

INDUSTRIAL ARTS IN
OKLAHOMA JUNIOR HIGH SCHOOLS
IN 1954

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By

BOOKER T. ALFORD

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Langston University

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B. T. A.

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Report and Abstract Approved:

Dewitt Hunt

Report Advisor and Head,
School of Industrial Arts Education
and Engineering Shopwork

C. L. Hill

Associate Professor
School of Industrial Arts Education
and Engineering Shopwork

Dean, Oklahoma Institute of Technology

Dean, Graduate School

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CHAPTER I

THE SCOPE AND FORMULATION OF THE PROBLEM

Industrial arts in the junior high school is helping the American curriculum meet the demands of society. During the junior high school period, pupils are making wide contacts with objects and materials, and they need information about the problems they face in the world. They need experience that comes from handling and using products, as well as skills that are acquired through manipulating tools of various kinds. To become efficient citizens, a training period which offers youth these advantages is very necessary.

A great deal of progress has been made in industrial arts since this phase of general education was introduced in America. The course was first called "manual training", but after about thirty years of existence, "industrial arts" became the preferred title.

Industrial Arts in General Education. In a large number of Oklahoma junior high schools, industrial arts is being offered; but to what extent is the program reaching its desired goal is the question. Because of the increased hazards of modern living and the decline of the use of animal energy and the steady rise of the use of technical devices, various objectives of industrial arts must be met. Before these goals are enunciated a concrete concept of the term "industrial arts" is necessary. Two definitions are presented here.

Industrial arts is a group of school subjects that contribute to the attainment of the goal of general education by

furnishing guided experiences in the use of tools, materials, and machines, and insights into those phases of industry that become an important part of our social culture. (23, page 1)

Industrial arts are those phases of general education which deal with industry, its organization, materials, processes and products—and with the problems resulting from the industrial and technological nature of society. (44, page 2)

After studying the two definitions, it is apparent that industrial arts cannot be considered as something separate from general education. Industrial arts is an integral part of general education. Therefore, it contributes to the realization of the social cultures transmitted through general education and should be exemplified in the junior high schools of Oklahoma.

Divisions of the Study. This study is designed to cover four phases. The first phase includes the history and philosophy of the junior high school. The second phase includes a summarization of the purposes of industrial arts and its place in the junior high school. The third phase is a summarized report of an investigation made of the junior high schools in Oklahoma. The fourth phase presents an extensive report, on the basis of the investigation made, of the present status of industrial arts in the Oklahoma junior high schools reported.

The Need for This Study. Since well over fifty per cent of all workers in the United States are employed in some phase of industry, it seems quite imperative that the schools assume a progressive attitude toward industrial enlightenment. Surveys and state-wide contacts are needed in all fields of education to show patterns of learning, progress being made and to furnish facts and principles from which future improvements and developments can be made. It is an established fact that many

Oklahoma junior high schools have industrial arts departments. In order to ascertain the present condition under which industrial arts in Oklahoma junior high schools is being offered, the preparation of industrial arts instructors, and some of the problems they encounter, it was decided to make a general study of industrial arts in Oklahoma junior high schools in the year 1953-54. This study is intended to answer many questions as well as tell what is being done in the field of industrial arts in the junior high schools of Oklahoma.

Purpose of the Study. The purpose of the study is to prepare the writer and readers of this report, so he and other industrial arts instructors, may make some contribution toward promoting progress and development in the industrial arts departments in the junior high schools of Oklahoma. In order to accomplish this, it was proposed that the problem be approached with the following objectives:

1. To present a review of the history, function and philosophy of the junior high school.
2. To provide a comparison of the beginning of industrial arts in the junior high school and its modern developments at the present time.
3. To present the general status of industrial arts in the junior high schools of Oklahoma.
4. To provide basis for recommendations for improvement in the industrial arts departments of Oklahoma junior high schools.

This study is limited to the approved junior high schools of Oklahoma. It covers the types of shops, existing courses, training of industrial arts teachers and types of schools presented as reported. There are few comparisons; most findings are presented as they were

reported. It is the desire of the writer that more research be done in this field, since this survey shows need for improvement.

Methods Used in Collecting Data. The techniques for collecting this information included two distinct approaches. First, available information was taken from textbooks on the history and development of the junior high school. Additional information was taken from the bulletin Industrial Arts in Oklahoma. From the offices of the State Department of Education in Oklahoma City, the names of approved junior high schools were obtained. Second, the information not found in books and bulletins was secured by sending the questionnaire (Chapter IV) directed to school principals. This questionnaire was devised after the writer had studied questionnaires used in similar studies conducted at Oklahoma Agricultural and Mechanical College. These studies were pursued by graduate students of industrial arts.

The Questionnaire. The questionnaire, which was multilithed and used to collect the information for this study, is included in Chapter IV of this report. The questionnaire was planned and reproduced by the writer assisted by the report advisor. The inquiry form was designed to include information regarding courses offered in the industrial arts department, general conditions and locations of the industrial arts shops, objectives of the industrial arts program, preparation of industrial arts teachers, and the enrollment in junior high schools in Oklahoma.

Review of Literature. In 1946, Henry Cliff Tinkle (39) conducted a survey to obtain information which would indicate the status of industrial arts in the Oklahoma high schools. His study was divided into three parts. The first part was a study of the approved junior high

schools of Oklahoma 1945-46. The second part was a study of the schools which belonged to the North Central Association of Colleges and Secondary Schools, and the third part was a study of all other high schools which offered any industrial arts.

In 1938, Eugene Blair Pope made a survey of industrial arts in Oklahoma schools. (24) His report presented the enrollment, the teaching combination of industrial arts teachers, the distribution of pupils by courses, kinds of school shops, size and number of classes and teacher loads for various periods. Inquiry forms were sent to sixty-five superintendents and sixty-five leaders of industrial arts. Eighty-five were returned.

Edwin Earnest Walker conducted a study in 1940 in order to learn the place of industrial arts in the junior high school. (42) In some schools it was considered the core, while in others it was an elective, after the required period was completed.

The writer did not find a study identical to this study. All the studies reviewed were similar, but information was collected with varied objectives.

Chapter I has been used to state the problem and to discuss the techniques of research used to accumulate data for analysis in later chapters of this study.

CHAPTER II

THE JUNIOR HIGH SCHOOL IN AMERICAN EDUCATION

During the earlier part of the twentieth century, numerous school administrators became conscious of the many deficiencies in the 8-4 form of curricular organization. It was neither meeting the needs, nor providing channels for the development and display of the talents and skills of the child. Different educators began separate experiments by introducing a new type of school which grouped pupils according to age levels and which provided them with varied courses of study. Before any individual can evaluate the present junior high school, its strengths and development, a knowledge of its beginning is of utmost importance. A history of the educational development and the rise of the junior high school will follow.

Part A

The Beginnings of the Junior High School

The public school system in the United States of America is largely the product of one and one-half centuries of growth and evolution. There is evidence of European influence on the origin of the first schools in the United States. The educational movement in the United States is a result of a comprehensive foreign educational movement. Considering this view, the educational system may be traced far back into the past. The evolution which has been mentioned must be examined in order to ascertain certain aspects of the organization of European school systems. The following characteristics of European schools are of immediate concern in

developing this study: (1) the essentially dual character of the systems; (2) the relatively long period allotted to secondary education; and (3) the tendency to provide middle schools for the early adolescent period.

Historical Development. The junior high school movement is the result of an educational step which may be traced from its beginning. Comenius (1592-1610) and the Rousseau (1712-1778) both advocated reforms that embodied elements which find support in the reorganization plans of the present day; Comenius on the side of the external forms and Rousseau on the side of the internal practices and spirit.

To Comenius perhaps may be attributed the first formulation of a plan of school organization based upon the six year unit. His plan comprised the following: (9, page 15)

1. The Infant School (School of the Mother's Knee, including the years one to six)
2. The Vernacular School (For pupils with a limited school career before them, including the years seven to twelve)
3. The Gymnasium (For pupils preparing for the University, including the years thirteen to eighteen)
4. The University (Affording opportunities for liberal culture, including the years nineteen to twenty-four)
5. The College of Light (Providing facilities for scientific investigation and professional training, including the years twenty-five to thirty)

The influence of Rousseau on modern education centers in his demand for the development of individuality and naturalness in pupils; the recognition of individual differences in capacities, tastes and achievements among them; the appeal to interest rather than to fear in giving instruction; and stress upon subject matter relating to real life rather than upon a formal treatment of more or less abstract material.

As a result of the reform movement, the newly established junior high school passed through three periods of development. From 1890 to 1900 the aim was to shorten the period of training for the college

preparatory student. From 1900 to 1910, the aim was to hold pupils of all types in the upper grades of the elementary school and in the high school. From 1910 to the present time, the aim has been to discover the individual characteristics of pupils and to provide a more adequate education for each particular child. During the first period, the movement was guided and influenced by university administrators; in the second period, by public school authorities; and in the third period, by professional students of educational method.

Middle Ages. While educational leaders in the European countries were conspicuously at work, forces tended to bring about modification in secondary education and these forces gave support to the reform movement in America. In Germany the quarrel between the advocates led to the calling of a noteworthy school conference, the outcome of which was favorable to the progressive party. This reform movement led to the establishment of a junior high school that humanized the education of adolescents, economized school time, prevented unnecessary withdrawals, and furthered the cause of democracy in education. This medieval system held to a belief in the divine ordination of certain individuals to be privileged characters in the world of affairs and the condemnation of other individuals to positions of subjection. This belief advanced the idea that only certain classes of individuals were entitled to a liberalized education while other classes were supposed to be happier and more serviceable to the world by being kept in total ignorance. This influence of the Protestant Reformation led to a system of education which provided for two types of schools; one to furnish an elementary education for the masses, and the other to furnish secondary and higher education for the classes. The first school aimed to develop implicit faith

in the established order of things, respect for authority, loyalty and obedience to the state and the church. The other aimed to give culture, personal superiority and training for higher offices of State, Church and for affairs of the world. Although the forces of privilege have given way and the principles of democracy have taken precedence, this medieval system of schools has existed in one form or another from the middle ages down to the present time. The junior high school marks, as Professor Judd has stated: "The last chapter in the history of the struggle." (9, page 65)

From the foregoing historical development, it is quite evident that changes appeared gradually which motivated the establishment of the junior high school. Some of the changes were incidental, some were superficial, some were fundamental, and others were of a comprehensive nature. Reformatory efforts consisted largely of negative criticism rather than discussions which led to external forms of reorganization. Although one may disclaim any significant historical connection between the American junior high school and the corresponding units in Germany and France, for a complete understanding one must follow closely the experimental efforts and reforms on both sides of the Atlantic Ocean.

