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A Comparative Study of Industrial Arts in the United States

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Pool,

Clyde

1949

* 6800

A COMPARATIVE STUDY
OF
INDUSTRIAL ARTS IN THE UNITED STATES

BY
CLYDE POOL

A THESIS
SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS

WESTERN KENTUCKY STATE COLLEGE

JULY, 1919

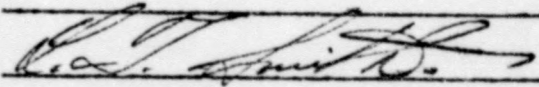
Approved:-

Major Professor and

Department of Education

Minor Professor, Industrial Arts

Graduate Committee, Chairman



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CHAPTER I
INTRODUCTION

Industrial arts is generally thought of as a relatively new field in general education even though there were traces of manual training, as it was called then, in the sixteenth and seventeenth centuries. These early trends resulted, in the eighteenth century, in several practical experiments; and in the nineteenth century manual arts, as it was later called, became an integral part of the educational program.

It is the purpose of this study to determine to what extent industrial arts has been developed as a part of the educational program in the United States.

This study includes information concerning:

- I. State supervision of industrial arts.
- II. State subsidy for:
 - A. Teachers salaries
 - B. Equipment
- III. State courses of study for industrial arts teachers.
- IV. Teachers salaries.
- V. Salary scale
- VI. Elementary schools having industrial arts.
- VII. Secondary schools having industrial arts.
- VIII. Industrial arts teachers.
- IX. Industrial arts teacher training institutions.
- X. Certification of industrial arts teachers.

This study does not include subject content taught in the schools throughout the United States because of the many variations of subjects

and subject content that are necessary. Since the industrial arts programs should be designed to meet the needs of every student, geographical location, economic conditions, climatic conditions, economic resources, population and many other factors will influence the needs of the students.

Information for this study was obtained from three sources.

- I. A questionnaire was sent to the supervisors of industrial arts in each state. In states where there is no supervisor the questionnaire was sent to the superintendent of public instruction.
- II. From other studies in the field of industrial arts.
- III. Bulletins from the States Department of Education.

A double post card was sent to each state superintendent asking the name and address of the person in charge of the industrial arts program in the state. Forty one of the forty eight cards sent out were returned along with several letters volunteering the service of the state department and bulletins from various states.

The questionnaire was then prepared in two separate parts.

- I. One part dealing with information concerning the administration of industrial arts.
- II. The second part dealing with certification of industrial arts teachers.

In many cases both parts were sent to the same person. In some cases, however, the second part was sent to the director of certification. The first questionnaires were sent out on March 12 and 36 had been returned by April 11. A second letter and another questionnaire was sent to those states that did not respond to the first ones. By May 1 the questionnaires from all states had been received. Several states also sent copies of

their course of study and bulletins concerning the certification of teachers.

CHAPTER II

STATE ORGANIZATION FOR INDUSTRIAL ARTS

The first shop was introduced into public schools of the United States in 1880. It was called manual training and was a direct result of the Manual Labor Movement and the Centennial Exposition in Philadelphia 1876. Dr. C. M. Woodward and Dr. John D. Runkle were leaders in promoting this program.

The work constituted a series of graded exercises in wood and metal through which the students progressed. The program was justified largely on the development of skills, training for hand and mind, as was made evident in the famous motto which was carved over the door of Woodward's School in St. Louis and read:

Hail to the Skillful and Cunning Hand!
Hail to the Cultured Mind!
Contending for the Worlds Command,
Here Let Them be Combined.

Industrial arts has become a part of education and like all other forms of education it should be geared to fit the needs of the students which it serves. Industrial arts contributes its share to the total education of the child for modern and efficient living.

Industrial arts is closely related to trade education. It must not be confused with trade education for its purpose is general education, information, exploration, understanding, appreciation and guidance; whereas trade education is specialization and development of manipulative skills for the purpose of earning a living.

Since industrial arts was introduced in 1880 it has been developed

continuously until today there is a definite industrial arts program in the schools of 47 of the 48 states. Arkansas being the only state that has no definite program. Arkansas does, however, have shops in a few schools.

Thirty-two states have a person or persons designated to supervise the industrial arts program. These supervisors work under or are responsible to various members of the states department of education. These include director of vocational education, director of trade and industrial education, director of agriculture, state superintendent, director of youth service.

