------------|------------------|
| 1. Educational Psychology | 3 semester hours |
|---------------------------|------------------|

2. General Methods (Technique of Teaching)	3	semester	hours
3. Special Methods	3	"	"
4. Observation and Practice Teaching	3	"	"

D. A teacher applying for a certificate after March 1, 1951 must have had at least 18 semester hours of college credit in professional education for teaching in the secondary school of which at least four semester hours must be in Observation and Student teaching and one college course from each of the three following fields:

1. Human Growth and Development (i.e. Educational Psychology, Psychology of Learning, Child Growth, Etc.)
2. Orientation to Teaching (i.e. General Methods, Principles of Education, Problems of Profession, School and Society, Introduction to Education, etc.)
3. Special Methods and Materials.

MISSISSIPPI

Certificates for Teachers in the Secondary Schools

All Standard Professional Certificates issued to teachers in the secondary school require the completion of 49 semester hours in courses designated as "General Education".

All Standard certificates issued to teachers in the secondary school require the completion of 18 semester hours in courses designated as "Professional Education".

1. General Education Requirements

English

12 semester hours

Fine Arts	4	semester	hours
Health & Physical Education	6	"	"
Science	12	"	"
Social Studies	12	"	"
Speech	3	"	"
<hr/>			
Total	49	Semester	hours

2. Professional Education Requirements

Educational psychology	3	semester	hours
Child growth & development	3	"	"
Techniques and procedures of teaching in secondary schools, including the principles of guidance	6	"	"
Directed teaching	6	"	"
<hr/>			
Total	18	Semester	hours

3. Specialized Education

Industrial Arts

General shop	3	semester	hours
Woodworking	6	"	"
Metal Working	6	"	"
Graphic arts (drawing and printing)	6	"	"

Electives, such as:

Electricity, leathercraft, plastics,
and other subjects to be determined
by the needs of the student

Total 30 Semester hours

The information from an unpublished thesis by William M. Sherman, Certification of Industrial Arts Teachers,² written in 1939 show that 6 states require an applicant for a certificate to teach industrial arts must have a health certificate from a physician. The health certificate requirement has now increased to nine states.

TABLE VI
HEALTH CERTIFICATE REQUIREMENT
REQUIRED BY STATES

NUMBER OF STATES	HEALTH CERTIFICATE REQUIRED
9	REQUIRED
39	NOT REQUIRED

MISSOURI

I. General Requirements for Secondary Teachers

- A. A baccalaureate degree from a college or university accredited for teacher education.
- B. Completion of the appropriate college credits for certification in the subjects or fields in which the teacher wished to teach.
- C. Completion of at least twenty-five semester hours of general education, including credits from at least three of the following fields:

1. English
2. Social Studies
3. Natural Science
4. Foreign Language
5. Mathematics

D. Two years of college work in General Physical Education, with or without credit, and two semester hours of credit in Health or Hygiene.

II. Professional Requirements - a minimum of eighteen semester hours in the professional or education courses as follows:

1. Education psychology	2 semester hours		
2. Excess or other education credits	3	"	"
3. History of Education, Philosophy of Education, or Principles of Education	2	"	"
4. General Methods in Secondary Teaching	2	"	"
5. Methods in one high school teaching field	2	"	"
6. Secondary School Administration	2	"	"
7. Supervised student teaching in Secondary Schools	5	"	"

III. Industrial Arts

1. General Shop	2 semester hours		
2. General Woodwork	4	"	"
3. General Metalwork	4	"	"
4. General Drawing	4	"	"
5. Applied Electricity	2	"	"

6. General Crafts	2 semester hours
7. Other Industrial Arts credits	6 " "
<hr/>	
Total	24 Semester hours

MONTANA

The State of Montana is in the process of revising its Certification Laws and Regulations for Teachers. The following information was sent in a letter written by Esther L. Schmidt, Director of Certification of Montana.

- I. The requirements for the teaching of the industrial arts courses in the high schools of Montana are:
- a. A bachelors degree from a fully accredited teacher education training program.
 - b. A teaching major of thirty semester hours in a field usually taught in high school.
 - c. A teaching minor of twenty semester hours in a field usually taught in high school.
 - d. Sixteen semester hours in the Educational and Professional courses which includes practice teaching on the junior high school level and/or the senior high school level.

NEBRASKA

An applicant desiring to teach industrial arts in Nebraska must have the Initial Secondary School Certificate. He must be a United States citizen (natural born or fully naturalized citizen). The

candidate must also present a complete health examination certificate with the signature of the examining physician. No teacher's contract is valid until the certificate has been issued and registered in the office of the County Superintendent of Schools of the county in which the candidate will teach.

The state of Nebraska issues three types of certificates for secondary teaching, the Initial, Provisional, and the Professional. The Initial and Provisional certificates are valid for five years each while the professional is a life certificate.

Requirements of the Initial Certificate

The completion of a four-year college high school teacher training course with Baccalaureate Degree and recommendation of the school. The candidate must have a minimum of eighteen semester hours in education (three in supervised teaching grades 7 to 12) and two semester hours in health education, including fifteen semester hours in each of two teaching fields.

There is a five year time limit on use of college credits for certification purposes, except where credits are kept up to date by continuous teaching. Completion of nine additional semester hours of college credit required where credits have become outdated.

NEVADA

Nevada revised its certification requirements in 1950. The State Board of Education is the sole agency in Nevada authorized by law to issue certificates to teachers in Nevada public schools. It has no authority to issue certificates to teachers who are not citizens of the United States or who have not attained eighteen years of age.

Until a teacher has made proper application for and been notified by the State Department of Education that he is eligible for a Nevada certificate of appropriate grade, he is not eligible for a teaching position in a Nevada public school. Contracts issued to teachers not eligible are invalid.

Requirements for High School Certificates

1. Graduates of the University of Nevada who have completed the courses prescribed by the School of Education will be granted high school certificates valid for five years.
2. A high school certificate may be granted to any applicant eighteen years of age who holds a Bachelor of Arts or Bachelor of Science degree from a standard college, normal school, or university, and who has had eighteen semester hours training in the field of professional education, including four semester hours of practice teaching. (General psychology is not accepted to meet, in part, the professional education requirement). Two years of successful teaching experience in the public schools may be submitted in lieu of practice teaching. This class of certificate is valid for four years. Not less than ten semester hours in professional education required for the high school certificate must be in the secondary field. High school certificates are renewable. The high school certificates are valid in any high school in the State. They are not valid in elementary schools. The teachers who are doing work in both high school and in the elementary grades must hold a high school certificate and an elementary certificate.

Special Certificates

1. **Special certificates** are granted in the following special subjects: music, drawing, manual training (industrial arts), penmanship, commercial subjects, or any special foreign language. These special certificates, valid for two years, are granted upon credentials showing adequate preparation for teaching the particular subject or subjects designated and evidence of personal fitness for the work. Applicants for special certificates must present at least twenty-four semester hours credits, or the equivalent, in the subject in which they wish certification.

The information from an unpublished thesis by William M. Sherman, Certification of Industrial Arts Teachers², written in 1939 show that four states required an oath of allegiance to the Constitution of the United States and the State Constitution must be sworn. The oath of allegiance requirement has now increased to nine states.

TABLE VII

OATH OF ALLEGIANCE REQUIREMENT
REQUIRED BY STATES

NUMBER OF STATES	OATH OF ALLEGIANCE REQUIRED
9	REQUIRED
39	NOT REQUIRED

NEW HAMPSHIRE

The State of New Hampshire revised its Certification Laws and

Regulation for Secondary School Teachers in the year of 1948 which became effective July 1, of the same year.

The requirements for high school certificates and special field certificates are as follows:

- I. Completion of a 4 or 5 year course in a standard post-secondary institution.
- II. Academic requirement
 - A. Major teaching field:
 1. Industrial Arts.
 - a. Eighteen semester hours in shop courses
 - b. Six semester hours in each subject to be taught
- III. Professional requirements--fifteen semester hours in education courses (e.g. Methods of Teaching, Educational Psychology, Principles of Education, Educational Sociology, History of Education, Tests and Measurements, Guidance, Mental Hygiene for teachers, Child Behavior, etc.) and six semester hours of supervised student teaching.

Note: Three years of successful teaching experience may be substituted for the supervised student teaching requirement, provided the most recent years of teaching has been within the last three years or that acceptable teacher training courses have been taken within the last three years.

Graduation prior to July 1, 1948--not less than twelve semester hours in Education.

NEW JERSEY

Industrial Arts

(Experience Background)

Authorization: To teach industrial arts in elementary and secondary schools.

Requirements:

1. High school graduation or equivalent attainment and a minimum of eighteen semester hours credits in general background courses distributed in at least three of the following fields: English, social studies, science, fine arts, mathematics, and foreign languages. Six semester hours credits in English and six in social studies will be required.
2. Four years of approved industrial, trade, or technical experience.
3. A minimum of eighteen semester hour credits in courses distributed over four or more of the following groups including at least one course in a, b, and c below:
 - a. Methods of teaching. This group includes such courses as: (1) methods of teaching in elementary and secondary schools, (2) visual aids in education, and (3) individualizing instruction.
 - b. Educational psychology. This group includes such courses as: (1) psychology of learning, (2) human growth and developments, (3) adolescent psychology, (4) educational measurements, and (5) mental hygiene.

- c. Health education. This group includes such courses as: (1) personal health problems, (2) school health problems, (3) nutrition, (4) health administration, and (5) biology.
 - d. Curriculum. This group includes such courses as: (1) principles of curriculum construction, (2) the high school curriculum, (3) a study of the curriculum in industrial arts, and (4) extra-curricular activities.
 - e. Foundations of education. This group includes such courses as: (1) history of education, (2) principles of education, (3) philosophy of education, (4) comparative education, and (5) educational sociology.
 - f. Guidance. This group includes such courses as: (1) principles of guidance, (2) counseling, (3) vocational guidance, (4) educational guidance, (5) research in guidance, and (6) student personnel problems.
4. A minimum of thirty-six semester hours credit in the field of specialization distributed among the following areas and covering both the elementary and secondary fields:
- a. General shop; shop mathematics; woodwork, including design and construction of woodworking projects and wood finishing; home mechanics.
 - b. Metal work including copper, brass, aluminum, band iron and sheet metals; auto mechanics.
 - c. Mechanical drawing as related to industrial arts,

architecture and machine design.

- d. Graphic arts to include etchings, wood cuts, wood engraving, photography, silk screening and linoleum-block printing.
 - e. Crafts including plastics, wood carving and wood inlay, art metal work, aluminum craft, and simple jewelry.
5. One hundred and fifty clock hours of approved student teaching. At least ninety clock hours must be devoted to responsible classroom teaching; sixty clock hours may be employed in observation and participation.