European Schools in the First Quarter of the Twentieth Century. The form of school organization in other lands is decidedly different from that in America. The United States is the only country in the world that has had the eight-four organization. A detailed account of the school systems of foreign countries would be inappropriate here. Nevertheless, a consideration of the recent efforts of certain foreign administrators to render more effective the program of training of boys and girls from

twelve to fifteen years of age is very instructive.

The political and educational philosophy which dominates life in Europe and Asia differs from that which prevails in America. Social arrangements are more definite and fixed there than with us. Every instrument of government has, with rare exception, operated to perpetuate class distinctions, rather than to obliterate them. The result is that two, sometimes three, distinct kinds of schools exist in many foreign states: (1) the common elementary school for the children of the masses whose destiny in life is to occupy positions more or less servile; (2) secondary schools open only to those children of the superior social and official classes and administered in such a manner as to exclude individuals who do not belong to those classes; and (3) a hybrid type of school designed for the children of the so-called middle classes. Under the European school system, there is, with rare exception, no common school for all individuals to attend from early childhood to the age of sixteen or eighteen. Instead of America's single track system, foreign countries employ a system which differentiates instruction within separate schools; not as with us, by means of separate curriculums and courses within a common school. Since World War II the educational trend in Western Europe has been toward a more democratic conception of social life and educational leaders have sought in various ways to embody this idea in continental school systems. As yet, these efforts can scarcely be regarded as having attained permanence, but they give promise of many changes. The schools in European countries will be discussed in the following paragraphs. At the beginning of each paragraph an outline of the secondary program will be included.

Today, much difference exists between European educational systems and American institutions. American educators, after having been quite progressive in developing the type of program to fit the needs of pupils throughout the world, have been broad enough to spend time and money offering similar advantages to schools world wide. (9, page 75)

(A) England

- (1) A common elementary school of seven (or eight) standards or years.
- (2) Intermediate schools of two main types, namely;
 - (a) Higher elementary school of three years
 - (b) Central schools of three years
- (3) Secondary schools of many types and varied duration.
- (4) Technical schools
- (5) Universities

The following observations as to the trend of education in Western Europe was based upon a ten-weeks visit to France, England, Holland, Switzerland, Italy and Greece by James F. Hosie, who introduced the bill that became the Fisher Act of 1918. Hosie writes as follows: (9, page 76)

The effect of the bill is clearly to develop a new sense of the importance of a National system of education which shall equalize the opportunities for all children by providing first-rate facilities everywhere, with differentiation of courses as the period of actual employment approaches. England is at last providing the single unified school organization which the ideals of the Protestant Revolt and democratic movement of the Renaissance called for. In the provision for day continuation schools with compulsory attendance to sixteen and the supervision and inspection of all schools, private and parochial as well as public or "board" schools, she is in advance of America.

(B) France

- (1) Primary school, six years in length.
- (2) Higher primary school, one, two, or three years in length.
- (3) Secondary schools:
 - (a) For boys, with school course of seven years.
 - (b) For girls, with school course of five years.
- (4) Technical schools:
 - (a) Primary technical schools, articulating with the common primary school.

- (b) Middle technical schools, open to boys between the ages of fifteen and seventeen.
 - (c) High technical schools affording instruction of a collegiate grade.
- (5) Universities

Of the type of French schools mentioned, four concern themselves with pupils of the ages twelve to fifteen and these schools have particular interest for the junior high school administrator in America. These four schools are: the higher primary, the secondary for boys, the secondary for girls, and the primary technical. The higher primary school is designed so that: (9, page 77)

Children who are not required immediately to earn money may carry further their general education and a certain amount of hand and eye training. The first year's course is the same for all pupils. With the second year, specialization begins, and there are four courses to choose from: general (literary, the course taken by candidates for the teaching profession); commercial; industrial; and agricultural. . . . To all schools certain subjects are common, such as morals, handwriting, history, civics, physics and chemistry, gymnastics, and singing. In the girls' school there are fewer hours given to mathematics, the theoretical work in agriculture is omitted, manual training is replaced by sewing, dressmaking and domestic economy, while hygiene, common laws and political economy are treated from a woman's standpoint.

Admission to the French secondary schools usually occurs at the age of ten. The boys' school is seven years in length; the girls' five. In the boys' schools the program of studies includes Greek, Latin, modern foreign language, mathematics, history and geography, science, ethics, civil government and law, drawing, writing and philosophy. In the girls' schools the program is entirely modern, no Latin or Greek being offered. One modern foreign language is prescribed for all, and a second modern language is optional during the last four years. Except for specialists, mathematics is limited to arithmetic and plane geometry.

(9, page 79)

(C) The School System in Germany in 1920

- (1) Folk or elementary school of eight years, designed for children of the laboring classes.
- (2) Intermediate school of nine years, designed for children of intermediate classes.
- (3) Secondary school of six or nine years, designed for children of the superior social classes:
 - (a) For boys
 - (b) For girls
- (4) Vocational schools
- (5) Universities

Here the types of schools that afford most suggestions for junior high school enthusiasts are the intermediate schools and the secondary schools, particularly in the work of the first three, four or five years. Similarly, in other parts of Europe, the three types of schools (elementary, intermediate and secondary) run parallel to each other. A pupil rarely attends more than one type of school after he has reached the age of nine; the choice of types to be determined early in his childhood.

The intermediate school in Germany corresponds to the higher primary school of France and England. It seeks to furnish a more intensive study than that afforded by the elementary schools, particularly in respect to foreign language, history and science, and aims to prepare boys and girls for the new demands of industry and commerce. The program of studies includes German, religion, history, geography, arithmetic and bookkeeping, nature study, writing, drawing, singing, physical training and foreign language. Secondary education is entered upon in Germany when the pupil is about nine years of age. Religion, ancient and modern language, history and geography, mathematics, science, writing, drawing, singing and gymnastics constitute the curriculum for all. Few classes meet daily though some meet more than five times per week.

For the girls, the Prussian secondary school, newly organized in 1908, provides a ten-year course beginning at the age of six. Up to

thirteen years of age, the course is uniform for all, but is designed to be "ethical and aesthetic rather than intellectual". Modern foreign language, but not ancient language, is included in the course from the beginning of the fourth year, when girls are about the age of nine.

Thus in Europe, or at least important parts of it, an attempt is being made to realize higher ideals of life and education. While the political and economic reactionaires both at home and abroad are looking backward and prating of the human nature that will not change and the inevitableness of things as they were, the schoolmen are dreaming dreams of a new and better world, and are working unremittingly to make their dreams come true.

Part B

The Development of the Junior High School in America

In a brilliant epigram, George Bernard Shaw once declared "Nothing that is admittedly horrible matters much in this world if it frightens people into seeking a remedy". (25, page 1)

The designers of the American educational movement, facing the problem of establishing schools, might have been inspired to work as a result of the sense of the epigram just quoted. After centuries of evolution, the American school system emerged in three divisions: the elementary, the secondary and the higher. The school system was democratic in theory and stood in marked contrast with the European system. In recent centuries, American education passed through three rather distinct periods: the colonial, the early national, and the modern.

During the early periods of American educational history, the critics within the system were as numerous as those without; and neither group had sufficient evidence with which to sustain its contentions.

Because of this "old trouble", educational leaders were seeking a remedy for this insistent difficulty. These efforts belonged to the last half of the nineteenth century. The successful attempts and the trial alleviations which resulted from this struggle constitutes the next educational period.

The Colonization Days. The early educational period was dominantly a period of transplantation. The Pennsylvania settlers were content to adhere to the prevailing Protestant ideal of universal elementary education under church control. The settlers of Massachusetts and Rhode Island believed in common with the Calvinists in universal education for religious ends and in such secondary education as would insure intelligent church leadership. These settlers regarded the church and state as one, with the church acting as sole beneficiary. Since each group of settlers stood strongly on their individual beliefs, this contention led to a long protracted struggle for supremacy. The New England attitude prevailed and became the educational attitude of the whole nation, but in time the people came to believe in a school system controlled by representatives of the people and supported by public funds, the religious motive giving way to the civic.

The Origin of the Junior High School. Numerous studies of the junior high schools have been characterized by discussion, investigation and experimentation. Its aims are to present an organization of life experiences, activities or opportunities, appropriate to the needs of adolescent pupils. To attack this problem the investigator must know the movements that were responsible for the organization of the junior high school. A clear concept of the meaning of the term "junior high

school", and an understanding of its aims and functions will acquaint the reader with the trends and problems of the junior high school and the place it holds in the program of secondary education. Many forces are responsible for the movement for educational reorganization finding expression in the present widespread establishment of junior high schools.

By 1888, leading educators recognized the great need for reorganization of the elementary and secondary schools in order to shorten the time spent in college preparatory work and to meet more adequately the need of those pupils who never finish high school or go to college. Eliot, then president of Harvard University, had the general oversight of three National Education Association committees appointed during the last decade of the nineteenth century to study the problems of the public school system. The third committee which was appointed to study the college entrance requirements made the greater contribution to the movement for reorganization. Its final report was submitted to the National Education Association in 1899.

Studies made by well-organized committees have been one of the greatest assets to the reorganization of education. Pringle made the report as follows: (25, page 19)

The most necessary and far-reaching reforms in secondary education must begin in the seventh and eighth grades of our schools. Educators agree that these grades must be enriched by eliminating non-essentials and adding new subjects taught only in the high school. The problems involved can be solved most quickly and most surely by making the seventh and eighth grades a part of the high school under the immediate direction of the high school principal.

Another ten years were spent discussing proposed plans and criticizing the old order before any action took place. During this period Ayers, Strayer and Thorndike made careful studies of a number of school systems. Among the findings was information about the enormous number

of eliminations in the seventh, eighth and ninth grades.

Thorndike made a study of school systems in twenty-three cities with populations of 25,000 or more. He reported that drop-outs amounted to forty-six per cent in the ninth grade. Ayers and Strayer in their studies of a large number of cities reported similar results as to eliminations in the seventh, eighth and ninth grades.

The results of these studies were alarming to thoughtful school men. Much study and discussion was directed not only toward the parts of the school system but upon the interrelationships of our educational economic systems. The high school teachers accused the elementary teachers of not preparing the pupils for their work in high school, saying they were not taught how to study and lacked thoroughness. The grade teachers countered claiming the elimination in the freshman class was caused by the faulty procedure of the high school. Thus a new unit in secondary education was soon to appear, characterized by the authority of the public for a program of education that would meet the changing interest and needs of the adolescent period in the pupil's life. It was expected that this new unit, composed of grades seven, eight and nine, would be so co-ordinated with the elementary grades and the senior high school, that the youth movement through school would not call for new adjustments in moving from one grade level to another, but maybe one of continued adjustment. This type of school gradually became a national one, although established schools were suffering from the lack of public support and control of the schools. Awareness of these weaknesses promoted growth to future American institutions.