The remaining sixteen states treat industrial arts as any other academic subject and is administered on the local basis.

Table I gives the state, the name and title of the people in charge of the supervision of the industrial arts program in the state.

TABLE I
 NAMES AND TITLES OF STATE SUPERVISORS

State	Name	Title
Alabama	None	
Arizona	Edwin C. Gracey	Supervisor of Trade and Industrial Education
Arkansas	(no program)	
California	Olen D. Davis	Consultant in Industrial Arts Education
Colorado	None	
Connecticut	G. Wesley Ketcham	Supervisor of Industrial Arts
Delaware	John J. Shilling	Asst. Superintendent Secondary Education
Florida	W. R. Williams	Consultant for Industrial Arts
Georgia	None	
Idaho	None	
Illinois)Dale Roberts	Supervisor of Industrial Arts
Indiana)Amos Coleman	
	H. G. McComb	State Director Trade and Industrial Education
Iowa)Thomas Green	
)Arthur Carpenter	
)Karl Smith	District Supervisors
)G. E. Holmes	
Kansas	None	
Kentucky	None	
Louisiana	H. O. Thomas	State Supervisor Industrial Arts
Maine	Marice C. Varney	Director of Trade and Industrial Education
Maryland	H. M. James	Supervisor Industrial Education
Massachusetts	Russell Mack	Supervisor of Secondary Education
Michigan		Division of Vocational Education
Minnesota	S. K. Wisk	Supervisor of Trade and Industrial Education
Mississippi	Program being set up	
Missouri	Merton Wheeler	Supervisor of Industrial Education

TABLE I (continued)

State	Name	Title
Montana	None	
Nebraska	None	
Nevada		Dept. of Superintendent of Public Instruction
New Hampshire	Howard E. Swain	
New Jersey	Robert A. Campbell	State Supervisor Industrial Education
New Mexico	Henry A. Gonzales	State Director of Industrial Arts
New York	Roy G. Fales	Supervisor of Industrial Arts
North Carolina	*Ivan Hostetler	
North Dakota	Richard K. Klein	Director of Secondary Education
Ohio	P. S. Waldeck	State Supervisor of Industrial Arts
Oklahoma	None	
Oregon	Cliff Robinson	Director of Secondary Education
Pennsylvania	Robert Stoner	Chief Trade and Industrial Education
Rhode Island	None	
South Carolina	D. L. McCormac	State High School Supervisor
South Dakota	C. O. Gouchulk	State Supervisor of Trade and Industrial Education
Tennessee	John W. Richardson, Jr	Director, Division of Public High Schools
Texas		Dept. State Superintendent
Vermont	Harry J. Patterson	State Supervisor
Utah	Van H. Robertson	State Director of Trade and Industrial Education
Virginia	Gordon Fallison	Trade and Industrial Education
Washington	Werner C. Dickmann	Director of Secondary Education
West Virginia	A. J. Gibson	State Supervisor of High Schools
Wisconsin	None	
Wyoming	None	

*Consultant in unofficial capacity.

For explanation of lack of data from some states here are quotations from letters from different states.

The Superintendent of Public Instruction, state of Arkansas writes, "Very few schools have industrial arts--no specific program at present. Planning to set up requirements soon."

"It will necessary to contact each school individually for information concerning industrial arts program in their districts. There is no organized head of this department, nor is there any list of industrial arts teachers," from A. E. Mac Arthur, Supervisor Division of Trade and Industrial Education, State of Colorado.

"Georgia has industrial arts in its school but it has no state wide supervision and there is no one person to whom you could write and get complete information in regard to industrial arts." From J. R. Wommack, State Supervisor Distributive and Trade and Industrial Education, State of Georgia.

"The industrial arts program in this state is still in its infancy. We have recently had a meeting which concerned itself with plans for promoting the work, setting up teacher training curriculum areas, standards, etc. Considerable interest is being shown by local schools in this program, and we expect many industrial arts programs to be added in local schools within the next two or three years." From E. A. Parker, State Supervisor Trade and Industrial Education, State of Mississippi.