TERM. The limited certificate may be made permanent when the applicant completes three years of successful teaching experience within the scope of the certificate.

NEW MEXICO

New Mexico revised its certification requirements in 1950. The requirement for a regular high school certificate under the new law is based on graduation from an approved normal, college or university with a minimum of 120 semester hours.

A. Prescribed courses shall include the following:

1. Educational Psychology	2 semester hours
2. Secondary education	2 " "
3. Methods of teaching in high school	2 " "
4. Supervised teaching in high school	4 " "
5. Electives in Education	6 " "

B. Academic credits shall be distributed approximately as follows:

1. A major of twenty-four semester hours and a minor of fifteen semester hours in subjects taught in high schools, or
2. Two minors of fifteen semester hours each, subjects usually taught in the high school.

Special Certificates

Special certificates are granted to teachers of special subjects, such as Home Economics, Manual Training, Agriculture, Physical Training, Music, Art. etc. The requirements are high school graduation; sixty semester hours of college training; twenty semester hours of which must be in the special field of subjects for which the applicant desires certification. This certificate is valid for three years and entitles the holder to teach in any grade, but only the subjects designated.

Special certificates may be renewed from time to time upon satisfactory evidence that the holder thereof has earned during the life of this certificate eight semester hours of credit by attending school or taken at least six full weeks of special instruction in the field of work for which the certificate is granted.

Correspondence and extension work will not be accepted for a regular three-year or five-years renewal. Only six semester hours credit will be accepted by the Certification Department, earned in one current year, by either correspondence courses for 1951-1952 by applicant holding an Emergency Certificate for 1950-1951; if they wish to teach in 1951-1952, they must attend summer school.

NEW YORK

The State of New York has five types of certificates for the teaching of subjects and departments. These certificates come in the following order, Provisional certificate, Permanent certificate, Common branch certificate, Academic subject certificate, and special subject certificate.

A Provisional Certificate

1. Preparation. The candidate shall have completed a four-year approved curriculum leading to the baccalaureate degree (or approved equivalent preparation) including:
 - a. Eighteen semester hours in professional courses approved for teaching in public schools. The schedule which follows will be used to appraise the 18 semester hour program:
 1. Supervised student practice teaching in elementary and secondary schools including conferences in teaching problems.... 4 to 8 semester hours.
 2. Industrial arts methods and materials.... 4 to 6 semester hours.
 3. Adolescent development and/or psychology for teachers.... 2 to 4 semester hours.
 4. History, philosophy, problems and/or principles of industrial arts education.... 2 to 4 semester hours.
 - b. Thirty-six semester hours in approved courses related to the field of industrial arts. The schedule which follows will be used to appraise the said 36 semester

hour program:

1. Mechanical drawing	4 to 6 semester hours		
2. Comprehensive general shop	5 to 8 semester hours		
3. General electricity shop	3 to 8	"	"
4. General metal shop	5 to 8	"	"
5. General printing and bookbinding	3 to 8	"	"
6. General woodworking	5 to 8	"	"
7. Elective shop	5 to 8	"	"

The Provisional certificate shall be valid for ten years from date of issuance. The holder of this certificate shall be eligible for the permanent certificate hereinafter described provided he completes 30 semester hours in approved courses in addition to the minimum standard of preparation.

Permanent Certificate

2. Preparation. The candidate shall have completed an approved four-year curriculum leading to the baccalaureate degree (or approved equivalent preparation) and in addition 30 semester hours in approved advanced courses. The total program of preparation shall include:

a. Eighteen semester hours in approved professional courses and thirty-six semester in appropriate industrial arts courses.

3. Special Subject Certificate.

(Industrial Arts)

Validation for teaching a special subject. The validity of a certificate for teaching shop subject (industrial arts), issued upon four years of approved preparation, shall be extended by the Commissioner of Education to include the teaching of a special subject on evidence that the holder thereof has completed the minimum preparation in appropriate professional and technical courses required for the teaching of said subject.

4. In-service study and training requirement. The holder of a permanent certificate shall during each successive ten year period from date to issuance complete six semester hours in approved courses or the equivalent in approved professional activity other than classroom teaching such as membership in study groups for professional and cultural improvement, travel, educational research, authorship, cooperating critic and demonstration teaching, occupational experience, leadership in extra-school activities, leadership in professional associations and leadership in appropriate community activities. Courses, studies and activities offered by teachers toward the satisfaction of the in-service study and training requirement shall be submitted to the State Education Department for approval prior to the beginning of such study or service.

NORTH CAROLINA

The State of North Carolina requires a minimum scholastic training which represents graduation from a standard four-year college. The subject, or subject for which certification is granted appear on the face of the certificate. It is desirable that one be qualified to teach two or more subjects.

1. Professional Requirement ---- eighteen semester hours
- a. The pupil 6 semester hours
 - b. The school 6 " "
 - c. Teaching and practicum 6 semester hours
(must include at least forty-five clock hours of actual teaching)
- II. Academic requirements vary with the subject for which certification is granted. In terms of semester hours, the minimum subject matter credit for the teaching of each of the various subjects is as follows:
- a. Art 30 semester hours
 - b. Bible and Religion 21 " "
 - c. Commerce 36 " "
- III. Industrial Arts 30 semester hours
- a. Drawing and design 6 semester hours
 - b. Woodwork (including bench work, machine work, carpentry cabinet making) 6 " "
 - c. General Metal Work (including cold metal, sheet metal, forging, foundry, machine shop, art metal, welding) 6 " "
 - d. Electricity (including general principles, house wiring, common appliance, and radio) 6 " "
 - e. Elective from a,b,c,d, or from such other courses as graphic arts, (printing, silk screen, photography) ceramics, automotives, aeronautics, crafts, (jewelry, leather) 6 " "

NORTH DAKOTA

In the State of North Dakota a First Grade Professional

Certificate with a major or minor in Industrial Arts would qualify the holder for teaching this subject in the high school departments. A special certificate in Industrial Arts would also qualify one for teaching industrial arts.

Requirements for the First Grade Professional Certificate

Applicants who hold a bachelor's from an accredited college or university, approved as a teacher training institution, are eligible for the First Grade Certificates, providing evidence of the required sixteen semester hours in education is shown. The work in education must include student teaching. This certificate qualifies the holder to teach in any public schools of this state.

Special Certificates

Special certificates are issued in manual training; but only on diplomas from recognized institutions doing accredited work in the special subjects. The applicant must have completed twenty-two semester hours credit in the special field, in which the certificate is desired, beyond the regular requirements for a second grade professional certificate. A special certificate is issued for three years and is valid for teaching only the subject named on the certificate. Upon completion of eighteen months of teaching the special subject in North Dakota a special certificate may be renewed for five years. Therefore, at least sixteen semester hours credit on a college course must be offered for a five-year renewal. (Special certificates are not made valid for life)

General Information

1. All applicants must be 18 years of age.
2. Initial First and Second grade certificates are issued for three years. These certificates are issued ONLY upon evidence of graduation.
3. Life Professional certificates are NOT issued until the applicant has taught for at least eighteen months within the state during the validity of his limited, or three-year certificate.
4. Applicants should not send transcripts, diplomas, or certificates to the state office.
5. North Dakota certificates are not issued on certificates of other states, but on the training previously explained.
6. No person shall be employed or permitted to teach in any of the public schools of the state, who is not in possession of a VALID North Dakota certificate.

OHIO

The State of Ohio revised its Certification Laws and Regulations for Secondary teaching September 1, 1950. The minimum requirements for the Provisional High School Certificate are as follows:

Upon evidence of the satisfactory completion of a four years curriculum including the required seventeen semester hours of professional preparation listed below, the applicant will, upon the recommendation of the institution conferring the degree, be granted a provisional high school certificate valid for teaching those subjects in which he has completed the requirements listed below.

To facilitate placement, it is strongly recommended that the applicant satisfy the requirements for teaching three secondary subjects.

Professional Preparation

- | | |
|--|----------------------|
| 1. Education psychology
(Prerequisite-General psychology) | 2 - 3 semester hours |
|--|----------------------|

2. Principles of teaching
(or Education) 2 - 3 semester hours
3. School Administration, Organization,
or Management 2 - 3 semester hours
4. Methods of teaching
(In grades 7 - 12) 3 - 5 " "
5. Electives to make a minimum of seventeen semester hours of
professional credit from the following or other pertinent courses:
 - a. History of education
 - b. Tests and measurements
 - c. Educational sociology
 - d. Secondary education
 - e. Introduction to teaching
 - f. Philosophy of education

Minimum Requirements For The Provisional Special Certificate

- A. Industrial Arts 45 semester hours
(Well distributed over the following areas:)
 1. Graphic Arts
(Including drawing, planning, printing, photography,
and duplicating)
 2. Woods
(Including furniture construction, carpentry, and wood
finishing)
 3. Metals
(Including sheet metal, art metal, foundry, and machine
metal work)
 4. Applied Electricity
(Communication, transportation, and power)
 5. Ceramics
(Clay and concrete)
 6. Methods and Organization

OKLAHOMA

INDUSTRIAL ARTS

AUTHORIZATION. To teach industrial arts in grades seven through twelve.

REQUIREMENTS FOR STANDARD CERTIFICATE

1. All general requirements
2. A bachelor's degree from an institution approved for teacher education based upon the completion of a program approved by the State Board of Education for the education of teachers of industrial arts in the secondary schools, including:
 - a. A minimum of fifty-semester hours in general education designed to develop a broad cultural background with work in at least six of the following: (1) English (oral English, written English, and literature), (2) social studies (the applicant may satisfy the general requirement in American history and government and Oklahoma history as a part of his required general education), (3) health and physical education, (4) science, (5) mathematics, (6) psychology, (7) foreign language, (8) fine arts, and (9) practical arts.
 - b. A minimum of twenty-one semester hours in professional education, including at least nine semester hours in student teaching, methods, and materials.
 - c. A minimum of thirty semester hours of college credit in industrial arts subjects.

REQUIREMENTS FOR PROVISIONAL CERTIFICATE

1. All general requirements
2. A bachelor's degree from an approved college or university with the following minimum requirements:
 - a. A minimum of fifty semester hours of credit in general education designed to develop a broad cultural background.
 - b. A minimum of fifteen semester hours of college credit in professional education, including student teaching, methods, and materials.
 - c. A minimum of sixteen semester hours of college credit in the field of specialization.