Part C

Experimental Developments

The real beginning of the junior high school is questionable. During the year 1909, the Board of Education in two cities, Columbus, Ohio, and Berkley, California, began a form of educational experimentation which later was recognized as steps which led toward the development of the junior high school. Both school systems faced identical problems. The problem was that of providing more classrooms for seventh, eighth, and ninth grade pupils. A new unit was established to include these pupils.

The Origin of the Junior High School. This unit at that time was known as the introductory high school. Seventh, eighth, and ninth grade pupils were housed in separate buildings, and were provided with a principal who was in charge of the new school. Therefore the junior high school had its origin either in the Columbus, Ohio, school or in the Berkley, California, school system, or both.

The success of the experiments started in Berkley and Columbus advertised the new movement and within a short period of time junior high schools were organized in many large cities throughout the United States. Although the new schools progress was gradual, the tendency toward development continued. It was obvious to ardent educators that the traditional eight-four organization was not meeting the needs of the pupil. This deficiency in the school curriculum gave rise to the six-three-three plan, which combined grades one through six, grades seven through nine, and grades ten through twelve.

The Purposes of the Junior High School. According to Briggs, some of the chief reasons given for the establishment of junior high schools were: (6, page 34)

1. To increase retention
2. To increase enrollment
3. To bring the high school nearer home
4. To reduce failures
5. To secure better scholarship
6. To bridge the gap between elementary and high school
7. To secure better teaching
8. To enrich curricula
9. To increase interest
10. To introduce departmentalization
11. To provide educational opportunities
12. To provide for children leaving school early
13. To introduce prevocational courses

From these reasons, their aims are to keep pupils in school who otherwise would drop out, give some occupational training which would help those who must leave school early to enter wage earning occupations, and to help the children prepare for high school work. Some school men and school patrons thought it was too early to give any courses toward occupational training, because it would stop the common education which all need for mental understanding and integration. The chief purposes of junior high schools may be said to be exploratory, broadening and pre-vocational.

Curriculums. The number of courses in the program of the junior high school has been growing each year and the subject matter is being enriched. In some systems the changes are quite rapid while in others the changes are very slow. It seems that in a junior high school a program may be arranged which is suitable to the greater number of students. To be an accredited junior high school in Oklahoma, the teachers must have special professional training for junior high school work.

A number of colleges and universities do not require a certificate of credit, representing courses completed in the ninth grade of the junior high school, however, such a practice is justified on the basis that the junior high school should be free from meeting specific entrance requirements. This gives the school an opportunity to train students rather than teach courses just for college entrance.

In an accredited three-year junior high school in Oklahoma each student must have three years of English, three years of mathematics, two years of science, three years of social studies, one year of shop for boys and one year of homemaking for girls. They are also to have one year of physical education and health training. In a junior high school, a pupil does not have as many subjects as in the elementary school system. The class periods are longer, running from thirty minutes to one hour in length. In the old elementary system the class periods ran for thirty minutes or less.

The junior high school attempts to present real life situations of vital concern to its pupils. The student makes adjustments to these situations, so they not only grow in ability to meet problems at hand but frequently they are able to meet new ones and see better ways. The problem solving attitude is expected and encouraged to become the pattern of reaction. The aim should be to make school so true to life that it will be life for all of its pupils.

CHAPTER III

THE CURRENT PHILOSOPHY OF THE JUNIOR HIGH SCHOOL AND OF INDUSTRIAL ARTS

With the development of the junior high school, there have been made available greatly enriched curriculum opportunities for seventh, eighth, and ninth grade pupils. The prescribed subjects in the more progressive junior high schools have been so modified as to deal with present activities of children, which are very similar to those actually important in child and adult life. If one could paint an adequate picture of the changes that take place in homes and in whole neighborhoods due to adequate leadership by the junior high school teachers, the possibilities of education as a telic process might be grasped. It is not that pupils from vital junior high schools know more or can do more than pupils from the conventional school, though one may be sure that they do and can; the important point is that they desire to do more, to know more, to be more, and that they feel adequate to fulfill these desires. By means of its core-curriculum and elective courses, and even more through its pupils clubs, assemblies, advisory systems, athletics, publications, and internal government, the school provides for every pupil, according to his genius, broad practical experiences similar to those of social life and most adequately preparatory for active participation in life. It is an intensified, an intelligently directed democracy of all the children of the community at the period when friendly and sympathetic control is most essential.

Part A

Controlling Philosophy of the Junior High School

Since the beginning of time, educators have faced problems and difficulties that at the time seemed insurmountable. But as years have passed and learning has evolved, solutions were found through various methods, which led toward established concepts. Some of these concepts were the results of life problems, war, church disputes and social revolution. These early beginnings depict everything but beauty.

The infant steps were so pathetic, it seemed, until no one looks back with abundant pride. However, it is believed that the junior high school teachers and administrators can serve children of this transition period and make a desirable educational contribution to our current American life. Galsworthy says: (8, page 13)

Let the dead past bury its dead; would be a better saying if the past ever died. The persistence of the past is one of those tragicomic blessings which each new age denies, coming cock-sure on to the stage to mouth its claim to a perfect novelty. The continuity of institutions -- the encroachment of social habits until they overwhelm or dilute each new conception -- is the first "law" of history. Accordingly, it is sometimes feared that the junior high school is in danger of becoming a glorified grammar school.

The conflicting conceptions of curriculum values reflect successive attitudes of men and women all of whom have honestly striven to find the truth and to modify curriculum practices accordingly.

Early Philosophies. The church took the lead in establishing the controlling concept of the early beginnings of the junior high school. The providing of instruction in reading, writing, singing and religion was received through the church. There was little classification of pupils according to age, ability or achievement; there was really no

organized curriculum; there were few if any instructional aids and materials; and the standard of achievement was decidedly low. This lack of organized elementary education persisted throughout the entire colonial period and into the first decades of American independence. (14, page 6)

What is of importance is the probability that the nature of the child growth and development received little or no consideration in deciding the length or content of any school course.

According to the adequate understanding of early philosophies, it is evident that the child was of little or no importance in establishing course content. This basic beginning reached its peak of influence about 1750. It was quite apparent that there was no articulation between the program of beginning school and grammar school. Each school had its limited purpose and its narrow curriculum, and its selective student policy never did meet the needs of youth in a democratic society such as was developing at that time. The academy was originally designed to bridge this gap through the development of a new concept; that the two schools would be brought closer together. (14, page 8)

The academy, like the Latin Grammar School, was developed and existed totally separate and independent of the elementary school of its day, with no apparent attempt to form the programs of the two schools into a well-articulated system of elementary and secondary education.

Nevertheless, this school was a step toward a more democratic secondary school. The articulation between early educational levels was definitely poor. It is certain however, educators were striving to develop certain criteria which would finally bridge this educational gap. It was understood that the educational program should be in a sense a continuation of the previous educational level. (14, page 11)

There is no evidence that the eight year elementary school and the four year high school were influenced in their origin and early development by any recognition of the nature of the physical and psychological growth of the children. Second, the elementary and the secondary schools began as two entirely separate institutions; furthermore, throughout much of their early history there was little or no attempt to bring about satisfactory articulation between them.

It is impossible to trace the definite philosophy of early junior high schools. The development of the schools themselves required such ardent efforts that the basic concepts were slightly overlooked. But as the schools developed, their weaknesses stood out and later time was spent trying to improve the weak points and developing more useful basic concepts. Some educational committees believed that the junior high school would work out its own solution, but such a devout purpose required special attention. A dynamic philosophy had to be established.

The conflicting concepts of curriculum and philosophy reflected successive attitudes of men and women who were honestly striving to find the truth and modify curriculum practices accordingly. From these efforts distinguishing early concepts were devised on successive assumptions.

Developments Which Promoted Change. All about us is community life, an industrial, specialized, interdependent life. In so far as our republic has any purpose or direction, it is formally engaged in adjusting democratic aspirations and practices to a rapidly changing life. Developments to cause these changes in philosophy will be discussed. (8, page 2)

Far-reaching revolutionary changes must come in all human institutions in response to the changes in individual and community living. A period of rapid change is obviously a time when a clear thinking leadership can render unmeasurable beneficence, and when if such is lacking, social

disintegration may result. In the realm of production and consumption, such a problem is at present acute.

Although many factors are listed which caused a change in the philosophy of the junior high school, such as increasing enrollments, density of population and regional economic problems, the one influence which clearly overshadowed others in the introduction of the reorganized schools was the desire of educators, parents and other citizens for an educational program which would best meet the needs of adolescent youth in America. From the beginning of the reorganization movement in 1890 down to the present day, the desire to develop a more effective program of elementary and secondary education has been the prime motivating force in the introduction of educational reforms and reorganization of the public school system. (8, page 3)

The younger generation furnished the guiding force -- the rise of American civilization, youth and the invention of inventions.

It is evident that the junior high school is an expression of a very revolutionary concept of education. It prepares for all life. Its primary function is the direct preparation for present social efficiency and for the present worthy uses of leisure time. This new junior high school is based on the belief that youth is the creative age of integrated group living and treats the child as a responsible member of society. (8, page 9)

Democracy is a sort of deliberate madness. . . It is the determination to treat people as if they were what you know they are not. . . There is only one way that you can get a man to be intelligent and that is to believe he is intelligent. The junior high school believes that every normal boy and girl is not only intelligent, but happy, eager, co-operative, ambitious, honest, and frank; it believes that each one has reserves of initiative, abilities, and leadership. The junior high school conditions the reactions of each one; and the miracle is worked. Each one finds his best social self.

From this brief statement it is obvious that the philosophy of the junior high school had to change in order to cope with the prevailing needs of the child. The ever-changing immediate interest and capacities of the pupil required a belief that was dynamic and plastic.

Part B

Philosophy of Industrial Arts in the Junior High School

The philosophy of industrial arts may be thought of as a growing evolving group of carefully evaluated judgments or goals. The present program of industrial arts has evolved over a period of years through the work of administrators and teachers. Before an industrial arts teacher can hope to do his share of further development and improvement in this field, the teacher must familiarize himself with the history and philosophy of industrial arts and its place in education. Only those principles of industrial arts that have made contributions to the educative process and have practical application should be introduced in the junior high school industrial arts program.

Definitions of Industrial Arts. A clear conception of industrial arts is a prerequisite to establishing an industrial arts philosophy. Careful and intelligent consideration of the definitions given for industrial arts by recognized authorities will provide the means for a complete understanding of the term. Industrial arts as a school study has to do with the preparation and development of an individual with reference to the industrial world in which he lives. This education must give him an understanding and a degree of insight as to the operation, function, and meaning of the things and events rising in rapid succession in an industrialized society. This is apparent in the following definition

by Wilber. (44, page 2)

Industrial arts may be defined as those phases of general education which deal with industry; its organization, materials, occupations, processes, and products; and with the problems resulting from the industrial and technological nature of society.