It is evident from Table I that nine states: California, Connecticut, Illinois, Louisiana, Missouri, New Mexico, New York, Ohio and Florida have supervisors whose main duties are those of supervising industrial arts as indicated by their titles.

Table II gives the name and or title of the person to whom the supervisor of industrial arts is directly responsible.

TABLE II
 NAMES AND TITLES OF PERSONS TO WHOM SUPERVISORS ARE
 RESPONSIBLE

State	Name	Title
Alabama	x	
Arizona	J. R. Gullison	Director of Agriculture Education
Arkansas		
California	Samuel L. Flick	Chief Bureau of Trade and Industrial Education
Colorado	x	
Connecticut	Paul D. Collier	Director Bureau of Youth Service
Delaware		Superintendent of Public Instruction
Florida	J. K. Chapman	Dept. Superintendent of Education
Georgia	x	
Idaho	x	
Illinois	E. M. Claude	Chief Trade and Industrial Education
Indiana	H. G. McComb	Trade and Industrial Education Director
Iowa		Superintendent of Public Instr.
Kansas	x	
Kentucky	x	
Louisiana	J. R. Gamble	Director of Vocational Education
Maine	Morris P. Cates	Director of Vocational Education
Maryland	J. J. Seidel	Assistant State Superintendent
Massachusetts	John J. Desmond, Jr	Commissioner
Michigan		Division of Vocational Education
Minnesota	H. C. Schmid	Vocational Director
Mississippi		
Missouri	George Kohrman	Director of Industrial Education
Montana	x	

*No state supervisor.

TABLE II (continued)

State	Name	Title
Nebraska	X	
Nevada		Superintendent of Public Instruction
New Hampshire	Walter M. May	State Director of Vocational Education
New Jersey	John A. McCarthy	Assist. Commissioner of Education in Charge of Vocational Division
New Mexico	Charles L. Rose	Superintendent of Public Instruction
New York	Frank P. Johnston	Chief Bureau of Industrial and Trade Education
North Carolina		Superintendent of Public Instruction
North Dakota		Superintendent of Public Instruction
Ohio	R. W. Garrison	Chairman Elementary and Secondary Education
Oklahoma	x	
Oregon	D. A. Emerson	Assistant Superintendent
Pennsylvania		State Director for Vocational Education
Rhode Island	x	
South Carolina	Jesse Anderson	State Superintendent of Public Instruction
South Dakota		Superintendent of Public Instruction
Tennessee	J. M. Smith	Commissioner
Texas		Director of Supervision
Utah	Mark Nichols	State Director of Vocational Education
Vermont	John E. Nelson	Director of Vocational Education
Virginia	H. B. Van Oat	Supervisor of Trade and Industrial Education
Washington		Superintendent of Public Instruction
West Virginia		Superintendent of Public Instruction
Wisconsin	x	
Wyoming	x	

No state supervisor.

In ten states the state department of education subsidizes or reimburses the local districts part of the expenses of the industrial arts program:

Connecticut

Connecticut has state aid for industrial arts on a reimbursement basis which covers expansion phase of the program or introduction of new programs. This includes salaries, equipment and supplies on a decreasing percentage basis over a period of five years.

Florida

Industrial arts program in Florida operates under educational foundation program.

Maine

A subsidy of \$500. is paid the local district for each teaching position. This subsidy is for teacher's salary.

New Jersey

The state of New Jersey reimburses local districts for teachers salaries and equipment by the way of a State Manual Training Budget.

North Carolina

All the salary, of industrial arts teachers, less the local subsidy is paid by the state of North Carolina.

Oregon

Oregon reimburses the local district \$500. per industrial arts teacher.

Pennsylvania

The subsidy given local districts by the state of Pennsylvania varies from 33 to 95 per cent of the teachers salary.

Texas

The entire salary of the industrial arts teacher in Texas is paid by

the state.

Vermont

Vermont subsidizes the local district to the extent of \$200. per year for teachers' salary and equipment.

Virginia

The state of Virginia reimburses the local districts for industrial arts on the basis of one hundred dollars per class period for all industrial arts activities, approved by the state, offered in junior and senior high school. A maximum of five hundred dollars is allowed within the limits of funds available. In no case are classes below the seventh grade reimbursable.

Supervision is reimbursable to the extent of one half of the salary of the supervisor for that portion of his time devoted exclusively to supervision, up to a maximum of two thousand dollars for the state's share.