REQUIREMENTS FOR TEMPORARY CERTIFICATES

1. All general requirements
2. A minimum of ninety semester hours of college credit certified to by an approved four-year college or university, including:
 - a. A minimum of forty semester hours of credit in general education designed to develop a broad cultural background.
 - b. A minimum of twelve semester hours of credit in professional education, including student, methods, and materials.
 - c. A minimum of sixteen semester hours of credit in the field of specialization.

Teaching Certificates **

1. Classes of teaching certificates

The State Board of Education shall issue three classes of

Note ** Effective July 1, 1953.

teaching certificates upon application as defined in these regulations: (1) standard, (2) provisional, and (3) temporary.

Graduate students with a bachelor of science degree from the Oklahoma Agricultural and Mechanical College, School of Technology, will fulfill the requirements for a teaching certificate in industrial arts in 28 states as listed in Table VIII. To fulfill the requirement in 5 of the other states could not be determined due to lack of complete information.

TABLE VIII

THE STATES IN WHICH OKLAHOMA AGRICULTURAL AND MECHANICAL COLLEGE GRADUATES FULFILL THE REQUIREMENT FOR A TEACHING CERTIFICATE

THE STATES IN WHICH THE REQUIREMENT IS FULFILLED	
ALABAMA	MISSISSIPPI
CALIFORNIA	MISSOURI
COLORADO	NEBRASKA
CONNECTICUT	NEVADA
FLORIDA	NEW HAMPSHIRE
GEORGIA	NEW MEXICO
IDAHO	NEW YORK
IOWA	NORTH CAROLINA
LOUISIANA	OKLAHOMA
MAINE	SOUTH CAROLINA
MARYLAND	SOUTH DAKOTA
MASSACHUSETTS	TENNESSEE
MICHIGAN	VIRGINIA
MINNESOTA	WEST VIRGINIA

OREGON

The certification requirements of Oregon were revised in 1950 and became effective July 1, 1951.

Requirement for the Secondary Provisional Certificate

The Provisional Certificate A, will be issued to those applicants who have completed a four-year secondary teacher training course in a standard college, university or teachers college provided such a course includes:

1. A bachelor's degree from a standard college, university or teachers college.
2. Seventeen semester hours in courses of Education including the following named courses or their equivalent:

a. Secondary School in American Life	2	"	"
b. Education psychology	2	"	"
c. General methods	2	"	"
d. Supervised teaching	2	"	"
e. Oregon School Law and System of education	1 1/3	"	"
f. Oregon History	1 1/3	"	"

Regular Special Certificates for Special Subjects

A special certificate in industrial arts, leading to a five-year special certificate and renewal of the same in accordance with the regulations for regular state certificates, may be granted to an applicant who has completed:

- a. The requirements for regular secondary certification.
- b. Twenty-four semester hours in the field indicated in such certificate, or major in that field.

PENNSYLVANIA

Certification Of Industrial Arts Teachers

I. Regulations Governing Certificates Previously Issued:

All Temporary, Special, Normal, and Provisional College Certificates now valid will be renewed and made permanent in accordance with the requirements on which they were issued.

II. Regulations Governing the Issue of New Certificates:

A. Provisional College Certificate - issued to graduates of approved four year teacher education curriculums in industrial arts education in accredited colleges and universities.

1. General Industrial Arts will be written on a certificate on the satisfactory completion of an approved four year industrial arts curriculum which includes:

a. A minimum of six semester hours in professional courses in industrial arts education, such as:

Principles and practices in Industrial Arts
Curriculum materials in Industrial Arts
Shop management and layout
Current problems in Industrial Arts

b. A minimum of thirty semester hours in courses in the shop activities, including not less than four semester hours in each of four or more shop activities, such as:

1. Wood
2. Metal
3. Graphic Arts
4. Electricity

5. Automotives
6. Ceramics
7. Art Crafts
8. Plastics
9. Textiles
10. Other industrial arts courses specifically designed to meet the needs of persons teaching industrial arts in the elementary and secondary schools.

c. A minimum of ten semester hours, and not more than fourteen semester hours, in courses in related drawing and design, including at least four of the following:

1. Mechanical drawing
2. Freehand drawing and Sketching
3. Industrial arts design
4. Sheet metal drafting
5. Architectural drafting
6. Machine and Equipment design
7. Graphic arts design

2. Industrial arts activities on a unit shop basis will be written on a certificate on the satisfactory completion of twelve semester hours of approved education in each activity.

B. Permanent College Certificate--the provisional college certificate will be made permanent on evidence of three years

of teaching in the public schools of Pennsylvania, with a rating of "satisfactory"; and the satisfactory completion of six semester hours of additional education of collegiate grade, one-half of which must be professional. A course in visual education is required for permanent certification unless it was completed before the degree was received.

III. Extension Of College Certificates To Include Industrial Arts:

A college certificate may be extended to include the teaching of industrial arts on the satisfactory completion of courses selected from an approved teacher education curriculum in industrial arts (action of State Council of Education, December 2, 1938). This distribution of courses outlines in II-A is to be approximated.

Until September 1, 1939	16 semester hours
After September 1, 1939	24 " "
After September 1, 1940	30 " "

The regulations of certification of March 10, 1950 indicates, that subsequent to September 1, 1944, all certificates issued by the Department of Public Instruction to teach in the public schools of the Commonwealth, shall, in addition to the present regulations, require a basic course in the history of the United States and Pennsylvania.

RHODE ISLAND

Rhode Island has not changed its certification regulations since 1938. In order to teach Industrial Arts in Rhode Island one

must present evidence of satisfactory study in the subject field.

The following information is taken from a leaflet sent by the Department of Education.

Excerpts From **the Rules and Regulations Governing The
Issuance of Teachers' Certificates Adopted
January 1, 1938.**

I. Specific State requirements:

- a. Minimum age -- 19 years
- b. United States citizenship
- c. Character references
- d. Pledge of loyalty

II. Provisional Certificates (valid for one year)

A. Academic requirements:

1. Graduation from approved secondary school
2. Graduation from approved college, college of education, normal, or technical school (requiring four years of attendance for graduation)

NOTE: A graduate of a three-year state normal school with five years of experience; or a graduate of a two-year state normal school with 10 years of experience, may be certificated provisionally.

B. Professional requirements:

1. Art and Science of Education 200 clock hours
To include history of education, and educational psychology with a minimum 30 and a maximum of 50 clock hours in each course.

NOTE: The course in Rhode Island Education is required of all applicants for certification, the course to be completed within one year

- C. Holders of a provisional certificate shall make a substantial advance annually by successful completion of one or more approved courses in summer school or extension service toward the 400 clock hour requirement.

III. Professional Certificates (valid for five years)

A. Professional requirements:

1. Art and Science of Education 400 clock hours

To include the following with a minimum and a maximum of 50 clock hours in each:

- a. History of education
- b. Educational psychology
- c. Principles of education
- d. Rhode Island education

NOTE: Courses in General psychology, Genetic psychology, Philosophy, Sociology, etc. are not accepted.

- B. Practice Teaching 400 clock hours

NOTE: The practice teaching requirement may be waived after five years of satisfactory service in Rhode Island public schools, following visitation and inspection of classes by the State Supervisor of Certification.

SOUTH CAROLINA

The State of South Carolina specifies some general requirements for all its teachers. The certification regulations passed by the State Board of Education in 1948 requires the general requirements as

follows:

1. A well-planned program of teacher education should be one that provides opportunity for:
 - a. Developing the individual as a person
 - b. Developing the individual as a professional worker
2. Since July 1, 1945, no beginning teacher is certified who does not have a recommendation of at least "acceptable" from the institution as to personal and professional qualities.
3. General Education Requirements:

a. English	12	semester	hours
b. Biology and physical sciences (A minimum of 6 semester hours of each)	12	"	"
c. Social studies (Must cover at least three fields)	12	"	"
d. Fine arts (Appreciation of Music, 3 semester hours; Appreciation of Art, 3 semester hours)	6	"	"
e. Health education	3	"	"

NOTE: A standard examination may be used to demonstrate proficiency in any area.

Professional Education Required of Secondary Teachers:

I. A minimum of eighteen semester hours of professional education is required of all secondary teachers. The distribution of these courses will vary according to the needs of the teacher. In adapting the professional work to the special area, not more than nine semester hours of the eighteen will be devoted to special methods and directed

teaching. In the case of academic subjects in high school, a general methods course is suggested. Some special fields as commerce, music, home economics, industrial arts, etc., find a special method course more practical. In case a special methods course and/or practice teaching is offered by a department other than an education department, the credit for the course shall be reported as professional education and the work shall be with the approval of and under the general supervision of the education department or school. In all cases, the directed teaching must be done in one of the fields in which the student plans to be certified and should be closely integrated with the work in methods and techniques.

- | | |
|--|-------------------|
| a. Human growth and development, principles, philosophy,
and general techniques (secondary level) | 12 semester hours |
| b. Directed teaching | 6 " " |

II. Industrial Arts 24 semester hours

Courses must cover at least five of the following fields:

Wood work; Electricity; Trowel trades; Ceramics; Craft work;
Printing; Weaving; Textiles; General Metal Shop including
Welding, Plumbing, Heat Treating, etc.; Internal Combustion
Engines; Drawing; Other Industrial Arts electives; and Applied
Mathematics.

SOUTH DAKOTA

The information from this state was very indefinite, but it was stated that to receive a professional high school certificate to teach industrial arts one must have a major in industrial arts and practical

trade or trades experience.

The following information was taken from the annual edition of Requirements for Certification by Woellner and Wood.¹

Requirements for High School Certificate

The High School General Certificate (also valid for teaching in elementary grades).

I. Bachelor's degree from a university or college approved as a teacher training institution.

II. Academic requirements in semester hours:

- | | |
|----------|-------------------|
| a. Major | 24 semester hours |
| b. Minor | 15 " " |

NOTE: Deductions may be made in the fields of mathematics, foreign languages, commercial, and music at the rate of two semester hours for each high school unit, not to exceed a total of six semester hours.

III. Requirements for the special art, as music, etc., fifteen semester hours.

IV. Professional requirements -- semester hours in education, fifteen (not counting general psychology).

Practice teaching in major or minor subjects (included in the fifteen semester hours).

¹ Robert C. Woellner, and Aurilla M. Wood, Requirements for Certification of Teachers and Administrators, 15th Edition, 1950-1951, The University of Chicago Press, Chicago, Illinois.