Industrial arts is an essential part of a general education program and a necessary part of a junior high school curriculum if the junior high school is to prepare well-rounded individuals. The interests of the adolescent in grades seven, eight, and nine are varied. It is difficult for them to give long-continued attention to any one thing. Accordingly, an industrial arts program should afford the adolescent opportunities to satisfy his many and varied interests through a wide range of subject matter. There is proof in the following definition which appeared in the 1934 United States Office of Education bulletin that valuable learning is achieved through the study of tools and materials. (26, page 1)

Industrial arts is a phase of general education that concerns itself with materials, processes, and products of manufacture and with the contributions of those engaged in industry. The learning comes through the pupil's experiences with tools and materials and through his study of resultant conditions of life. It is a curriculum area rather than a subject or a course being comparable in this respect to the language arts.

Young people should be given opportunities to become familiar with the basic materials, processes, and methods of industrial production and distribution through shops, laboratories, observations, and first-hand experiences. These experiences should not be planned as specialized training but should be provided as a part of the common learnings that all must have if they are to live intelligently in an age when man's power of adjustment is being taxed to the limit by technology and the

machine. Social and economic aspects are very prominent in most of the definitions given for industrial arts. Bonser's definition that follows stressed the economic and social significance of industrial arts. (5, page 1)

Industrial arts is a study of the changes made by man in the forms of materials to increase their values, and of the problems of life related to those changes.

A more recent definition of industrial arts by Sotzin indicates its significance as a part of general education. (32, page 5)

Industrial arts is that part of general education concerned with satisfying man's innate desire to construct with concrete materials, and the development of an intelligent understanding of our modern industrial civilization and the problems which have resulted from it through contacts and experiences with a wide variety of industrial materials, processes, and tools of manufacture.

There is a need to develop the abilities of pupils to construct, to explore, to invent, to investigate, and to learn through those activities in which they can engage with success and satisfaction. For all types of pupils, from the very superior to the very inferior in academic ability, a better balance is needed between learning situations in which abstract symbols are dominant and those in which the reality of life predominates. According to the definition in the "Oklahoma Advisory Committee" report of 1940, industrial arts affords the opportunity to meet the needs just mentioned. This definition is probably quoted more extensively in Oklahoma industrial arts literature than any of the others. (33, page

Industrial arts, as a school subject, may be defined as a study of the processes, tools, and machines by which the forces of nature are changed by man to make them more valuable and pleasing. It includes an understanding of the native qualities of raw materials and of the natural forces, together with a knowledge of the methods and practices of utilizing and changing these materials and forces. It is also concerned with the social and economic problems incident to these changes.

From these authoritative definitions, the reader should be able to understand more clearly the meaning of the term "industrial arts". In support of the definitions, a review of the objectives is necessary in order to establish a sound and rational philosophy of industrial arts.

Objectives for Industrial Arts. The aim of industrial arts is to give each student a balanced, sane and intelligent development in relation to common problems of life. If art work is separated from the situations in which art purposes in life are included, it will function little if any at all in life problems. Industrial arts is a pathway that helps to reduce the remoteness of school work from life and includes problems that develop the attitudes, knowledges, and skills that are needed for a better social order. Industrial arts, because it springs from practical interest, because of the natural content, and because it furthers life career motives has something worth-while to contribute toward enriching life. It contributes toward wholesome, creative, happy family life; makes directly for thought provoking, healthful, and socially essential patterns of life through skills, knowledges, and habits that function effectively. A balanced program of secondary education should provide experiences designed to achieve the things just mentioned. If the objectives of industrial arts, listed by Ludington, are achieved, industrial arts will provide the necessary experiences for a balanced junior high school program. (18, pages 11-12)

1. Orientation and Common Understanding. Experiences in industrial arts should help youth become better oriented in an industrial society by exploring many types of tools, materials, processes, products and occupations.
2. Technical Competency. Industrial arts programs should provide as many opportunities as possible for pupils to spend at least a year in a phase of work where initial

orientation and exploration may help define specialized interests that can be pursued with profit.

3. Consumer Education. Industrial arts experiences can help pupils develop intelligent attitudes, understandings, and skills involved in the selection and use of the products of industry.
4. Avocational Interests. Many pupils are interested in creative activities which involve the use of tools, simple machines, and materials as leisure-time pursuits or hobbies. Industrial arts facilities in modern schools are used to provide a wide variety of useful and enduring recreational and avocational interests.
5. Social Responsibility. Because of the nature of industrial arts shop and laboratory activities, desirable social habits can be developed.
6. Not Isolated. Any consideration of learning experiences such as those mentioned in attaining the functions described here draws attention to the integrating relationship which industrial arts has with other areas in the school. In a very real sense industrial arts is closely related to the physical sciences, art, homemaking, the social studies, language, and economics, and cannot function effectively as an isolated subject or course.
7. Contributions. Largely manipulative in character, yet affording content which is informative, technical, and social, industrial arts contributes to adjustment and complete living because it meets needs that are real and satisfies interests that are desirable.

The value of industrial arts in general education may be stated in such terms as developing neatness, accuracy, patience, persistence, love of labor, manipulative skill, honesty, and character.

All-round growth of the individual is the significant concept in the foregoing declaration. Complete development of the individual is impossible without the cultivation of three sides of his nature: physical, intellectual, and emotional. Wilber analyzed the following objectives of industrial arts in terms of behavior changes based on a program for the junior high school level. (44, page 42)

1. To explore industry and American industrial civilization in terms of its organization, raw materials,

- processes and operations, products, and occupations.
2. To develop recreational and avocational activities.
 3. To increase an appreciation for good craftsmanship and design, both in the products of modern industry and in artifacts from the material cultures of the past.
 4. To increase consumer knowledges to a point where students can select, buy, use and maintain the products of industry intelligently.
 5. To provide information about, and, in so far as possible, experiences in the basic processes of many industries, in order that students may be more competent to choose a future vocation.
 6. To encourage creative expression in terms of industrial materials.
 7. To develop desirable social relationships, such as cooperation, tolerance, leadership and followship, and tact.
 8. To develop a certain amount of skill in a number of basic industrial processes.

The industrial arts program by its very nature is unique for the contribution it makes to the particular needs of each individual. The industrial arts curriculum gives recognition to physical and mental changes taking place in the child at every stage of school life and experience. It also recognizes individual differences, meeting demands for educational and social development, and providing opportunities for exploration essential to guidance. To all students, industrial arts offers an added means of expression and to many the most natural means. (Instances of record show an appreciation and understanding of some of the abstract subjects have been developed.) Through the opportunity for natural expression in industrial arts activities, pupils have found a real reason to go deeper into subjects which might otherwise prove uninteresting.

Woodwork, mechanical drawing, metal work, electricity, crafts and printing are major fields in industrial arts that are adapted to the individual needs and interests of boys and girls in the seventh, eighth, and ninth grades. It therefore is apparent that industrial arts is but one phase of general education with its major contributions lying in the area dealing with industrial and economic life. Obviously, it cannot fail to contribute to the development not only of the boy's personality but also in relation to his home and social life.

Part C

A Personal Philosophy

From the dawn of history, there have been two kinds of education; the education of the manual laborer through practice with tools, implements and machines in shop, field, ship or other work places, and education of brain workers and members of the leisure class in the school largely with the aid of books. One of the purposes of industrial arts instruction in the junior high school is to create an appreciation of the laboring people and an appreciation of the products of the laborer.

Industrial arts is well adapted to the exploratory character of the junior high school organization and course work. Industrial arts affords manipulative explorations and studies about occupations related to the ones represented in the school shops. (44, page 1)

Industrial arts is an essential part of general education. It is conceived as an answer to the problem of educating boys and girls to live in a world which may be accurately characterized as industrial and technological. From a nation which was largely agrarian and in which industries were simple and widely decentralized, America has moved rapidly to a position of world leadership in industrial development. Hence, it becomes a function of the schools to give every student an appreciation and understanding of our industrial civilization as a vital segment of American life.

In order to establish the basic principles and statements of philosophy for guidance in the furtherance of the industrial arts work, a discussion of each of the following statements has a great deal more material contained in it than can be presented in a study of this type; therefore, a short resume of each of the statements will help to solve the problems. It is with this fact in mind that the following statements are discussed briefly. (24, page 16)

Industrial arts is the term used to refer to all kinds of shopwork and industrial drawing given in the junior high schools for general education and guidance purposes and preliminary to vocational education preparation.

This statement in regard to the definition of industrial arts assumes that the portion of the industrial arts program which appears in the junior high school is for the purpose of finding ones likes or dislikes, if possible, and also furthering the general education by broadening the ideas, concepts, and experiences of the pupil. It is assumed that the industrial arts program for the junior high school should be of a great deal of benefit as a means for guidance, whether it be vocational or educational. The varied experiences should at least guide the pupil in determining whether he likes or dislikes a certain type of work.

Selected Definition of Industrial Arts. It appears quite evident that Bonser's definition of industrial arts has had a great deal of influence on the ones that have been stated since his first definition was published. The one by Bonser and Mossman (5, page 5) is repeated here:

Industrial arts is a study of the changes made by man in the forms of materials to increase their values, and of the problems of life related to these changes.

Bonser says: (4, page 50)

Industrial arts as a school subject is the distilled

experiences of man in his resolution of natural materials to his needs for creature comfort to the end that he may more richly live his spiritual life.

Selvidge and Fryklund give this definition: (29, pages 35, 52)

In this field we seek to give the youth the information and experiences which will interest him in industrial life and enable him to do effectively the things that most boys and men are called upon to do without respect to their vocation. Our main purpose is to give information and training with respect to industrial facts and processes that will tend to promote interests and establish habits of thought and action that will be of value to the individual without respect to his future vocation.

There should be a wide variety of activities and more information taught, rather than placing too much stress on the development of skill.

Objectives. Since industrial arts offers the opportunity for much practice in planning and solving problems, and also provides for thinking in terms of concrete materials, it has much to offer to the general objective of teaching pupils to think and thereby tends to improve the emergent culture. Because of the relative newness of the industrial arts as school subjects, and because of the comprehensiveness of the offering, much differences of opinion concerning the proposed objectives can be anticipated, and the literature in this field justifies this expectation. There appears to be a growing tendency to formulate the objectives in terms peculiar to the practical arts. Perhaps it is warranted to say that the theoretical trend during the past decade has been toward Snedden's conception of the industrial arts. (25, page 281)

He conceived of these subjects as furnishing opportunities for developmental experience, which is suggestive of learning units that are both comprehensive and significant. Because there is a predisposition in growing boys to use tools of some kind, Snedden thinks that deprivation of tool-using opportunities is likely to lead "to some kind of distortion of growing body, mind and spirit".