The local district is also reimbursed for one-half of the cost of new and industrial arts equipment up to fifteen hundred dollars for the state's share.

In the other states industrial arts is financed by the local districts as is any other academic subject.

There is a wide range in salaries paid industrial arts teachers. The highest paid by any state being \$5,800 and the lowest being \$1,530. The range in salaries in any individual state is not as great as that shown above. In the state of Nevada there is \$900 difference between the highest and lowest salaries paid: In Connecticut there is a range of \$3,800. This is shown not for comparison of states but to show the wide range in salaries. (See Table III). Data for this study has been taken without regard to race or color. In some of the southern states the negro teachers

still are paid on a lower scale than are the white teachers.

One-half of the states reported that the industrial arts teachers are paid on the same salary scale as the academic teachers. The other states indicated that the salaries of industrial arts teachers are somewhat higher and are determined by the local district.

TABLE III
HIGH AND LOW SALARIES ACCORDING TO STATE

State	High Salary	Low Salary
Connecticut	\$5,800	\$2,000
New Jersey	5,600	2,500
New York	5,200	2,200
Delaware	5,100	2,800
California	5,000	2,500
Massachussetts	4,800	2,000
Minnesota	4,700	1,900
Indiana	4,600	2,400
Maryland	4,600	2,400
Florida	4,500	2,200
Illinois	4,500	2,500
Missouri	4,500	2,400
New Mexico	4,500	3,000
Washington	4,500	2,400
Wisconsin	4,500	2,500
Pennsylvania	4,000	2,000
Virginia	4,000	1,800
Nevada	3,900	3,000
Kansas	3,800	2,700
Oregon	3,800	3,000
Rhode Island	3,800	2,000
South Dakota	3,800	2,800
Tennessec	3,800	2,007

TABLE III (continued)

State	High Salary	Low Salary
Wyoming	\$3,600	\$2,400
Utah	3,600	2,200
Arizona	3,600	2,400
Louisiana	3,600	2,400
Ohio	3,600	2,000
Mississippi	3,600	1,530
Iowa	3,500	2,200
Nebraska	3,500	2,400
North Carolina	3,500	2,000
North Dakota	3,500	2,700
Texas	3,330	2,007
West Virginia	3,210	2,250
Vermont	3,000	2,000
Oklahoma	2,400 average salary	

Note: No information available on states not listed.

The states exercise very little control over subjects and subject content that is to be taught in the state. There is no prescribed course of study that has to be followed in any state. Twenty-one states do, however, have suggestive courses of study that are given teachers as guides. These courses of study make for more efficient instruction and tend to make instruction more uniform throughout the state, although any course of study will have many variations if it is to meet the needs of the students.

Industrial arts in the elementary schools has not been developed to a very large extent. Fourteen states reported some shop activities in the elementary schools. In most cases the activities in the elementary schools do not come under the supervision of the state supervisor.

Two states reported having industrial arts in all of their secondary schools. These states are California with 593 secondary schools and 2250 industrial arts teachers, and Delaware with 25 secondary schools and 100 teachers. The state of Connecticut has industrial arts in all except two of its 135 secondary schools. (See Table IV).

TABLE IV
NUMBER OF SCHOOLS IN THE STATE

State	Number of Elementary Schools	Number Have Industrial Arts	Number Secondary Schools	Number Have Ind. Arts	Number Ind. Arts Teachers
Alabama	3703		576		
Arizona	278		64		
Arkansas	3894		719		
California	3490		593	593	2250
Colorado	1955		358		
Connecticut	800	26	135	133	364
Delaware	60	0	25	25	100
Florida	1750	3	674	190	265
Georgia	3613		1402		
Idaho	789		151		
Illinois	11,366		729	350	869
Indiana	1230	325	750	350	410
Iowa	7545	0	835	282	323
Kansas	5653		720		425
Kentucky	5116		648		
Louisiana	1980	260	473	50	200
Maine	1704		222	72	164
Maryland	300	0	200	196	225
Massachusetts	1500		425	322	500
Michigan	5000		400		1000
Minnesota	6630	0	500	300	450
Mississippi	4280		669	28	28
Missouri	8000	200	700	200	355
Montana	1611		191	75	