2. Principles of Secondary Education	3 semester hours
3. Materials and methods or teaching methods in certified teaching areas	3 " "
4. Directed and practice teaching in certified areas	3 " "
<hr/>	
Total	12 semester hours

The remaining 6 semester hours of the eighteen semester hours are elective and will be selected from the courses listed below: (A maximum of 3 semester hours in each course)

1. History of education or history of education in the United States.
2. Adolescent psychology
3. Educational tests and measurements
4. High school administration, organization, and management
5. Educational sociology
6. General psychology
7. Curriculum of the high school
8. Philosophy of education
9. Mental hygiene
10. Audio-Visual aids
11. Guidance

Materials and methods courses or teaching courses will be limited to those fields of study in which the student will later become certified.

Materials, methods, and teaching courses will not be counted as content courses in meeting the semester hours requirements for content fields, but will be listed on the certificate application as professional

courses.

The applicant shall have at least three-fourths of his college work classed as non-professional and not more than 6 semester hours in all types of psychology with not more than 3 semester hours of the 6 semester hours in General Psychology.

The practice teaching credits must show on the application for certification the areas in which the teaching is done. Practice teaching will be limited to a maximum of 4 semester hours unless an inspection by the State Board of Education indicated that facilities are adequate for additional credit.

C. Industrial Arts:

The applicant shall offer a minimum of eighteen semester hours credit in industrial arts and be certificated in the following fields with six semester hours in each:

1. **Graphic Arts:** including drawing, planning, printing and photography.
2. **Woods and Construction:** including furniture construction, carpentry, cabinet making, wood finishings, saw filing and millwork, painting and decorating, upholstering, concrete work, masonry, and plastics.
3. **Metals:** including sheet metal, art metal, foundry, machine shop, forging, metal finishing, welding, and ornamental iron.
4. **Applied Electricity:** including communication, electric motors, power, radio, light, refrigeration and air-conditioning, electronics, and general or bench electricity.
5. **Mechanics:** including auto mechanics, home mechanics, general shop, air-craft mechanics, and crafts.

An applicant may be certified to teach any one of the above fields by offering twelve semester hours in that field.

TEXAS

The information from the State of Texas was rather indefinite. Texas issues four types of certificates for terms of two, four, six year, and permanent duration. The requirements are as follows:

1. Elementary four-year or High School two-year Certificate

30 semester hours total college credit, which must include:

6 semester hours in English

6 semester hours in Education

A course in Texas and Federal Constitutions

2. Elementary Six-year Certificate

60 semester hours total college credit, which must include:

12 semester hours in Education

6 semester hours in English

A course in Texas and Federal Constitutions

3. High School Six-Year Certificate

60 semester hours total college credit, which must include:

12 semester hours in Education - 6 of which are Secondary

6 semester hours in English

A course in Texas and Federal Constitutions

4. High School Six-Year Certificate

90 semester hours total college credit, which must include:

18 semester hours in Education --6 of which are Secondary

6 semester hours in English

A course in Texas and Federal Constitutions

5. Permanent High School Certificate

- (1) 120 semester hours total college credit --
Standard Degree
24 semester hours in Education -- 8 Secondary in
nature
6 semester hours in English
Practice Teaching
A course in Texas and Federal Constitutions
- (2) Minimum of three sessions, aggregating 27 months,
of teaching experience subsequent to conferring of
degree, provided record shows 12 semester hours in
Education, 6 semester hours of which are secondary,
and Texas and Federal Constitutions.

6. Permanent Elementary Certificate

- (1) Completion of prescribed schedule of studies in a
Texas State Teachers' College.
- (2) Minimum of five sessions of at least six months each
of teaching in the elementary grades during validity
of elementary six-year certificate.

Six semester hours of American Government may be substituted for
a course in Texas and Federal Constitutions.

High School two-year certificate is not valid for teaching above
the elementary grades in accredited systems.

Official transcript of college courses should accompany
application.

UTAH

The State of Utah revised its certification requirements April 20, 1946. An applicant for a certificate to teach industrial arts in Utah must have completed the industrial arts course in an approved college or university, with a minimum of 45 semester hours in industrial arts, 43 semester hours in Arts and Science and 33 semester hours in education.

A distribution of semester hours among the following courses are required for industrial arts certification.

I. Industrial Arts - Major	45 semester hours		
a. Drawing	4 semester hours		
b. Woodwork	12	"	"
c. Metalwork	12	"	"
d. Craftwork	6	"	"
e. Electricity	4	"	"
f. Shop organization and management	3	"	"
g. Electives	4	"	"
II. Arts and Science	43 semester hours		
a. Language arts	10	"	"
b. Social science	10	"	"
c. Biological science	10	"	"
d. Physical science	10	"	"
e. Physical education or military science	43	"	"
III. Education	33 semester hours		
a. Educational psychology	3	"	"

b. Vocational guidance	3	semester	hours
c. Methods of teaching industrial arts	3	"	"
d. Observation and practice teaching	15	"	"
e. Principles and objectives of industrial arts	3	"	"
f. School health and hygiene	3	"	"
Electives:	3	"	"

VERMONT

The information received from this state was very inadequate as the State Department of Education is in the process of revising its certification regulations. An excerpt from a letter written by Mr. Newton H. Baker, Director of Teacher Education and Certification as follows: March 6, 1951.

"Our certification regulations are in the process of revision. The current regulations do not include a statement of the requirements for the certification of industrial arts teachers but such regulations will be included in the revised edition".

The following information is taken from the publication of Requirements for Certification of Teachers and Administrators, by Woellner and Wood.³

Minimum Requirements for Secondary Certificates:

Junior High (Grades 7-9)

³ Robert C. Woellner, and Aurilla M. Wood, Requirements for Certification of Teachers and Administrators, 15th Edition, 1950-1951, The University of Chicago Press, Chicago, Illinois.

A Bachelor of Arts degree in Junior High School course from an approved college or university. Summer school required every five years.

High School

- I. Baccalaureate degree from an institution of higher learning approved by the Vermont State Department of Education.
- II. Professional requirements in semester hours:
 - a. Education 12 semester hours
 - b. Observation and practice teaching
in public schools 3 " "
(included in the 12 semester
hours of education)

Summer school required every five years

VIRGINIA

The regulations for certification of teachers effective July 1, 1950 replaces those published in 1940. The revision has been postponed from time to time with the hope that the shortage of qualified teachers, which began when teachers in large numbers entered the armed services or war industry, might become less acute.

Virginia now issues three forms of regular certificates:

- a. Postgraduate Certificate
- b. Collegiate Professional Certificate
- c. Collegiate Certificate

Certificates can be renewed for periods equal to their original period of validity. The certificates (a. and b.) as described above are renewable when:

1. Recommendation for renewal has been given by a division

superintendent.

2. When an official transcript from an accredited university or four-year college has been furnished showing that the holder has earned during the life of the certificate at least 6 semester hours of credit in professional or academic subjects. (Completion of a thesis or dissertation for a master's or a doctor's degree will be accepted in lieu of this credit).

A holder of the Postgraduate Professional Certificate who has completed twenty years of teaching (experience as a supervisor or administrator is acceptable) may secure renewal without submitting evidence of study as described in #2.

Examination: As an alternative for #2, the passing of an examination on four books designated in the Teachers' Reading Course will be accepted. This is known as the "Teachers' Reading Course Examination." The examination must be taken within a period of two years before the certificate expires or two years after the certificate expires.

3. A statement has been submitted naming five books from the Teachers' Reading Course which have been read carefully during the life of the certificate. A bulletin entitled "Teachers' Reading Course" is published annually. Those who submit college credit under #2 of 8 or more semester hours need not submit a list of books read.
4. A certificate of health may be required at the discretion of

of the Coordinator of Teacher Education.

Industrial Arts

36 semester hours

This must include:

I. 18 semester hours selected from two or more of the following.

- a. Drawing and design
- b. Woodwork, (bench work, machine work, carpentry, cabinet making)
- c. Metal work, (cold metal, sheet metal, forging, foundry, machine shop, art metal and welding)
- d. Electricity, (general principles, house wiring, common appliances, radio and television)

II. 12 semester hours selected from four or more of the following.

- a. Apprentice education
- b. Employer-employee relationships
- c. Coordination of vocational education
- d. Industrial and economic development of the South
- e. Job and trade analysis
- f. Vocational education surveys
- g. Guidance
- h. Methods of vocational teaching
- i. Philosophy of vocational education
- j. Psychology of vocational education

Courses a, c, g, h, i, and j, may be counted toward the 18 semester hours of professional education required for the Collegiate Professional Certificate.

III. Six semester hours in:---student teaching in industrial arts. The student teaching will also be accepted as part of the 18 semester hours of professional education mentioned above.

WASHINGTON

Washington revised its teacher certification laws July 1947 and again July 15, 1950. A special certificate for teaching industrial arts is not issued in Washington State. Teachers of this subject are required to hold a regular classroom teacher's certificate. Any one coming to Washington to teach after September 1, 1951, very likely will be required to convert his certificate, within a reasonable time, to the general certificate. In order to convert a secondary certificate to a general certificate a teacher must be able to submit a record of at least sixteen semester hours earned in the field of elementary education. The regulation providing for conversion of the secondary certificate to the general certificate are as follows:

Adopted by the Board of Education June 13, 1950.

Persons who hold a three-year or a six-year secondary certificate, or the equivalent, will be eligible for the standard general certificate on or after July 1, 1953, provided that they have had at least one year of teaching experience and have secured a minimum of sixteen semester hours of professionalized subject matter such as reading, art, music, health, physical education and fundamental concepts of science and number, in addition to child development, elementary curriculum and procedures and laboratory experiences on the elementary level.

Standards approved for supervision of the fifth college year

in the program for the general certificate will apply to this study.

Secondary Certification. Secondary certificates are valid in grades 9 to 12 inclusive and in grades 7 and 8 if these grades are a part of an accredited junior high school.

Requirements For Three-Year Certificate:

Five years of college work and a degree in secondary education (bachelor's or master's) conferred by an institution accredited by the American Association of Teachers Colleges, the Association of American Universities, or a state department of education, including the following specific requirements:

1. Education Courses:

Sixteen semester hours in education, including at least one course in the following subjects: educational psychology (general psychology may not be substituted for educational psychology), general methods or principles of teaching, secondary education, special methods, practice teaching on the secondary level. Elective courses in education may be submitted to complete the required total sixteen semester hours.

2. Contemporary Social Problems

Ten semester hours in one or more of the following subjects: economics, sociology, political science, current history. Credits in Washington State History and Government also are acceptable toward meeting this requirement. Courses in modern history are not acceptable unless a discription of the courses shows clearly that the field covered is

contemporary history---period subsequent to World War I.