Since other objectives are subordinate to the developmental experience, ample provision must be made through the various industrial arts for a well-rounded development. But the teacher and the experts in the various fields of industrial arts are inclined in their thinking to broaden the scope and to maintain that courses in these fields are adapted to achieving more than one objective. This conception of the matter is amply presented in the report of the American Vocational Association Committee on Standards of Attainment. (15, page 281)

This report maintains that we must express "the objectives in the form of definite effects which we wish to produce in the individual", and that these effects must not be vague and remote educational ideas. Yet it is urged that these objectives are to be certain worthy traits rather than certain skills, which teachers of industrial arts are in danger of making their objectives.

To realize the desired objectives, the program must provide the appropriate experiences. All this leads to the following conclusion. (25, page 282)

There are no conflicts between the objectives of general education and the objectives of industrial arts. Dean H. S. Ganders expresses the trend of thought when he says, "Teachers in the industrial arts field must cease thinking of their work as elements separate and apart from the rest of education", and he attributes this tendency toward unification of educational results to the influence of the project method, which has been the favorite form of teaching industrial arts subjects for many years and is now causing the artificial wall between cultural and vocational education crumble, distribution. They should know how things are made, the sources of raw materials, methods of distribution, the working qualities, durability and adaptability of the material and the commercial sizes, grades, classification and sale units.

1. To develop in each pupil the ability to select, care for and use properly the things he buys and uses.
2. To develop in each pupil the appreciation of good workmanship and good design, which will come most surely through a background of information based on adequate comparisons.

3. To develop in each pupil an attitude of pride or interest in his ability to do useful things, an important element in good citizenship.

In progressive education, projects are entirely displacing the old subject-compartmentalized curriculums. Dean Ganders makes bold to say, further, that teachers of these subjects should capitalize the opportunity for making the industrial arts the core in and through which innumerable cultural elements of civilization can be taught. In other words, he asserts that there is now an opportunity for teachers in this field to furnish leadership to the whole of education.

In all educational procedure, there should be some kind of evaluation of results. The best educational practice insists upon what is considered creditable performance but in this case creditable performance is an exceedingly variable standard. The teacher must answer the question, "Has the pupil made progress in understanding the principles involved in the completed task and thereby made new adjustments to his materials and social environment?" If the answer is "yes", then the teacher's objectives are being met and the pupil is becoming a desirable citizen.

CHAPTER IV

THE EXTENT OF INDUSTRIAL ARTS IN OKLAHOMA JUNIOR HIGH SCHOOLS IN 1954

The following questions and many similar ones are asked each year in regard to industrial arts in the junior high schools of Oklahoma. Should industrial arts be taught at all grade levels? Is there any progress being made in the field of industrial arts? What industrial arts is being taught in Oklahoma junior high schools? To determine the answer for some of these questions was the motive which prompted this study. The field of investigation had of necessity to be limited. However, this study is intended to present a picture of certain phases of industrial arts in Oklahoma junior high schools.

Part A

Technique Used in Investigation

The most common methods of research techniques for collecting data are listed as follows. (36, page 215)

1. The historical method
2. The survey method
3. The case method
4. The statistical method
5. The experimental method
6. Combination of the above methods

The method most commonly used is the questionnaire. This method has received many criticisms, however, it is agreed by some authorities on research that it has its place when properly used. Reeder defends the questionnaire in the following paragraph. (27, page 63)

Although the questionnaire method of securing information and of conducting research has probably been overworked during recent years, the fact remains that there are some types of problems --- problems which are worth attacking --- that cannot be attacked except by means of the questionnaire. The questionnaire cannot, and should not be abolished; but it should be more intelligently used than is now the case.

After examining several techniques for collecting information, the questionnaire method seemed most practical for this study. This form was approved by the members of the industrial arts education faculty of Oklahoma Agricultural and Mechanical College.

The Questionnaire. Before making the questionnaire form used in this survey, the questionnaires of two somewhat similar surveys were examined for help and suggestions. The questionnaire form was directed to the principals of each junior high school in Oklahoma. This form was composed of twenty-four questions of a slightly general nature. The information sought, dealt primarily with classes of junior high schools, number of teachers and conditions under which industrial arts was being offered and where it was being taught. A copy of the transmittal letter and the questionnaire form, and the follow-up letter are included as pages 49-52 inclusive, of this report.

Responses to the Study. The high percentage of responses from questionnaires mailed to principals gives reason to substantiate the fact that there is a statewide interest in the developing of an effective educational program in the junior high school, of which industrial arts is a definite part. Information in Table I reports the number of cities with junior high schools, the number of junior high schools in each city, classification and total enrollment of Oklahoma junior high schools. The following items of interest can be deduced from a study

TABLE I
 INFORMATION ABOUT OKLAHOMA JUNIOR HIGH SCHOOLS, FALL 1953

City and School by Name	Number of Teachers	Total Enrollment		Names of Industrial Arts Teachers	Type of Junior High School
		Boys	Girls		
Afton	10	51	48	W. T. Walker	X
Altus	16	244	288	W. N. Shafer	X
Amber	8	26	23	None	X
Anadarko	14	161	188	Joe Vaughan	Y
Antlers	10	113	89	James Harris	Y
Apache	9	74	55		Y
Arapaho	4	34	31	None	Z
Ardmore	27	401	387	Maurice Alton Gordon Sturdvant	X
Atoka	16	134	139	W. Williams	X
Barnsdall	12	70	86	Andrew Vann	Y
Bartlesville	38	577	504	James Teague	Y
Beggs	16	39	42	M. M. Wortham	Y
Bethany	15	121	128		X
Bixby	18	115	99	Cleon Auld	X
Blackwell, Lovett	20	264	272	Frank Trasher	Y
Blanchard	8	59	64	Micheal Dyer	Z
Boise City	9	72	65	Preston Thacker	X
Boswell	17	53	46	Sam Pardue	Y
Bowlegs	6	37	42	Bill McBee	Z
Bristow	11	181	180	Darrel Stiles	X

* Class A, Segregated = X

Class B = Z

Class A, Combined = Y

TABLE I (Continued)

City and School by Name	Number of Teachers	Total Enrollment		Industrial Arts Teachers Names	Type of Jr. High Schools
		Boys	Girls		
Broken Arrow	17	179	154	Billie Snodgrass	X
Broken Bow	11	134	151	None	Y
Buffalo	9	62	45	None	X
Butler	5	32	36	Russel Willis	X
Cache	8	56	69	Bob Roundtree	X
Caddo	12	57	51	Clifford Davis	X
Calvin	7	50	33	Carl O. Butler	Z
Carnegie	14	95	95	R. K. Phelps	Y
Carter	10	29	37	Forest Dickerson	X
Catoosa	10	66	72	Jas Lyons	X
Chattanooga	9	31	25	Gerald Gravlee	X
Checotah	11	111	97	Raymond Cary	X
Chickasha	25	378	318	L. L. Fritz	X
Cleveland	17	92	80	George E. Massay	Z
Clinton	13	148	152	Sidney Y. Richard	Z
Coalgate	9	60	74		X
Colcord	4	57	46	Rex Buchanan	Y
Commerce	7	83	120	John Hawthorne	Z
Cordell	8	87	74	Millard England	Z
Coweta	10	80	85	Paul King	Y
Cushing	14	148	128	None	Z
Custer	4	42	32	Doyle Bergner	X
Cyril	8	59	52	Joe Thornton	X

Table I (Continued)

City and School by Name	Number of Teachers	Total Enrollment		Industrial Arts Teachers Names	Type of Jr. High School
		Boys	Girls		
Davis	7	77	64	Robert G. Smith	Y
Dewey	19	111	111	Charles W. Hankins	Y
Dill City	7	29	28	None	X
Duncan	28	434	452	Hoyte Sandlin Robert Brown	X
Durant	20	271	270	M. E. Dobbins	X
Eldorado	7	37	37	Bill Henry	Y
Elgin	13	64	46	Lee W. Apala	X
Elk City	18	170	158	Raymond Ware	Y
Elk City, Merriot	8	51	37	Clifton Sides	X
El Reno	15	185	152	C. C. Keller	Z
Enid, Emerson	29	380	347	James Durham	Y
Enid, Longfellow	25	311*	311*	Ray E. Brown Eugene J. McCoy	X
Erick	5	47	41	J. M. Gamble	Y
Eufaula	15	105	138	Sam L. Homan	Y
Fairview	6	90	65		Z
Fletcher	10	59	61	C. M. Ridgeway	Y
Fort Gibson	12	62	76	A. J. Henson	X
Fox	14	86	94	Leo Treadway	Z
Frederick	13	97	85	J. D. Norton	X
Ft. Cobb	5	45	57	Austin Stockton	Y
Garber	11	55	45	Ivan Holder	Y
Geary	14	50	53	Allen Long	X

* Estimated number; total 622.

TABLE I (Continued)

City and School by Name	Number of Teachers	Total Enrollment		Industrial Arts Teachers Names	Type of Jr. High School
		Boys	Girls		
Gotebo	8	27	23	None	X
Grandfield	6	60	39	None	X
Granite	6	45	67	Bert McCall	Y
Grove	12	96	76	William Dixon	X
Guthrie, Favor	7	64	73		X
Guthrie, Fogarty	16	167	153	John McNutt	X
Guthrie, Cotteral	7	86	96	Everitt Wharton	X
Guyman	12	155	134	Douglas Dobbs	X
Hammon	8	57	40	John Bell	X
Haskell	10	48	56	None	Z
Hartshorne	10	145	91	Mack Tiner	X
Healton	16	97	109	W. H. Shaw	X
Heavener	10	100*	100*	Willard Henson	Y
Hinton	7	64	63	Jack Strahorn	Z
Hobart	16	132	136	Harvey Reimer	Y
Holdenville	10	93	154	Robert Slavin	Y
Hollis	11	70	85	Blant McGee	Z
Hominy	4	73	65	Alvin Simpler	Z
Hugo	7	101	94	None	Z
Hulbert	15	46	66	Cecil Kelley	Z
Idabel	16	Not Listed		Graham Carr	X
Indianola	18	69	54	Jim Irvin	X

*Estimated number; total 200.