TABLE IV (continued)

State	Number of Elementary Schools	Number Have Industrial Arts	Number Secondary Schools	Number Have Industrial Arts	Number Ind. Arts Teachers
Nebraska	5958		700	200	
Nevada	197	3	35	15	16
New Hampshire	499		95	70	113
New Jersey	1547		268	262	885
New Mexico	750	375	142	100	100
New York	6671		831	600	2500
North Carolina	3418		971	65	90
North Dakota	241	20	257	30	35
Ohio	4003	30	1400	1260	1600
Oklahoma	2568		782	200	225
Oregon	1500	15	233	130	135
Pennsylvania	2500	147	1700	1467	1891
Rhode Island	307		29		113
South Carolina	3594		325		
South Dakota	4141		310	70	75
Tennessee	4500	27	524	103	146
Texas	3386		1421	491	
Utah	356	0	111	104	121
Vermont	1035	0	84	24	31
Virginia	3402		558	134	215
Washington	600	400	287	263	340
West Virginia	4156		370	92	
Wisconsin	5800	111	465	220	430
Wyoming	1161		87	20	20

The percentage of schools in various states having industrial arts ranges from 4.2 per cent to 100 per cent. (See Table V).

Fifty-two per cent of the secondary schools, from 36 states which complete information was available, have industrial arts.

TABLE V
NUMBER OF SCHOOLS AND PERCENTAGE HAVING INDUSTRIAL ARTS

State	Number of Secondary Schools	Number Have Industrial Arts	Per Cent Have Industrial Arts
Alabama	576		
Arizona	64		
Arkansas	719		
California	593	593	100
Colorado	358		
Connecticut	135	133	98.5
Delaware	25	25	100
Florida	674	190	28.3
Georgia	1402		
Idaho	151		
Illinois	729	350	48.3
Indiana	750	350	46.7
Iowa	835	283	34
Kansas	720		
Kentucky	648		
Louisiana	473	50	10.5
Maine	222	72	34.3
Maryland	200	196	98
Massachusetts	425	322	75.2
Michigan	400		
Minnesota	500	300	60
Mississippi	669	28	4.2
Missouri	700	200	28.6

TABLE V (continued)

State	Number of Secondary Schools	Number Have Industrial Arts	Per Cent Have Industrial Arts
Montana	191	75	39.3
Nebraska	700	200	28.6
Nevada	35	15	42.9
New Hampshire	95	70	77.9
New Jersey	268	262	97.5
New Mexico	142	100	70.1
New York	831	600	71.1
North Carolina	971	65	96.3
North Dakota	257	30	11.6
Ohio	1400	1260	90.
Oklahoma	782	200	25.6
Oregon	233	130	56.
Pennsylvania	1700	1467	86.5
Rhode Island	29		
South Carolina	325		
South Dakota	310	70	22.6
Tennessee	524	103	19.8
Texas	1421	491	34.6
Utah	111	104	94.
Vermont	84	24	28.6
Virginia	558	134	24.1
Washington	287	263	91.5
West Virginia	370	92	24.8
Wisconsin	465	220	47.4
Wyoming	87	20	23.

CHAPTER III

CERTIFICATION OF INDUSTRIAL ARTS TEACHERS

In our complex society, with the United States carrying the responsibility of world leadership in every realm of human affairs, it is a mistake of the gravest importance for education of our coming citizens to be entrusted to persons who do not have at least four years of thorough college education.

Only 19 states and the District of Columbia, however, provide a minimum of four years of professional preparation for the issuance of teaching certificates based on college credentials.

This figure includes Nevada, which issues regular elementary certificates on less than four years of college; in practice however, the University of Nevada reported for 1947-48 only one student completing a program for elementary certification based on less than four years. Massachusetts is included also, even though state certification is not required, in practice, the colleges of Massachusetts reported none completing the lesser program in 1947-48.¹

Even though 29 states do issue teaching certificates to people with less than four years of college preparation, only four in actual practice issue certificates to teachers of industrial arts with less training than a Bachelor's degree except in emergency. Two states require five years of preparation. Arizona requires a Master's degree or equivalent for all teachers in secondary schools. Washington requires one year beyond the

¹

N.E.A. Journal, April, 1949, pp. 259.

the Bachelor's degree but not necessarily a Master's degree.