3. Majors and Minors

One major of twenty semester hours and two minors of ten semester hours each in subjects regularly offered in the secondary schools of Washington. Such courses as education, philosophy, Greek and forestry are not acceptable toward satisfying requirements for majors and minors.

A major or a minor must be composed of subjects in a specific field. The State Board of Education does not recognize a major or minor in general science, or a major in social science. Ten semester hours in contemporary social problems may, however, be substituted for one minor.

A major or a minor in biological science is acceptable if it includes one basic course in zoology and one basic course in botany.

WEST VIRGINIA

West Virginia revised its certification requirements in 1950. Each teacher must apply for his certificate through the college in which he has completed his teacher training requirements. A college recommendation is very essential. A West Virginia student who expects to be recommended for a certificate by an out-of-state college should submit his transcript of credit to the Division of Teacher Certification for evaluation.

Requirements for First Class High School Certificate

Required Courses

Minimum semester hours

1. English	12	semester	hours
2. Social Science	12	"	"
3. Science and Mathematics	6	"	"
4. Music	2	"	"
5. Art	2	"	"
6. Physical Well-being	2	"	"
7. Professional Education	20	"	"
8. Electives	72	"	"

Required Total hours 128 semester hours Bachelor's Degree

Industrial Arts requirements---24 semester hours

1. Drawing	4	semester	hours
2. General shop	3	"	"
3. Organization of Industrial Arts	2	"	"
4. Shops	15	"	"

To be taken in three or more shop areas with a minimum of six semester hours in one and not less than three semester hours in each additional area, such as:

- | | |
|----------------|------------------|
| 1. Art Metal | 7. General Metal |
| 2. Automotives | 8. Leather Craft |
| 3. Ceramics | 9. Machine Shop |
| 4. Design | 10. Photography |
| 5. Electricity | 11. Plastics |
| 6. Foundry | 12. Printing |

13. Radio

15. Woodwork

14. Sheet Metal

16. Welding

(Students qualifying for the Special Nonacademic will be required to complete 40 semester hours of Industrial Arts.)

WISCONSIN

The Wisconsin State Department of Public Instruction did not send any bulletins on certification requirements, but a letter was stating the requirements for Industrial Arts Teachers in that state.

An excerpt from a letter written by Frances Crowley,
Administrative Assistant of Certification:

March 2, 1951.

In your answer to your inquiry of February 26, I wish to inform you that for a license to teach Industrial Arts in the schools of Wisconsin we require graduation from an accredited four year college or university course with a major of at least thirty semester hours in Industrial Arts.

We also require at least eighteen semester hours of college credit in Education. Included in the eighteen semester hours must be a course in Educational Psychology or Psychology of Learning for three semester hours, a Teacher's or a Methods Course in Industrial Arts for two semester hours, and five semester hours of Practice Teaching.

WYOMING

The State of Wyoming revised its certification requirements by the State Board of Education at their meeting of October, 1949, to

become effective September 1, 1952.

I. Standard High School Certificates

Requirements:

- a. Bachelor's Degree from an accredited teacher-training institution.
- b. General Education--26 $\frac{2}{3}$ semester hours covering a balanced program with courses from language arts, social studies, physical science, biological science, music, fine or practical arts.
- c. A minimum of 15 semester hours in each major teaching field.
- d. Professional training--20 semester hours in the field of Education from the following areas:
 1. Directed teaching or internship
 2. High school techniques and methods
 3. Child growth, development, and psychology
 4. History, philosophy, and sociology of education
 5. Mental health and hygiene
 6. Guidance
- e. Experience--none

II. Professional High School Certificate

Requirements:

- a. Master's Degree from an accredited teacher-training institution.
- b. Professional training--10 semester hours additional in education above the requirements for Standard High School Certificate from any of the following areas:

1. Directed teaching or internship
2. High school techniques and methods
3. Child growth, development, and psychology
4. History, philosophy, and sociology of education
5. Mental health and hygiene
6. Guidance

c. Experience--five years successful teaching experience in Wyoming

III. Industrial Arts

Requirements:

- a. Bachelor's Degree from an accredited teacher-training institution
- b. 26 $\frac{2}{3}$ semester hours in education, including work in teaching of industrial arts subjects and educational psychology.
- c. 30 semester hours in shop work and related subjects.

DISTRICT OF COLUMBIA

All candidates wishing to teach in the District of Columbia are required to pass an examination given by the Board of Examiners in the fields chosen by the applicant. The office of the Board of Examiners is located at Webster Administration Annex #4, Washington 1, D. C. Periodic announcements are made by the Board as to the time and place these examinations the candidate is given a license to teach.

Passing of Examinations. This means making 70% or over in each

examination, except that passing the physical examination is determined by the Health Department of the District of Columbia. To avoid re-examination because of defects in teeth and eyes, such defects should be remedied before hand.

A license to teach in the Senior High Schools in the District of Columbia in the following and similar subjects as art, distributive education, home economics, music, physical education, and shop is issued when the requirements are met. This license is known as LICENSE VII, and falls in the salary scale CLASS 3.

The requirements for the following as art, music, physical education, and shop subjects are:

1. A master's degree from an accredited college.
2. The equivalent of not less than 30 semester hours credit in the major, successfully pursued as a part of or in addition to the work for the degree; provided, that not more than eighteen of the total 30 semester credits may be offered in subject allied to the major when the major is a shop subject; and
3. The equivalent of not less than twenty-four semester credits in courses in education or professional courses successfully pursued as a part of or in addition to the work for the degree, and representing a definite program of preparation for teaching in secondary schools. Within these twenty-four semester credits, courses must be offered in the following fields:
 - a. Educational psychology
 - b. Principles and methods of senior high or secondary school education
 - c. Observation and practice teaching in secondary schools
 - d. Materials and methods of teaching the major in secondary schools
4. Not less than two of the following courses:
 - a. Principles and methods of elementary

- b. Principles and methods of junior high school education
- c. Tests and measurements
- d. History and/or philosophy of education

Provided, That two years of successful teaching experience under adequate supervision in the elementary or secondary schools of a well-organized and accredited school system may be offered in lieu of the required observation and practice teaching; and

Provided further, That practical experience in the major, satisfactory to the Boards of Examiners, may be offered in lieu of the specified observation and practice teaching.

TERRITORY OF ALASKA

Alaska has no special certificate for any special subject in the high schools. It has a general high school certificate, and teachers must be assigned to teach in the major and minor fields.

CERTIFICATION OF TEACHERS

Section 1

- a. All teachers in the Territorial schools of Alaska must be citizens of the United States of America and must secure an Alaska teacher's certificate from the Commissioner of Education.
- b. No certificate shall be issued unless the qualifications hereinafter stated shall be met, and the application shall be accompanied by a fee of \$2.50, money order or check on an Alaskan bank only, a medical certificate stating that the applicant is physically fit to teach, and a complete and official transcript of college work.

Transcripts submitted with an application for an Alaska certificate shall become a part of the teacher's permanent record in the files of the Territorial Department of Education. (Teachers applying for certification are requested not to send \$2.50 until medical certificate can be forwarded at the same time.)

Section III

HIGH SCHOOL CERTIFICATES

High school certificates shall be valid for a period of five years. The minimum qualifications for teachers of high school subjects shall be the same as is, or may be, required of teachers of high school subjects by the Northwest Association of Secondary and Higher Schools. (Bachelor's degree with at least sixteen semester or twenty-four semester hours in education and special training in subject matter fields.)

Section V

LIFE CERTIFICATES

High school certificates may be renewed for life certificates when the holders thereof shall have taught successfully for five years in the Territorial schools, and when they shall have completed one year of graduate study in addition to the requirements for teachers of high school subjects made by the Northwest Association of Secondary and Higher Schools.

PAGO PAGO, AMERICAN SAMOA

An excerpt from the letter written by Mr. J. R. Trace, Director of Education, as follows: March 26, 1951.

The Public Schools of American Samoa do not provide courses in industrial arts. All of our American teachers, however, must be certified to teach in their home states.

CANAL ZONE, PANAMA

BALBOA HEIGHTS

QUALIFICATION OF TEACHERS

The requirements as to age, experience, and training will be observed strictly. Teachers who are deficient in any requirement should not apply in the hope that exceptions will be made.

AGE. No teacher will be employed who is under 24 years of age or over 40 years of age.

EXPERIENCE. All applicants must have at least three full years of teaching experience before appointment is made; two years of experience must have been gained in the grades or subjects for which application is made and during the last five years preceding date of application. Applicants must have two full years of teaching experience before application may be filed.

TRAINING. Junior High School Teachers. Applicant must hold a bachelor's degree and must submit an official transcript covering a four-year course pursued in a normal school, teachers college, or college; and must show credit for at least 15 semester hours of professional study in the field of education.

SENIOR HIGH SCHOOL TEACHERS. Applicants for appointment as teachers of academic courses in the senior high schools must hold a master's degree with a major in the subject field for which application

is made. In addition at least 15 semester hours must be in the field of education. Applicants for appointment as teachers of commercial subjects, household arts, and metal and wood shop must hold a bachelor's degree with a major in the field of specialization. Applicants for all high school teaching positions must submit official transcripts of all college and post graduate work.

AGANA, GUAM

An excerpt from a letter written by Mr. Simon A. Sanchez, Acting Director of Education, as follows: April 3, 1951.

We are in receipt of your letter of February 26, 1951 requesting a statement of the requirements for certification of industrial arts teachers. We are sorry that we are unable to comply with your request since the Department of Education has not set up an certification system for public school teachers in Guam.

TERRITORY OF HAWAII

The Department of Public Instruction in Honolulu revised its Certification Policy August 23, 1950 which became effective September 1, 1950.

I. Professional Certificates

- a. The requirements for the Professional Teacher's Certificate shall be the Bachelor of Education degree or its equivalent; and, in addition, completion of 30 semester hours of collegiate or in-service work of comparable level. Fourteen of these 30 semester hours may be allowed for full-time intern teaching for university credit in an approved school under supervision. A

minimum of 24 semester hours credits in education courses are required during the five years of collegiate training. Ten of these 24 credits must be in courses designed primarily for graduate students, including advanced educational psychology and philosophy of education.

II. Secondary Certificates

The requirements for the Secondary Professional Certificate shall be that the practice teaching and/ or intern teaching or its equivalent included in the general requirement above have been done on the secondary level (grades 7-12) in an approved teacher-training institution or school system and that not less than twelve of the required credits have been earned in courses dealing specifically with problems of secondary education and courses in adolescent psychology.