TABLE I (Continued)

City and School by Name	Number of Teachers	Total Enrollment		Industrial Arts Teachers Names	Type of Jr. High School
		Boys	Girls		
Jay	16	106	109	None	
Jenks	11	90	60	John Swafford	Z
Jones	17	40	48	Harold Fowler	Y
Kingfisher	16	100	91	Jack Edge	Y
Konawa	24	44	52	A. D. Thomas	X
Laverne	9	72	57	None	X
Lawton	40	785	830	Harold Puster	X
Leedey	5	42	42	None	X
Leflore	7	38	47	R. E. Scott	Y
Lexington	12	59	56	Hershel Watson	X
Lindsey	19	135	116	Lloyd Hight	Y
Luther	6	24	24	Elwood Hubbard	Z
Mangum	8	79	89	Alva Hawkins	X
Marietta	4	33	33	None	X
Marlow	11	119	109	John Hoy	X
Maud	56	60	9	Glenn Rhoads	
Maysville	6	85	64	Max Scarce	C
McAlester	18	283	251	Jack Dillingham	Z
Miami	27	290	260	William A. Davis	X
Midwest, Dell City	18	246	258	Claude Wheeler W. L. Hawkins	Y
Midwest City	34	523	439	W. R. Swarts	X
McMan, Dundee	13	20	13	Berti Lana	C
Minco	12	63	68	Bert Mosier	Y

TABLE I (Continued)

City and School by Names	Number of Teachers	Total Enrollment		Industrial Arts Teachers Names	Type of Jr. High School
		Boys	Girls		
Moore	16	134	111	L. B. McMakin	X
Mooreland	12	56	50	Roy Manaffui	Y
Mountain View	9	75	50	Kenneth Adams	X
Muldrow	14	77	89	Robert Spears	X
Muskogee, Alice Robinson	35	165	844	Richard Jones Kyle Hobbs H. L. Vuck	X
Muskogee, West	22	274	267	Herbert Roane	X
Noble	11	59	50	None	X
Nowata	12	100	86	Joe E. Large	Z
Norman	33	412	380	R. C. Bowers H. V. McDermott	X
Okemah	13	126	124	Garvin Peck	X
Oklahoma City, Capitol Hill	50	692	664	Howard Musselman R. Sutton Donald Coleman E. Arnold	Y
Oklahoma City, Crooked Oak	14	152	190	T. M. Oliver	Y
Oklahoma City, Harding	48	626	629	Chester Ingraham Fred Lawson Bill McDaniel	X
Oklahoma City, Webster	26	349	302	Wilson Holbert James Herndon	X
Oklahoma City, Jackson	50	692	628	George Ross Doyle Crews	X
Oklahoma City, N.E.	29	215	178		X
Oklahoma City, S.E.	36	339	299		X
Oklahoma City, Putnam City	27	364	377	Cecil Cannon	X
Oklahoma City, Roosevelt	31	370	390	Maurice Ghormley Woodrow Holbert	X

TABLE I (Continued)

City and School by Names	Number of Teachers	Total Enrollment		Industrial Arts Teachers Names	Type of Jr. High School
		Boys	Girls		
Oklahoma City, U. S. Grant	21	245	232	Robert Wolling	Y
Okeene	12	62	46	Gilbert Staude	X
Okmulgee, Dunbar	16	98	117	R. McCurdy	Y
Okmulgee	35	281	256	R. C. Bowman Arnell Bazemore	Y
Panama	22	76	76	C. D. Clay	Y
Pauls Valley	16	206	277	Dale Hayhurst	Y
Pawhuska	18	136	135	M. G. Peters	X
Pawnee	11	77	52	Ralph Teague	Z
Perry	15	124	123	None	Y
Picher	19	142	105	Burl Mullins	Y
Ponca City	48	622	528	Iacel Parsons J. A. Walker Loven Smith James Suggs Calvin Young	X
Porter	6	62	60	R. P. Wilson	Z
Prague	11	69	66	Floyd Drick	X
Pryor	15	201	209	Curtis Burnett	X
Purcell	14	99	105	Starlin Powell	X
Quapaw	10	64	52	August Bergman	Y
Quinton	8	47	46	A. O. Beck	X
Rattan	7	53	46	Carl Mackery	X
Red Oak	7	40	30	James A. Salmon	Z
Ringling	6	51	67	C. D. Foster	X
Roland	7	60	45	Myrd Bransgheffer	

TABLE I (Continued)

City and School by Name	Number of Teachers	Total Enrollment		Industrial Arts Teachers Names	Type of Jr. High School
		Boys	Girls		
Rush Springs	10	67	68	None	Y
Salina	17	55	53	Carl H. Pollard	Y
Sallisaw	19	171	167	H. G. Walters D. B. Young	Y
Sand Springs	44	379	341	George Wolford	Y
Sapulpa, Washington	13	271	232	Clay Carr	Z
Sayre	9	102	101	Bill Whitley	X
Seiling	7	33	30	Robert Cummings	Z
Sentinel	16	38	36	Paul Vogt	Z
Shawnee	27	394	360	John Frazier	Y
Skiatook	11	87	78	Homer Towns	
Snyder	5	55	42	Thurman Burt	
Spiro	30	146	120	M. E. Butler	Z
Sperry, Tulsa City	8	85	68	Alford Rust	X
Sterling	9	56	44	E. K. Miller	X
Stillwater	16	201	221	Robert Garner	Z
Stilwell	8	73	60	W. H. Rogers	Z
Sulphur	19	145	149	Foy Stout	X
Tahlequah	21	219	208	Jess Barker	Y
Talihina	6	38	32	Arthur L. Baggett	X
Tecumseh, Krouch	6	77	88	Arthur Lohmeyer	Y
Temple	11	70	77	Negial King	X
Tipton	8	64	52		Z

TABLE I (Continued)

City and School by Name	Number of Teachers	Total Enrollment		Industrial Arts Teachers Names	Type of Jr. High School
		Boys	Girls		
Tulsa, Carver	29	431	576	Edgar A. Guess George Homer Isaac Woods	X
Tulsa, Cherokee	13	214	186	Carl Rosser	X
Tulsa, Grover Cleveland	43	578	583	M. L. McQuigg H. R. Parks	X
Tulsa, Clinton	32	499	469	V. Sterling Teel William Schneider Charles W. Moore	X
Tulsa, Horace Mann	41	578	607	James Utley Emmett Hale Elbert Winesberg	X
Tulsa, Lowell	20	205	200	J. R. McFarland	X
Tulsa, Roosevelt	54	719	682	J. W. Bollinger J. J. Frisch Jimmy Hartsell L. J. Lipney Harry McGinnis	X
Tishomingo	10	65	55	Howard Johnson	X
Tonkawa	10	86	99	Earl Mam	X
Tuttle	5	29	32	None	Z
Valliant	6	66	43	None	X
Velma Alma	12	134	118	John Harden, Jr.	X
Verden	10	48	41	Ben Ballard	X
Vian	10	82	73	None	X
Vinita	16	137	147	Burl Mahoney	Y
Vici	8	56	52	Allen Moore	Y
Vinson	7	25	28	Garland Howell	C
Wagoner	8	72	68	Earl Jackson	Z
Walters	14	134	159	W. O. White	Y

TABLE I (Continued)

City and School by Name	Number of Teachers	Total Enrollment		Industrial Arts Teachers Names	Type of Jr. High School
		Boys	Girls		
Watonga	8	100	73	U. B. Stephenson	Y
Waurika	7	61	66	Rex Rowe	Z
Wayne	7	57	44	John Ryle	Z
Weatherford	14	98	104	A. L. Lee	X
Webbers Falls	15	39	39	Tommy Keer	Y
Welch	8	52	41	Robert Rice	X
Weleetka	12	43	60	Ralph Harlin	X
Wellston	16	45	32	None	X
Westville	6	71	74	Floyd Cox	Y
Wetunka	8	74	47	Richard Bell	X
Wewoka	7	138	155	Lloyd Nash	X
Wilson	14	69	58	Jim Colclazier	Z
Wister	7	48	45	Andrew Loughridge	X
Woodward	20	176	156	H. R. Jacobs	X
Wyandotte	7	61	49	J. E. Iandon	Z
Yukon	17	73	70	James H. Jones	Z

1933
~~1933~~
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 23 none

A SURVEY OF INDUSTRIAL ARTS IN OKLAHOMA HIGH SCHOOLS

A cooperative study being conducted by the Industrial Arts Education Faculty
of Oklahoma Agricultural and Mechanical College, assisted by Booker T. Alford,
Pawhuska Public Schools

Mr., Mrs., or Miss _____, Principal

_____ Junior High School

_____, Oklahoma

Please fill in the blanks below or check the answers to questions as they apply to your junior high school.

1. Kind of junior high school (check one): Class A, segregated ____; Class A, combined ____; Class B ____; Other _____
2. Total number of pupils in your junior high school _____. Number of pupils in each group.

Grades	7	8	9
Boys			
Girls			

3. Number of all teachers who serve on your faculty. _____
4. Members of this faculty who hold degrees as follows: Ph.D. ____; Masters ____; Bachelors ____; No degree ____.
5. Is industrial arts available to pupils in your junior high school? Yes ____ No ____
6. If industrial arts is offered in your junior high school, please give the following information about the teacher or teachers of industrial arts.

Name

Street or Home Mailing Address

7. What amount of work in industrial arts is required of all boys in your junior high school? _____ What amount is available as electives? _____
8. Where is industrial arts available? In high school shop ____; in a separate junior high school ____; other _____
9. Are girls in your school required to take any industrial arts? Yes ____ No ____
10. Both boys and girls are permitted to choose any of the elective courses. Yes ____ No ____
11. This junior high school has _____ full-time teachers and _____ part-time teachers
(number) (number)

12. What is the average size class in academic subjects in this school? _____
13. How many teachers of industrial arts have duties which are increased by coaching _____ bus driving _____, school maintenance _____, but receive no additional salary for such duties.
14. Do you have a teacher of industrial arts who receives additional salaries for other duties? Yes _____ No _____
15. Do you have a teacher of industrial arts who teaches subjects other than that of industrial arts? Yes _____ No _____
16. Do you have a teacher of industrial arts whose college major is not industrial arts? Yes _____ No _____ (If yes, name major _____)
17. Do you think that industrial arts can attain for some students certain general educational objectives more effectively and more economically than any other school subject? Yes _____ No _____
18. Would you like to have available an elective course in industrial arts especially planned for girls? Yes _____ No _____
19. If industrial arts is not now being offered in your school, would you favor making it available at an early date? Yes _____ No _____
20. If your school does not offer industrial arts, would you favor offering it if a qualified teacher were available and it did not impose an undue financial burden on the school? Yes _____ No _____
21. If industrial arts is not now being offered in your school, please make a statement as to why this is the case. _____

22. If it were possible, would you expand your industrial arts program? Yes _____ No _____
23. Do you plan to add industrial arts to your curriculum in the next year or two? Yes _____ No _____
24. Is your school shop used for activities other than industrial arts? Yes _____ No _____
 Check any activities listed below which are provided.
 Night classes for credit _____
 Parents' night classes (no credit) _____
 Stagecraft _____
 Summer recreation programs _____
 Others _____

Questionnaire completed by _____ Date _____
 Name Title

OKLAHOMA INSTITUTE OF TECHNOLOGY
OF THE
Oklahoma Agricultural and Mechanical College
SCHOOL OF INDUSTRIAL ARTS EDUCATION
AND ENGINEERING SHOPWORK
Stillwater, Oklahoma

November 20, 1953

Dear Sir:

I am making a study of the inclusion of industrial arts in Oklahoma junior high schools. A second purpose of the study will be to find out what other school subjects industrial arts teachers are required to teach. Will you please be kind enough to assist in this study.