The requirements for issuance of a teaching certificate for those with a degree varies in different states. Practically all states do specify a definite number of semester hours of credit in the teaching area, that is, in the subjects to be taught by that teacher, and a definite number of semester hours in professional training. (See Table VI). In most cases the other subject requirements are left to those of the approved curriculum of the teacher training institution.

Arizona requires all teachers to complete a course and pass examination upon the provisions and principles of the Constitution of the United States and of Arizona. All teachers must take and subscribe to the oath prescribed for and administered to public officers.

Oklahoma requires all teachers of industrial arts to take a course in Oklahoma History and agriculture or pass a state examination.

California, Indiana, Kansas, and Ohio are among the states having the highest requirements in the teaching area. Each of these states require 40 or more semester hours of credit.

Alabama, Florida, Maine, Pennsylvania, Utah and Vermont are among those having the highest requirements in professional training; each of these states requires 30 or more semester hours in education.

TABLE VI
REQUIREMENTS FOR CERTIFICATES

State	Semester Hours Industrial Arts	Semester Hours Education	Degree
Alabama	30	36	Bachelor
Arizona	30	18	Master or equivalent
Arkansas	*		
California	40	15	Bachelor
Colorado	30	15	Bachelor
Connecticut	Major		Bachelor
Delaware	30	18	Bachelor
Florida	36	30	Bachelor
Georgia	18	9	none
Idaho	*		
Illinois	16	24	Bachelor
Indiana	14	18	Bachelor
Iowa	30		Bachelor
Kansas	40	18	Bachelor
Kentucky	24	18	Bachelor
Louisiana	24	18	Bachelor
Maine	33	44	Bachelor
Maryland	30	20	Bachelor
Massachusetts			Bachelor
Michigan	32	20	Bachelor
Minnesota	Major	15	Bachelor
Mississippi	*		
Missouri	Major	18	Bachelor

* No information.

TABLE VI (continued)

State	Semester Hours Industrial Arts	Semester Hours Education	Degree
Montana	30	16	Bachelor
Nebraska	15	18	Bachelor
Nevada	24	18	none
New Hampshire	18	12	Bachelor
New Jersey	36	18	Bachelor
New Mexico	20	15	none
New York	35	24	Bachelor
North Carolina	30	18	Bachelor
North Dakota	Major	15	Bachelor
Ohio	45	17	Bachelor
Oklahoma	24	21	Bachelor
Oregon	24	27	Bachelor
Pennsylvania	24	30	Bachelor
Rhode Island		20	Bachelor
South Carolina	24	18	Bachelor
Tennessee	12	18	Bachelor
Texas	24	6	Bachelor
Utah	30	36	Bachelor
Vermont	24	33	Bachelor
Virginia	18	18	Bachelor
Washington	20		Bachelor plus one year
West Virginia	24	20	Bachelor
Wisconsin	30	18	Bachelor
Wyoming	30	9	Bachelor

CHAPTER IV
TEACHER TRAINING AND SUPPLY

During the war, 1942 to 1946, the supply of industrial arts teachers was very limited. Since that time, however, the supply has increased but has not completely met the demand. The supply of industrial arts teachers has increased from two sources, first from the return of service men and those that left the school and went into industry, second from those being trained.

Only two of the 44 states from information was available reported that no industrial arts teachers are trained. These states, Delaware and Nevada, are among the smallest in number of secondary schools with 25 and 35 respectively. Delaware employs 100 industrial arts teachers while Nevada employs only 16. The number of teacher training institutions in the other states vary from one to eight. (See Table VII).

Sixteen states are not training enough industrial arts teachers to meet the need of their state. There seems to be no correlation between the number of industrial arts teachers employed, the number trained and the number of teacher training institutions. The state of Connecticut employs 364 industrial arts teachers and is training enough to supply the needs with one teacher training institution, whereas Oklahoma employs 200 teachers, has eight teacher training institutions and is not training enough to supply the state.

Ten states report that some non-college trained personnel is employed. (See Table VII). Most of these are part-time industrial arts and part-time vocational teachers and emergency teachers.