III. Industrial Arts.

Each Secondary Professional Certificate shall state on the face of it the subject-matter fields in which the teacher has met teaching requirements are as follows:

- a. Industrial Arts: Twenty-four semester hours in industrial arts on college level, including at least four semester hours in the Teaching of Industrial Arts.
- b. Life Certificates. When a teacher shall have served ten years while holding a Professional Certificate has the recommendation of the District Superintendent based on evidence of efficiency and satisfactory professional spirit, the Board may at its discretion recommend that

that such teacher be granted a Life Certificate.

SAN JUAN, PUERTO RICO

The Department of Education of Puerto Rico approved the passing of the Act 211, on May 11, 1945 regarding the regulation of certification of teachers.

SECTION 13

The industrial arts teacher's certificate, valid for working in secondary schools, shall be granted to persons who, in addition to the requirements mentioned in Section 3 of this Act, (Sec. 3.--No certificate of whatever class shall be issued to candidates who do not meet the following requirements, in addition to those which are hereinafter set forth: 1. To be not less than 18 nor over 55 years of age; to observe unimpeachable moral conduct, and to be physically able to practice as a teacher.) shall present evidence of holding a professional diploma of industrial arts issued by the University of Puerto Rico and a normal school diploma or a bachelor's degree in arts specialized in industrial arts or an engineering degree issued by the University of Puerto Rico or any other accredited university, provided the holder of said degree has passed the following pedagogical courses:

- | | |
|--|-----------|
| a. Educational psychology and psychometry | 6 credits |
| b. Basic course in vocational and education guidance | 6 credits |
| c. Methods and observation in industrial arts | 6 credits |
| d. Industrial arts curriculum | 6 credits |

Industrial arts teachers in active service or on leave who have

not complied with the requirements of this Act and who have not obtained a certificate in accordance with any former law, shall be entitled to it upon complying with the following requirements:

1. Twelve semester hour credits in industrial education including methods for the teaching of industrial arts.
2. Twenty-four semester hour credits in industrial arts education with major work in general shop, woodwork, and drafting, or their equivalents.
3. Twenty semester hour credits in elective subjects.
4. Two years experience in the public schools of Puerto Rico as teacher of industrial arts.

SAINT CROIX, VIRGIN ISLANDS

An excerpt from the letter written by Mrs. P. L. Byrd Larsen, Superintendent of Education, as follows: May 9, 1951.

We require the Bachelor of Science degree in Industrial Arts for our highest certificate for an Industrial Arts Teacher.

This does not however, apply to trades teachers.

A blank for applying for a position is required but not for a certificate.

ST. THOMAS, VIRGIN ISLAND

An excerpt from the letter written by Mr. C. Frederick Dixon, Superintendent of Education, as follows: April 26, 1951.

You are advised that we have no special requirements for certification of industrial arts teachers in the Virgin Island, nor

have we established any form to be used in applying for a certificate in this field. As a matter of fact we do not employ any teachers exclusively for teaching in this field.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

To promote higher standards of education is to vest the power of certification in a state department of education. The state department of education would have jurisdiction over teacher preparation. Some of the states have postponed the revision of certification regulations from time to time with the hope that the shortage of qualified teachers would be relieved. During the war large numbers of teachers entered the armed services or war industry which resulted in an acute shortage of qualified teachers.

The shortage of qualified teachers has now existed for about seven years and threatens to continue for several more, but it has never been thought advisable to lower the certification standards which have been achieved through thoughtful and constructive planning. As a result emergency certificates were issued after there were few available qualified teachers. This practice is not a favorable one to maintain good standards of education.

There is need for unification in teacher certification, and this study should tend to promote a professional program which eventually might lead to a higher degree of standardization for the preparation of teachers in general, and of industrial arts teachers in particular.

A number of the states still issue life certificates, although there is a growing tendency, according to this study, to issue fewer life certificates. Many states have now discontinued the issuance of life certificates. There may be advantages to not issue life certificates until after five years of successful teaching, at least, because that has

a tendency to deaden the education system. Teachers need advanced study to keep in touch with modern trends of education.

One of the most important trends in certification is the granting of certificates for special types of teaching, for industrial arts, home economics, agriculture, vocational subjects, grade positions, primary, and kindergarten. Many states recognize the teaching of industrial arts in the public schools and require a major in this subject from 35 to 40 or more semester hours of preparation as a minimum requirement for certification. A few of the states require trade experience from 2 to 3 years.

Industrial arts was recognized as an excellent means of teaching certain subjects in a definite rather than an abstract manner, thereby conforming with the changed philosophy and making a considerable contribution toward attaining the objectives of general education. Some administrators found it increasingly difficult to adjust their school programs to current economic circumstances unless the teaching of industrial arts could be combined with the teaching of other subjects. Therefore, to meet the demands of the broader objectives of industrial arts; to accommodate the need for a combination of subject matter, the industrial arts teacher needs preparation in the technique of teaching, and a mastery of several subjects beyond his own field. Careful professional preparation and proper certification requirements are very essential for successful and happy teaching in this field.

Scholarship requirements have steadily increased. Through the years there has been a continuous and quite definite centralization of authority of certification in state educational organizations. From the first indefinite requirements, the state has passed to a stage where the requirements are quite specific. Since the establishment of the first normal

school, professional preparation has increasingly become the practice. Certificates are given to graduates of professional schools without further examination. Most of the states now issue three or more types of certificates on the basis of professional training.

Little progress has been made, the study shows, toward reciprocal relations among states in the exchange of certificates. There is a tendency to favor preparation at an institution within a state, although most states recognize training from state normal schools, universities and colleges. Some states require experience within their own boundaries. Uniformity of certification in all states would relieve a lot of difficulties of certification, along with the elimination of so many different types of certificates. Some states have been known to issue fifteen various types of certificates in the past. However, within the last ten years many of these certificates have been abolished to lessen the confusion they caused. Certificates should be issued according to specific subject matter with preparation concentrated on two fields of study other than a major.

Possible Uses of the Study. This investigation could be used by the students preparing to teach industrial arts by studying the general high school requirements, also the special certificate requirements of the chosen states. To know the differences in various state certification requirements of industrial arts teachers before hand would be an advantage to the beginning students. To recognize the need of placing interstate certification upon a uniform basis. However, if this is to function adequately, nation-wide consideration and cooperation will be necessary. Possibly many will disagree as to the need or advisability of establishing uniform standards for industrial arts certification and preparation,

and yet, if exchange of teachers among the states is to become a reality, some standardization of curricula, terminology, and basis of evaluation is necessary. It would seem that the time has arrived when industrial arts teacher education curricula should assume a more definite and more uniform pattern. Most colleges approved for training teachers must require all students to fulfill certification requirements as a prerequisite to recommendation. Because college graduation and recommendation are not always synonymous, it is practical for each teacher, whether he is attending a state or out-of-state college, to familiarize himself with the certification requirements. If the prospective teacher does not assume this responsibility, he may have to attend summer school to secure the necessary course requirements. The comments and recommendations made by the writer, as a result of this study, is that all prospective teachers of industrial arts be required to have four college training years whether teaching in junior or senior high schools. Every state requires a degree now except two, for industrial arts teaching.

Some Suggestions For Further Study:

1. A study to determine a basis for the selection and recommendation of certain industrial arts teacher-education institutions with a view to the development of regional centers of education, and considering the needs of the communities youth.
2. A study of teacher migration from state to state as a basis for formulating a plan of reciprocal certification.
3. A study making a comparison between the amount spent per pupil in various states and the requirements for teachers.
4. A study to compare the per capita wealth of the states with their certification requirements.
5. Additional investigation, similar to the current one, on certification and curricula be studied at least every five years, more often if circumstances require, that existing conditions may be known.

SUMMARY

1. The number of years of college training required for industrial arts teachers in the United States varies from two years to five years.
2. The requirement for the amount of industrial arts a teacher must have had in college to teach varies from eight semester hours to sixty semester hours.
3. The number of semester hours in education required for industrial arts teachers in the various states varies from fourteen to thirty-three semester hours.
4. The importance of practice teaching varies with the different states. The amount required varies from none to twelve semester hours.
5. The length of time which the first certificate is issued varies from one year to life.
6. Most states have revised their requirements for certification within the past three years, or are in the process of revising them at the present time.
7. Some states have set their requirements very low, and demand little or no special training. In other states the requirements are very difficult to meet without attending a college in that particular state.

APPENDIX A

A SELECTED BIBLIOGRAPHY

Books

- Anderson, Lewis Flint, History of Manual and Industrial Education, D. Appleton and Company, New York, 1926, 251 pages.
- Bachman, Frank P., Training and Certification of High School Teachers, Division of Surveys and Field Studies, George Peabody College for Teachers, 1930. Nashville, Tennessee.
- Bennett, Charles A., History of Manual and Industrial Education, 1870 to 1917, The Manual Arts Press, Peoria, Illinois, 1937, 558 pages.
- Bode, Boyd H., Industrial Arts and The American Tradition, Epsilon Pi Tau University Station, Box 3111, Columbus, Ohio, 1942, 48 pages.
- Newkirk, Louis V., and Johnson, William H., The Industrial Arts., The Macmillan Company, New York, 1948, 357 pages.
- Newkirk, Louis V., Organizing and Teaching the General Shop, The Manual Arts Press, Peoria, Illinois, 1947, 200 pages.
- Reeder, Ward G., Public School Administration, The Macmillan Company, New York, 1949, 783 pages.
- Struck, F. Theodore, Vocational Education for a Changing World. John Wiley and Sons, Inc., New York. 1947
- Volume X, Encyclopedia of the Social Sciences, See Manual Training. The Macmillan Company.
- Woellner, Robert C., and Wood, Aurilla M., Requirements for Certification of Teachers and Administrators, 15th. Edition 1950-51. The University of Chicago Press, Chicago, Illinois. 103 pages.

Bulletins

- Cook, Katherine M., State Laws and Regulations Governing Teachers's Certificates. Bulletin No. 22, 1921. Department of Interior, Bureau of Education, Washing. D. C.
- Cook, Katherine M., State Laws and Regulations Governing Teachers' Certificates. Bulletin No. 19, 1928. Department of Interior,

Bureau of Education, Washington, D. C.

- Frazier, Benjamin W., Development of State Programs for the Certification of Teachers, Bulletin No. 12, 1938. Department of Interior Bureau of Education, Wash. D. C.
- Frazier, Benjamin, Summary of Teacher Certification Requirements. Circular No. 233, Federal Security Agency, United States Office of Education, Wash. D.C.
- Hood, William R., Digest of State Laws Relating to Public Education. In force January 1, 1915. Bulletin No. 47, 1915. Department of Interior, Bureau of Education, Wash. D. C.
- Lichtenberger, A. R., Director of Compiled Research: The Nebraska Educational Directory 1950-1951. Lincoln, Nebraska.
- Updegraff, Harlan, Teachers' Certificates Issued Under General State Laws and Regulations. Bulletin No. 18, 1911. United States of Education, Wash. D. C.