The primary purpose of the study is to identify and analyze some of the current practices in the junior high school in regards to industrial arts teaching. This survey is being conducted with the cooperation and under the supervision of staff members of the School of Industrial Arts Education and Engineering Shopwork of Oklahoma Agricultural and Mechanical College.

The completed study will require the sending of two inquiry forms. When the first form, which is being sent to principals of all Oklahoma junior high schools, has been returned, we can then send one to each industrial arts teacher. The second inquiry form, addressed to shop teachers, will include questions about programs and equipment.

Kindly return the inquiry form, filled out completely, in the self-addressed envelope. We can assure you that the names of individuals and of institutions will be kept strictly confidential.

Very truly yours,

Booker T. Alford
Graduate Student

Approved by:



DeWitt Hunt, Head
School of Industrial Arts Education
and Engineering Shopwork

OKLAHOMA INSTITUTE OF TECHNOLOGY
OF THE
Oklahoma Agricultural and Mechanical College
SCHOOL OF INDUSTRIAL ARTS EDUCATION
AND ENGINEERING SHOPWORK
Stillwater, Oklahoma

December 10, 1953

To Principals of Selected
Junior High Schools in Oklahoma

Dear Sir:

Mr. Booker T. Alford of Pawhuska, Oklahoma is assisting the faculty of this department in making a survey of the junior high schools in Oklahoma. We need to have a 100 per cent return on the enclosed questionnaire if it is at all possible.

May I urge that you return this questionnaire at an early date. We are particularly interested in industrial arts as it is included in Oklahoma junior high schools. We would like to have your opinions as requested in the enclosed questionnaire whether or not industrial arts is included in your junior high school. May I hear from you by return mail.

Yours very sincerely,

DeWitt Hunt, Head
School of Industrial Arts Education
and Engineering Shopwork
Oklahoma A. and M. College, Stillwater

DH:dw
Enclosure

of Table I; 216 junior high schools are included in the list and 311 industrial arts teachers teach in these schools. One hundred ninety-three of these junior high schools have industrial arts and eighteen of the junior high schools do not have industrial arts. One hundred three are Class A segregated junior high schools (X); seventy-two are Class A combined junior high schools (Y); and forty-one are Class B junior high schools (Z).

One hundred eleven replies were received from the 216 questionnaires sent to the junior high school principals. A "follow-up" letter was sent each principal who failed to respond after sufficient time had been allowed for all returns to be sent in. Thirty-two replies were received from 105 follow-up letters, making a total of 143 returns from a list of 216 principals. This percentage was low.

The writer is grateful to a member of the industrial arts education faculty of Oklahoma A. and M. College who spent several hours in the State Capitol Building in Oklahoma City acquiring information which made possible 68 additional returns, making a total of 211 inquiry forms received.

The Interpretation of the Inquiry Forms Received. The information that was obtained from the inquiry forms is presented in the form of discussion and tables. The material is presented in the order which it appears in the questionnaire.

Because of the growth and development of the junior high school, and especially because its evolution is not complete, it is difficult to find an acceptable definition of it. Table I contains a column in which the types of Oklahoma junior high schools are designated by the

letters "X", "Y", and "Z".

The junior high school is an organization of the seventh, eighth and ninth grades into an administrative unit for the purpose of providing instruction and training suitable to the varied and changing physical, mental, and social natures and needs of immature, mature pupils. (25, page 68)

"Class A" segregated junior high school shall consist of grades seven, eight, and nine adequately organized and administered with separate housing facilities and teaching staffs, and providing suitable curricula involving courses exploratory, as well as integrating and differentiating in nature. (35, page 28) "X" in Table I.

"Class A" combined junior high school shall consist of grades seven, eight and nine organized and administered as a separate unit, except that other units or grades may be located in the same building. This class will include the junior high school divisions of larger units, such as six-year high school, where such divisions are conducted according to the standards and regulations for approval of junior high school. (35, page 28) "Y" in Table I.

"Class B" junior high schools shall consist of grades seven and eight, or grades eight and nine, organized and administered as separate units. Two-year junior high schools which make special attempts to realize the objectives and functions of the junior high school, but which on account of building or organization difficulties are unable to organize on the 6-3-3 or 6-6 plans, may be given temporary approval. (35, page 29) "Z" in Table I.

It will be seen that the "Class A" segregated school is the most complete and most desirable. It includes separate housing facilities, separate faculties and in general all "Class A" junior high schools have excellent industrial arts programs. In fact there are only two "Class A" schools in Oklahoma without industrial arts. "Class B" schools are the same as "Class A" excepting that the high school grades are housed in the same building.

Oklahoma Junior High School Enrollment. The survey shows that there were schools represented with a minimum enrollment of thirty-three and a maximum of 1615.

Table II shows the enrollment in Oklahoma junior high schools in 1953. The total enrollment, 58,032 was taken from the replies of 211 Oklahoma junior high school principals. This enrollment gives an average

TABLE II
TOTAL ENROLLMENT OF PUPILS IN
OKLAHOMA JUNIOR HIGH SCHOOLS

Grades	Total Pupils		Total Enrollment
	Boys	Girls	(Boys and Girls)
7	15,507	15,289	30,796
8	7,188	6,541	13,729
9	<u>6,878</u>	<u>6,629</u>	<u>13,507</u>
Total	29,573	28,459	58,032

of 275 pupils per junior high school in the state of Oklahoma. Only three schools out of 211 offer industrial arts for girls. The writer is hoping the near future will bring a rapid increase of girls in the industrial arts curriculum. Louis V. Newkirk says: (21, page 7)

Boys and girls and men and women often have occasion to use tools and materials to build or repair some needed items for the home or community. Industrial arts courses give instruction to boys and girls in the correct use of common tools and guidance in planning their construction work. Boys and girls who know how to plan and complete useful projects are more able to cope with the numerous problems of living in an industrial society; they are better trained to meet life's problem.

American education is measured to a large extent by the degrees its teachers hold. Table III will show the number of teachers in Oklahoma junior high schools and the degrees they hold. It may be noted that nearly fifty per cent of these teachers have earned the Master's Degree and that less than three-tenths of one per cent have no degrees.

Column one, Table III, gives the degrees held by faculty members of Oklahoma junior high schools. However, this table is only true for 142 returns.

TABLE III
THE EDUCATION OF ALL TEACHERS
IN OKLAHOMA JUNIOR HIGH SCHOOLS

Title of Degree	Number Degrees Held by All Junior High School Teachers
Doctor	5
Master	1411
Bachelor	1430
No Degree	8
Total	2854

The Education of Oklahoma Junior High School Teachers. The educational preparation of a school staff represents in some measure the quality of instruction in that school. Teachers in Oklahoma junior high schools are well prepared as is shown in Table III. Of the 2854 teachers about whom answers were received, only eight have not completed the Bachelor's Degree.

Industrial Arts Available in Oklahoma Junior High Schools. Out of 211 returns, the writer found listed eighteen junior high schools without a program of industrial arts, and six returns failed to indicate whether or not industrial arts was being offered. Industrial arts is an essential part of general education, conceived as an answer to the problem of educating boys and girls to live in a world which may be accurately characterized as industrial and technological.

Grade Levels at Which Industrial Arts is Required in Oklahoma Junior High Schools. Many Oklahoma educators are unaware of the grade levels where most emphasis is placed on industrial arts in Oklahoma junior high schools. Table IV shows the grade level industrial arts is required and elected for 139 junior high schools for which this information was returned.

TABLE IV
REQUIRED INDUSTRIAL ARTS
IN OKLAHOMA JUNIOR HIGH SCHOOLS

Grade	Number of Schools Where Industrial Arts is:	
	Required	Elected
7	53	3
8	76	43
9	10	84
No Answer		9
Total	139	139

Column one in Table IV gives the grades taught in Oklahoma junior high schools; column two indicates those of the 139 junior high schools in which industrial arts is a requirement. The third column gives the number of Oklahoma junior high schools and the grade level in which industrial arts is elective.

Type Shops Available. Out of the 211 returns, only 149 gave reply to the question "In what type shop is industrial arts available?" However, of the 149, 39 were combined with the high school shop. One-hundred-seven of these shops were in a separate junior high school building, two were separate from both buildings and called a junior high

school shop although used by the senior high school, and one was described as being a combination shop separate from any building but information was not included to explain why the separate building was called a combination shop.

Opinions of Principals. Ninety-five per cent of the principals of Oklahoma junior high schools think that industrial arts can attain for some students certain general educational objectives more effectively and more economically than any other school subject. However, it is difficult to understand, only fourteen per cent of the principals of Oklahoma junior high schools will agree with Gordon O. Wilbur and Louis V. Newkirk in the philosophy that industrial arts is just as beneficial for girls as for boys.

Schools Not Offering Industrial Arts. The 211 returns showed that eighteen Oklahoma junior high schools do not offer industrial arts. Only three of the eighteen gave an answer why industrial arts is not being offered. One of the three principals reported that agriculture is being offered instead of industrial arts and he does not wish to add industrial arts. The second principal reported industrial arts is well replaced with trades and industries. The third principal reported no industrial arts equipment, but would be very appreciative to add industrial arts to the curriculum.

Preparation of Industrial Arts Teachers for Oklahoma Junior High Schools. The progress of industrial arts in Oklahoma junior high schools is highly dependent upon the preparedness of industrial arts teachers. Table V will show the education of sixty-five industrial arts teachers

at work in Oklahoma junior high schools. Table V shows the degrees held by sixty-five industrial arts teachers that were reported in this study.

TABLE V
EDUCATION OF INDUSTRIAL ARTS TEACHERS IN
OKLAHOMA JUNIOR HIGH SCHOOLS

Degree	Number of Industrial Arts Teachers Holding Degrees
Masters	23
Bachelors	41
No Degree	<u>1</u> (100 hours credit)
Total	65

Types of Shops. To further the development of this study, the writer believes it is most important to know the types of shops found in Oklahoma junior high schools. Table VI, Column one, shows the types of

TABLE VI
TYPES OF SHOPS IN OKLAHOMA JUNIOR HIGH SCHOOLS

Name of Shop	Number of Shops
Unit Shop	37
General Shop	<u>20</u>
Total	57

shops in fifty-seven Oklahoma junior high schools. Column two shows the number of shops in each type.

Industrial Arts Subjects Offered. Oklahoma junior high schools can meet the objectives of industrial arts only by increasing the number of available activities to meet the needs and interests of the pupil.

Table VII lists twenty-five activities included in the unit and general shops of Oklahoma junior high schools. Column one lists the name of the shop and column two gives the number of schools offering this activity.