Unpublished Materials

- Allen, Alfred Thomas, Inter-State Certification of Industrial Arts Teachers for Secondary Schools, Master's Thesis, Oregon State College, Corvallis, Oregon, 1939, 211 pages.
- Bourns, Otis T., The Certification of High School Teachers in the United States With Special Reference to the State of Oklahoma, Master's Thesis, The Oklahoma Agricultural and Mechanical College, Stillwater, Oklahoma, 1933, 73 pages.
- Sherman, William M., Certification of Industrial Arts Teachers in the United States, Master's Thesis, Iowa State College, Ames, Iowa, 1939, 68 pages.
- Tate, John B., An Analysis of Industrial Arts Education Curriculums in Fifty-One Selected Colleges and Universities in the United States, Master's Thesis, 1949, 101 pages.

APPENDIX B

A list of names of the Educational Officials who answered the letter questionnaire.

1. Alabama Department of Education
Montgomery, Alabama
March 1, 1951
*
2. Arizona Department of Public Instruction
Phoenix, Arizona
March 3, 1951
M. L. Brooks, Superintendent
3. Arkansas State Department of Education
Little Rock, Arkansas
March 27, 1951
A. B. Bonds, Jr., Commissioner
4. California Department of Education
Sacramento, California
March 8, 1951
Aubrey A. Douglass, Associate Supt.
5. Colorado State Department of Education
Denver, Colorado
March 2, 1951
Helen H. Downing, Deputy
6. Connecticut State Department of Education
Hartford, Connecticut
March 6, 1951
Nellie C. Newberry, Supervisor
7. Delaware Department of Public Instruction
Dover, Delaware
March 5, 1951
George R. Miller, Jr., Superintendent
8. District of Columbia Public Schools of the District of
Columbia, Board of Examiners
Washington 1, D. C.
March 6, 1951
Hobert M. Corning, Superintendent

* No signature on materials received.

9. Florida State Department of Education
Tallahassee, Florida
March 5, 1951
Thomas D. Bailey, Superintendent
10. Georgia State Department of Education
Atlanta, Georgia
March 5, 1951
*
11. Idaho State Department of Education
Boise, Idaho
March 3, 1951
Alton B. Jones, Superintendent
12. Illinois Illinois State Examining Board
Springfield, Illinois
March 2, 1951
Luther J. Black, Secretary
13. Indiana State Department of Public Instruction
Indianapolis, Indiana
Vernon L. Mickell, Superintendent
14. Iowa Department of Public Instruction
Board of Educational Examiners
March 2, 1951
Des Moines, Iowa
Jessie M. Parker, Superintendent
15. Kansas State Board of Education
Topeka, Kansas
March 2, 1951
Adel F. Throckmorton, Superintendent
16. Kentucky Department of Education
Frankfort, Kentucky
March 7, 1951
O. B. Wilder, Supervisor
17. Louisiana State Board of Education
Baton Rouge, Louisiana
March 2, 1951
Shelby M. Jackson, Superintendent
18. Maine Department of Education
Augusta, Maine
March 5, 1951
Erno H. Scott, Deputy Commissioner

* No signature on materials received.

19. Maryland
Department of Education
Baltimore, Maryland
3 E. 25th Street
March 7, 1951
William H. Lemmel, Superintendent
20. Massachusetts
The Commonwealth of Massachusetts
Department of Education
200-Newbury St., Boston, Mass.
March 21, 1951
Thomas A. Phelan, Supervisor
21. Michigan
Department of Public Instruction
Lansing 2, Michigan
March 3, 1951
Eugene Richardson, Consultant
22. Minnesota
Department of Education
Saint Paul 1, Minnesota
March 7, 1951
Dean M. Schweickhard, Commissioner
23. Mississippi
Department of Education
Jackson, Mississippi
March 3, 1951
James T. Coleman, Supervisor
24. Missouri
State Department of Education
Jefferson City, Missouri
March 5, 1951
Hubert Wheeler, Commissioner
25. Montana
State Board of Education
Helena, Montana
March 4, 1951
Esther L. Schmidt, Director
26. Nebraska
Department of Public Instruction
Lincoln, Nebraska
March 2, 1951
W. A. Rosene, Director
27. Nevada
State Board of Education
Carson City, Nevada
March 1, 1951
Mildred Bray, Superintendent
28. New Hampshire
Department of Education
Concord, New Hampshire
March 5, 1951
Mrs. Lena M. Thompson, Placement
Director.

29. New Jersey Department of Education
175 W. State Street
Trenton, New Jersey
March 8, 1951
Everett C. Preston, Secretary
30. New Mexico State Department of Education
Santa Fe, New Mexico
March 5, 1951
Mrs. Ellen W. Vaughn, Director
31. New York The State Education Department
Albany, New York
Lewis A. Wilson, Commissioner
32. North Carolina Department of Public Instruction
Raleigh, North Carolina
March 5, 1951
Clyde A. Erwin, Commissioner
33. North Dakota Department of Public Instruction
Bismarck, North Dakota
March 3, 1951
Mrs. Lorene York, Director
34. Ohio Department of Education
Columbus, Ohio
March 6, 1951
Clyde Hissong, Superintendent
35. Oklahoma State Board of Education
Oklahoma City, Oklahoma
March 2, 1951
E. H. Bingham, Director
36. Oregon Department of Education
Salem, Oregon
March 5, 1951
Rex Putnam, Superintendent
37. Pennsylvania Department of Public Instruction
Harrisburg, Pennsylvania
March 6, 1951
Francis B. Hass, Superintendent
38. Rhode Island Department of Education
Providence, Rhode Island
March 5, 1951
Michael F. Walsh, Director

39. South Carolina
State Department of Education
Columbia, South Carolina
March 27, 1951
Jesse T. Anderson, Superintendent
40. South Dakota
Department of Public Instruction
Brookings, South Dakota
March 6, 1951
C. O. Geuschalk, Supervisor
41. Tennessee
Department of Education
Office of Commissioner
Nashville 3, Tennessee
March 2, 1951
A. B. Cooper, Director
42. Texas
Department of Education
Austin, Texas
March 5, 1951
J. W. Edgar, Commissioner
43. Utah
Department of Public Instruction
Salt Lake City 1, Utah
March 15, 1951
N. Blaine Winters, Director
44. Vermont
Department of Education
Montpelier, Vermont
March 6, 1951
Newton H. Baker, Director
45. Virginia
State Department of Education
Richmond, Virginia
March 29, 1951
Dowell J. Howard, Superintendent
46. Washington
Superintendent of Public Instruction
Olympia, Washington
March 22, 1951
Boydie E. Rich, Supervisor
47. West Virginia
Department of Education
Charleston, West Virginia
March 5, 1951
W. W. Trent, Superintendent
48. Wisconsin
Department of Public Instruction
Madison 2, Wisconsin
March 3, 1951
Frances Crowley, Administrative
Assistant

49. Wyoming Department of Education
Cheyenne, Wyoming
March 2, 1951
Edna B. Stolt, Superintendent

United States Territories and Possessions.

1. Alaska Commissioner of Education
Territory of Alaska
Juneau, Alaska
March 12, 1951
Mrs. Dorothy Novatney, Supervisor
2. American Samoa Department of Education
Pago Pago, Island of Tutuila Samoa
March 26, 1951
J. R. Trace, Director
3. Canal Zone, Panama Civil Affairs Bureau
Division of Schools
Balboa Heights, Canal Zone
March 21, 1951
Lawrence Johnson, Superintendent
4. Guam Government of Guam
Office of the Governor
Agan, Guam
April 3, 1951
Simon A. Sanchez, Acting Director
5. Hawaii Department of Public Instruction
Honolulu, Hawaii
March 21, 1951
Earl L. McTaggart, Personnel
Executive.
6. Puerto Rico Department of Education
San Juan, Puerto Rico
March 26, 1951
Pedro J. Bezares, Senior Administrative Officer.
7. Virgin Islands Department of Education
St. Thomas, Virgin Island
April 26, 1951
C. Frederick Dixon, Superintendent
8. Virgin Islands Department of Education
Saint Croix, Virgin Island
May 9, 1951
P. L. Byrd Larsen, Superintendent

APPENDIX C

Literature Cited Regarding Certificates.

1. Alabama. Department of Education. Requirements for Special Secondary Professional Certificates. March 6, 1951.
2. Arizona. Department of Public Instruction. Rules and Regulations Governing the Certification of Teachers in Arizona. March 3, 1951.
3. Arkansas. State Department of Education. Summary of Certification Rules and Regulations. March 27, 1951.
4. California. Department of Education. Leaflet on Industrial Arts Certification Requirements. March 8, 1951.
5. Colorado. State Department of Education. Colorado Requirements For Certificates For Teaching Manual Training. The Laws Governing The Issuance of Certificates. March 2, 1951.
6. Connecticut. State Department of Education. General Requirements For Industrial Arts Teaching. Personal Communication. March 7, 1951.
7. Delaware. State Board of Education. Rules and Regulations for the Certification of Superintendents, Supervisors, Principals and Teachers. March 5, 1951.
8. Florida. State Department of Education. Brief Chart of Certificate Requirements. Special Requirements. Excerpt From Certificate Bulletin A, June 1949, Florida Requirements For Teacher Education And Certification. March 13, 1951.
9. Georgia. State Department of Education. Certification For Teaching In The High Schools Of Georgia. Provisional And Life Professional Certificates. Subject Matter For High School Teaching Fields. March 8, 1951.
10. Idaho. State Department of Education. Certification And Placement Director. Certification Division, Requirements For Standard High School Certificates. March 3, 1951.
11. Illinois. Illinois State Examining Board For Teachers Certificates. Minimum Requirements For Limited State Certificates. Limited Requirements For State Special Certificates, High School Certificates, Vocational Certificates And For Junior College Certificates. Personal Communication. March 2, 1951.
12. Indiana. State Board of Education. Rules And Regulations Regarding Industrial Arts State Certificates. March 2, 1951.