TABLE VII
SHOP ACTIVITIES

Name of Activity	Number of Schools Teaching Activity
1. Hand Woodworking	51
2. Mechanical Drawing	20
3. Machine Woodworking	14
4. Leather	11
5. Metal	10
6. Plastics	9
7. Electricity	5
8. Foundry	3
9. Ornamental Iron	3
10. Shoe Repairing	2
11. Art Metal	2
12. Keene Cement	1
13. Tin Craft	1
14. Radio	1
15. Handicraft	1
16. Copper Tooling	1
17. Finger Painting	1
18. Book Binding	1
19. Drafting	1
20. Art Craft	1
21. Principles of Gasoline Engines	1
22. Furniture Repair	1
23. Upholstery	1
24. Printing	1
25. Drafting	1

Increased Duties of Industrial Arts Teachers. Out of a total of 143 reports from Oklahoma junior high school principals, twenty industrial arts teachers were reported as having increased duties without additional pay; forty-eight industrial arts teachers were reported as having increased duties with additional pay. The increased duties included coaching, bus driving, school maintenance and others.

Academic Subjects Taught by Industrial Arts Teachers. Forty-three industrial arts teachers were reported who teach subjects other than industrial arts. Thirteen teachers whose college major is in another field are also teaching industrial arts. Physical education, elementary education, trades and industries, agriculture, science, and mathematics were the other fields listed.

Future Plans of Principals Regarding Industrial Arts Programs in Oklahoma Junior High Schools. One hundred twenty-three principals would like to expand their industrial arts program, seventeen are satisfied with the present program, twelve would like to add industrial arts to their curriculum, and fifty-nine failed to respond to this question.

Oklahoma Junior High School Shops Used for Activities other than Industrial Arts. Out of 143 responses to the title of this paragraph, 114 school shops are not being used for any other activities. Twenty-nine of these shops are being used for the activities which follow: (1) Night classes for credit; (2) parents night classes, no credit; (3) stagecraft; and (4) summer recreation programs, and others.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The writer realizes that much significant information has been omitted from this study. In order to facilitate the use of this study, a summary of the findings is given in this chapter. In addition to the brief summarization of the material, a few recommendations are given on the basis of data collected for this report.

Part A

Abstract of the Findings

This study was made in order to obtain certain facts regarding the approved junior high schools of Oklahoma. In order to appreciate and understand the nature of such schools, a definition of a standard junior high school is presented here.

A standard junior high school is a three-year organization of grades seven, eight and nine. (34, page 60)

There are 216 approved junior high schools in Oklahoma. From these 216 schools, 211 inquiry forms were returned. A total of 193 junior high schools of the reported number offer industrial arts; eighteen did not offer it because of various reasons. Five failed to reply. Some school officials reported no available funds or facilities as reasons for not offering industrial arts, while at least one other school principal reported that agriculture was offered instead of industrial arts.

This survey showed that the minimum enrollment in Oklahoma junior high schools is thirty-three and the maximum 1615.

Part B

Conclusions

Junior high schools make few provisions for girls in industrial arts. In only three schools is industrial arts available for girls.

This study reveals, on the basis of questionnaires returned, that Oklahoma junior high school teachers are well prepared. Out of 2854 teachers reported, only eight persons were employed who had no degrees. Of the sixty-six industrial arts teachers reported, only one had no degree.

According to the reporting principals, a few industrial arts teachers duties were increased by bus driving, coaching and school maintenance without pay. There were more reported whose duties were increased with additional pay. Many of the industrial arts teachers teach academic subjects and have college majors in fields other than industrial arts it was reported.

From information gathered, it can be assumed that most principals would expand the industrial arts department if funds and facilities were provided. It is evident from data collected that progress is being made in Oklahoma junior high schools and industrial arts is available in most of the approved junior high schools.

Part C

Recommendations

Another study of a similar nature would be in order immediately. It is impossible to gather all significant factors regarding industrial arts in Oklahoma junior high schools in this report.

More junior high schools should make industrial arts available for

girls. Girls, as well as boys, have occasion to use tools, therefore, they should be taught correct procedures.

Industrial arts should be made available in all junior high schools.

Teachers with college majors in other fields should not be allowed to teach industrial arts.

Industrial arts teachers with increased duties should receive additional pay.

Students should be required to take more industrial arts.

Junior high schools should be encouraged to maintain separate industrial arts shops.

A SELECTED BIBLIOGRAPHY

1. Abelson, Harold H., The Art of Educational Research, World Book Company, New York, 1933, 332 pages.
2. Bennett, Charles A., History of Manual and Industrial Education, 1870 to 1917, The Manual Arts Press, Peoria, Illinois, 1939, 556 pages.
3. Bennett, Vernon Guy, The Junior High School, The Maple Press Company, York, Pennsylvania, 1926, 225 pages.
4. Bonser, Frederick G., Fundamental Values in Industrial Education, Teachers College, Columbia University, New York, 1912, 491 pages.
5. Bonser, Frederick G., and Mossman, Louis Coffey, Industrial Arts for Elementary Schools, The Macmillan Company, New York, 1931, 483 pages.
6. Briggs, Thomas H., The Junior High School, Houghton Mifflin Company, New York, 1920, 350 pages.
7. Clifton, John L., "The First Junior High School", School and Society, 44 (March 1936) 164-67.
8. Cox, W. L. Philip, The Junior High School and Its Curriculum, Charles Scribner's Sons, Dallas, Texas, 1929, 474 pages.
9. Davis, Calvin Olin, Junior High School Education, World Book Company, Yonkers-on-Hudson, New York, 1924, 451 pages.
10. Denburg, Joseph Van K., The Junior High School Idea, Henry Holt and Company, New York, 1922, 423 pages.
11. Douglas, Harl R., Secondary Education for Youth in Modern America, Report of the American Youth Commission, American Council on Education, Washington, 1937, 120 pages.
12. Friese, John F., Course-Making in Industrial Education, The Manual Arts Press, Peoria, Illinois, 1946, 297 pages.
13. Friese, John F., Exploring the Industrial Arts, The Century Company, New York, 1926, 412 pages.
14. Gruhn, William T., and Douglass, Harl R., The Modern Junior High School, The Ronald Press Company, New York, 1947, 478 pages.

15. Hargitt, George Harold, "Dr. Calvin Milton Woodward -- His Life, Influence, and Place in the Century of Public Education of St. Louis", Industrial Education Magazine, 40 (May 1938) 148-151.
16. Holbrook, Harold Lyman, and McGregor, Laura A., Our Junior High School, Allyn and Bacon Company, New York, 1928, 211 pages.
17. Koos, Leonard V., The Junior High School, Harcourt, Brace and Company, New York, 1921, 179 pages.
18. Ludington, John R., "Enrichment of Pupil Experiences Through Industrial Arts", School Life, 31 (May 1949) 11-12.
19. McClellan, H. N., "The Origin of the Junior High School", California Journal of Secondary Education, 11 (February 1936) 167-71.
20. National Education Association, Vitalizing the High School Curriculum, The National Education Association, Washington, D.C., Research Bulletin, Vol. VII, No. 4, September 1929.
21. Newkirk, Louis V., Organizing and Teaching the General Shop, The Manual Arts Press, Peoria, Illinois, 1947, 200 pages.
22. Newkirk, Louis V., and Stoddard, George D., The General Shop, The Manual Arts Press, Peoria, Illinois, 1929.
23. Oklahoma State Department of Education, Industrial Arts in Oklahoma, State Superintendent of Public Instruction, Capitol Building, Oklahoma City, 1951, 129 pages.
24. Pope, Eugene Blair, Status of Industrial Arts in Oklahoma Schools in 1938 and Suggested Statements of Controlling Philosophy for Industrial Arts, Master's Thesis, Oklahoma Agricultural and Mechanical College, 1938, 59 pages.
25. Pringle, Ralph W., The Junior High School, McGraw-Hill Book Company, Inc., New York, 1937, 408 pages.
26. Proffit, Maris M., Industrial Arts: Interpretation in American Schools, United States Office of Education, Washington, D. C., Bulletin No. 34, 1937.
27. Reeder, Ward G., How to Write a Thesis, Public School Publishing Company, Bloomington, Illinois, 1930, 216 pages.
28. Schramm, Howard R., "Ivan Attraction; Industrial Arts Play", Industrial Arts and Vocational Education, 42 (April 1953) 127-30.
29. Selvidge, Robert W., and Fryklund, Verne C., Principles of Industrial Teaching, The Manual Arts Press, Peoria, Illinois, 1930, 419 pages.

30. Smith, William A., The Junior High School, The Macmillan Company, New York, 1926, 478 pages.
31. Snedden, David, Vocational Education, The Macmillan Company, New York, 1920, 587 pages.
32. Sotzin, Heber A., "A Half Century of Industrial Arts in Retrospect", The Industrial Arts Teacher, 3 (February 1950) 5.
33. State Advisory Committee for Oklahoma Schools, Industrial Arts in Oklahoma, State Department of Education, Capitol Building, Oklahoma City, 1950, 164 pages.
34. State Department of Public Instruction, Annual High School Bulletin, No. 113-B, Oklahoma City, Oklahoma, 1953, 86 pages.
35. State Department of Public Instruction, Annual High School Bulletin, Oklahoma City, Oklahoma, 1953, 77 pages.
36. Stoddard, G. D., and Wellman, Beth L., "Methods of Research in Child Psychology", Methods and Techniques of Educational Research, Review of Educational Research, 4 (February 1934) 65-71.
37. Struck, F. Theodore, Foundations of Industrial Education, John Wiley and Sons, Inc., New York, 1930, 492 pages.
38. Struck, F. Theodore, "Industrial Arts and the Maladjusted Pupil", American Vocational Association Journal and News Bulletin, American Vocational Association, Inc., Washington, D. C., 13 (May 1938) 83-86.
39. Tinkle, Cliff Henry, The Status of Industrial Arts in Oklahoma High Schools in 1946, Master's Thesis, Oklahoma Agricultural and Mechanical College, 1946, 92 pages.
40. United States Department of the Interior, Office of Education, Industrial Arts -- Its Interpretation in American Schools, Report of Office of Education Committee on Industrial Arts, United State Government Printing Office, Washington, D. C., Bulletin 1937, No. 34, 1938, 125 pages.
41. Voth, John J., and Hunter, William L., Objectives of Industrial Arts Education, Iowa State College, Ames, Iowa, 1923, 70 pages.
42. Walker, Edwin Ernest. The Place of Industrial Arts in the Junior High School, Master's Thesis, Oklahoma Agricultural and Mechanical College, 1940, 139 pages.
43. Warner, William E., Policies in Industrial Arts Education, The Ohio State University Press, Columbus, Ohio, 1928, 90 pages.

44. Wilber, Gordon O., Industrial Arts in General Education, International Textbook Company, Scranton, Pennsylvania, 1948, 362 pages.

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AUTHOR: Booker T. Alford

REPORT ADVISOR: DeWitt Hunt

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TYPIST: Dorothy Watkins