13. Iowa. Department of Public Instruction. Minimum Requirements for the Personnel of Iowa Public Schools. Bulletin No. C-3-50, which replaces Bulletin No. C-3-45. Certification of Teachers, Bulletin No. 28. March 2, 1951.
14. Kansas. State Board of Education. Certificate Handbook of January 3, 1949. Personal Communication. March 2, 1951.
15. Kentucky, Commonwealth of Kentucky. Educational Bulletin Vol. XVIII, December, 1950, No. 10. A revision of 1948.
16. Louisiana. State Department of Education. Requirements for Certification of Teachers and Administrators in Louisiana Adopted by the State Board of Education Effective, July 1, 1947. Supplementary Report Of The Committee On Teacher Education and Certification Adopted July 18, 1944, TO BECOME EFFECTIVE JULY 1, 1949. Personal Communication, March 2, 1951.
17. Maine. Department of Education. State Certification of Teachers For Industrial Arts. Personal Communication. March 5, 1951.
18. Maryland. Department of Education. Requirements For Certificates For Administrators, Supervisors, and Teachers. Bulletin No. 2, Vol. XXXI, August, 1950. List of Maryland County Superintendents of Schools, Form sheet 5-50-2000. Personal Communication, March 7, 1951.
19. Massachusetts. The Commonwealth of Massachusetts Department of Education. Personal Communication. March 21, 1951.
20. Michigan. Department of Public Instruction. Teachers' Certificate Code. Bulletin No. 601, 1942 Revision. State Elementary And Secondary Provisional Certificate. (Supplementary Certification Bulletin No. 1-39) March 8, 1951.
21. Minnesota. Department of Education. Regulation For The Certification of Teachers. Code VI-A-2. March 7, 1951.
22. Mississippi. Department Of Education. Teacher Education And Certification, Bulletin 130, August, 1949. Division of Instruction Supplement To Bulletin 130, Approved by Board of Education, March 23, 1950. Personal Communication, March 3, 1951.
23. Missouri. State Department of Education. Standards For Certifying Teachers In Secondary, 1950. Personal Communication, March 5, 1951.
24. Montana. Requirements For Industrial Arts Teachers , by letter. Personal Communication. March 4, 1951.
25. Nebraska. State Department of Public Instruction. Certification Digest of Teachers' Certificates Authorized by Law in Nebraska. Personal Communication. March 2, 1951.

26. Nevada. Nevada State Board of Education. Certification of Teachers in Nevada, 1950. Section IV.D Special Certificates. March 7, 1951.
27. New Hampshire. State Board of Education. Regulations For the Certification of Secondary School Teachers (Effective, July 1, 1946.) Personal Communication. March 5, 1951.
28. New Jersey. Department of Education. Industrial Arts Requirements. Personal Communication. March 8, 1951.
29. New Mexico. Department of Education. Rules and Regulations Governing The Certification Of Teachers And Administrators, 1951-1952. Form Letter from Placement Bureau. March 1, 1951.
30. New York. Department of Education. Bulletin, Certificates valid For Teaching Shop Subjects. Industrial Arts. March 15, 1940, revision.
31. North Carolina. Department of Public Instruction, Leaflet, Digest of Minimum Requirements for High Teachers' Certificates. Industrial Arts Requirements. March 5, 1951.
32. North Dakota. Department of Public Instruction. Requirements for Certification in North Dakota. Personal Communication. March 3, 1951.
33. Ohio. State of Ohio Department of Education. Laws and Regulations Governing The Certification of Teachers, Administrators, Supervisors and School Employees In Pupil Personnel Service. March 6, 1951.
34. Oklahoma. State Board of Education. Oklahoma State Department of Education, High School Certificates To Teach Industrial Arts, March 2, 1951.
35. Oregon. State Department of Education. Oregon Rules and Regulations Governing The Certification of Teachers, Effective to July 1, 1951. 1950 Bulletin, March 5, 1951.
36. Pennsylvania. Department of Public Instruction. Leaflet, Certification of Industrial Arts Teachers. March 6, 1951.
37. Rhode Island, Department of Education. Excerpts From The Rules and Regulations Governing The Issuance Of Teachers' Certificates Adopted January 1, 1936. Sheet Form 1009--Teacher's Pledge of Loyalty. March 5, 1951.
38. South Carolina. Department of Education. Requirements for Teacher Education and Certification, Adopted by State Board of Education, 1945, and revised. Adopted by State Board of Education, 1948. Page 12, Industrial Arts Certification Qualifications. March 2, 1951.
39. South Dakota. State Department of Education. Information inadequate, cannot be used. March 6, 1951.

40. Tennessee. Department of Education. The Tennessee Educational Bulletin On Certification of Teachers. 1950. Pages used 9, 10, and 11.
41. Texas, State Department of Education. Requirements for Conventional Teachers' Certificates. March 8, 1951.
42. Utah. State Department of Public Instruction. Utah State Board for Vocational Education, Division of Trade, Industrial and Business Education. I. A. Form No. 1 (Revised 4/27/46). Check Sheet. March 15, 1951.
43. Vermont. State Department of Education. Certification relations are in the process of revision and will not be printed for two or three months. Personal Communication. March 6, 1951.
44. Virginia. State Board of Education. Certification Regulations For Teachers and Qualifications For Administrators and Supervisors. July, 1950, Bulletin No. 1, Vol. XXXIII. March 12, 1951.
45. Washington. State Department of Public Instruction. Leaflet, State Board of Education Action on June 13, 1950 concerning eligibility of holders of elementary and secondary certificates for the general certificate and on validity of teaching certificates. Leaflet, Secondary Certification. March 9, 1951.
46. West Virginia. State Department of Education. Requirements For First Class Certificates. March 6, 1951.
47. Wisconsin. State Department of Public Instruction. Information incomplete. Personal Communication. March 2, 1951.
48. Wyoming. State Department of Education. Certification Bulletin for the Certification of Teachers and School Administrators in Wyoming. March 3, 1951.
49. District of Columbia, Washington, D. C. Public Schools of the District of Columbia. Boards of Examiners. Excerpts From School Document No. 28, and Chapter XVII of the Rules of the Board of Education. January 22, 1951.

Literature Cited Regarding Certificates

for the

Territories and Possessions.

1. Alaska. Commissioner of Education Department, Territory of Alaska, Juneau, Alaska. Leaflet on Certification and Requirements For Teachers, Sections 1, 2, 4. 2 pages and a personal letter. March 12, 1951.

2. Pago Pago, American Samoa. Personal Communication. March 26, 1951.
3. Canal Zone, Panama. Balboa Heights, The Panama Canal. Civil Affairs Bureau—Division of Schools. Form 1004-28, Circular of Information for Applicants Teaching Positions. 4 pages. March 21, 1951.
4. Agaña, Guam. Government of Guam, Office of the Governor. Personal Communication. April 3, 1951.
5. Hawaii, Territory of Hawaii, Department of Public Instruction, Certification Policy, circular No. 1045, Adopted August 25, 1950. 12 pages in circular. March 21, 1951.
6. Puerto Rico. Department of Education. "An Act to Regulate the Certification of Teachers", circular No. 211, Adopted August 25, 1950. 12 pages in circular, adopted to replace the one of April 23, 1931. Received March 26, 1951.
7. Virgin Islands. Saint Croix, Department of Education. Personal Communication. May 9, 1951.
8. Virgin Islands, St. Thomas, Department of Education. Personal communication. April 26, 1951.

APPENDIX D

6 Catoosa, Vet. Village
P. O. Box 443
Stillwater, Oklahoma
February 26, 1951

Mr. E. H. Bingham
Director of Certification
State Board of Education
Oklahoma City, Oklahoma

Dear Sir:

I am writing a thesis entitled "Requirements for Certification of Industrial Arts Teachers in the United States and Territories," as partial fulfillment for a Master's Degree in Industrial Arts Education at the Oklahoma A. & M. College, Stillwater.


Please send me a statement of the requirements for certification of industrial arts teachers in your state; also a copy of the form used when applying for a certificate.

Your cooperation will be greatly appreciated in complying with the request in sending the information in the enclosed, stamped and self-addressed return envelope.

Sincerely,

B. Massie Ferguson

Approved by:



Thesis Adviser; School of
Industrial Arts Education
and Engineering Shopwork

BMF:sw

6 Catoosa, Vet. Village
P. O. Box 443
Stillwater, Oklahoma
February 26, 1951
April 9, 1951

Superintendent of City Schools
Everett, Massachusetts

Dear Sir:

I am writing a thesis entitled "Requirements for Certification of Industrial Arts Teachers in the United States and Territories," as partial fulfillment for a Master's Degree in Industrial Arts Education at the Oklahoma A. & M. College, Stillwater.


Please send me a statement of the requirements for certification of industrial arts teachers in your state; also a copy of the form used when applying for a certificate.

Your cooperation will be greatly appreciated in complying with the request in sending the information in the enclosed, stamped and self-addressed return envelope.

Sincerely,

B. Massie Ferguson

Approved by:


Thesis Adviser; School of
Industrial Arts Education
and Engineering Shopwork

BMF:sw

P. S. Recently I received information from Mr. Thomas A. Phelan, Supervisor Teachers Registration Bureau, that Massachusetts has no general certification law for teachers, that the requirements are enacted by the separate cities and towns in the State. Will you please give me this information?

6 Catoosa, Veterans Village
P. O. Box 443
Stillwater, Oklahoma
April 28, 1951

Mr. Dowell J. Howard
State Superintendent of Public Instruction
Richmond, Virginia

Dear Mr. Howard:

To complete a thesis entitled "Requirements for Certification of Industrial Arts Teachers in the United States and Territories" as partial fulfillment for a Master's Degree in Industrial Arts Education at the Oklahoma A. & M. College, Stillwater, I need to have the additional information.

In what year did the Virginia State Legislature pass the first law on State Education Requirement for Certification of Teachers? When were Certificates or Permits issued to teachers of Industrial Arts and in what year was the name of course changed from Manual Training to Industrial Arts?

Your cooperation will be greatly appreciated in complying with the request in sending the information in the enclosed, stamped and self-addressed return envelope.

Sincerely,

B. Massie Ferguson

NOTE: The above letter was sent to the following states.

Pennsylvania
Maryland
North Carolina
Ohio
New York

THESIS TITLE: CERTIFICATION OF INDUSTRIAL ARTS TEACHERS IN
THE UNITED STATES, POSSESSIONS, AND TERRITORIES.

NAME OF AUTHOR: Beverly Massie Ferguson

THESIS ADVISOR: John B. Tate, Instructor

The content and form have been checked and approved by the author and thesis advisor. "Instructions for Typing and Arranging the Thesis" are available in the Graduate School office. Changes or corrections in the thesis are not made by the Graduate School office or by any committee. The copies are sent to the bindery just as they are approved by the author and faculty advisor.

NAME OF TYPIST: Zola Mae Ekstrom

* * * * *