TABLE VII
TEACHER TRAINING

State	Number Teacher Training Institutions	Employ non-College Trained Personnel	Are Training Enough Teachers
Alabama	1	No	No
Arizona	3		
Arkansas	No Information		
California	4	Special Cases	Yes
Colorado	3	No	Yes
Connecticut	1	No	Yes
Delaware	None	No	No
Florida	3	No	No
Georgia	No Information		
Idaho	No Information		
Illinois	7	No	Yes
Indiana	2	No	Yes
Iowa	2	No	Yes
Kansas	3	No	Yes
Kentucky	5	No	Yes
Louisiana	3	Emergency	Yes
Maine	3	No	Yes
Maryland	1	No	No
Massachusetts	2	Some	Yes
Michigan	7	No	No
Minnesota	7	Some	Yes
Mississippi	No Information		
Missouri	6	No	Yes
Montana	1	Some	Yes

TABLE VII (continued)

State	Number Teacher Training Institutions	Employ Non-College Trained Personnel	Are Training Enough Teachers
Nebraska	5	No	No
Nevada	None	No	No
New Hampshire	2	Yes	Yes
New Jersey	3	Yes	No
New Mexico	5	No	No
New York	3	Emergency	Yes
North Carolina	1	No	No
North Dakota	3	No	Yes
Ohio	6	No	Yes
Oklahoma	8	No	No
Oregon	1	No	Yes
Pennsylvania	3	Yes	Yes
Rhode Island	1	Yes	Yes
South Carolina	2	No	No
South Dakota	3	Yes	Yes
Tennessee	8	No New Teachers	No
Texas	7	No	Yes
Utah	1	Emergency	Yes
Vermont	1	No	Yes
Virginia	3	No	No
Washington	5	No	Yes
West Virginia	4	Emergency	No
Wisconsin	3	No	Yes
Wyoming	1	No	No

In no state is there a standard practice in hiring non-college trained teachers.

In 45 states, which gave complete information, there are 144 teacher training institutions which have courses especially designed for the training of industrial arts teachers. (See Table VII).

TABLE VIII
TEACHER TRAINING INSTITUTIONS

State	Name of Institution	Location
Alabama	University of Alabama	Tuscaloosa
Arizona	Arizona State College Arizona State College University of Arizona	Tempe Flagstaff Tucson
California	Chico State College Fresno State College San Jose State College University of California, Santa Barbara College	Chico Fresno San Jose Santa Barbara
Colorado	Teachers College A and M College University of Colorado Denver University	Greeley Ft. Collins Boulder Denver
Connecticut	Teachers College of Conn.	New Britain
Delaware	None	
Florida	University of Florida Florida Southern College University of Miami	Gainesville Lakeland Coral Gables
Georgia	No Information	
Idaho	No Information	
Illinois	South Illinois University University of Illinois Western Illinois State Col. Eastern Illinois College Northern Illinois Teachers Illinois State Normal U. Bradley University	Carbondale Urbana Macomb Charleston De Kalb Normal Peoria
Indiana	Ball State Teachers Col. Indiana State Teachers Col.	Muncie Terre Haute
Kansas	Fort Hays State College Kansas State Teachers Col. Kansas State Teachers Col. Kansas A & M College	Fort Hays Pittsburg Emporia Manhattan

TABLE VIII (continued)

State	Name of Institution	Location
Kentucky	Eastern State College Western State College Morehead State College Murray State College	Richmond Bowling Green Morehead Murray
Louisiana	Louisiana State University Southwestern Louisiana Inst. Northwestern State College	Baton Rouge Lafayette
Maine	Gorham State Teachers Col.	Gorham
Maryland	University of Maryland	College Park
Massachusetts	Fitchburg State Teachers Col. Training School for Teachers	Fitchburg Boston
Michigan	Western Mich. College of Ed. Northern Mich. College of Ed. Central Mich. College of Ed. Michigan State Normal Wayne University Michigan State College University of Michigan	Kalamazoo Marquette Mount Pleasant Ypsilanti Detroit East Lansing Ann Arbor
Minnesota	University of Minnesota Bemidji State Teachers Col. Mankato State Teachers Col. Morehead State Teachers Col. St. Cloud State Teachers Col. Winona State Teachers College	Minneapolis Bemidji Mankato Morehead St. Cloud Winona
Missouri	University of Missouri S.E. State College S.W. State College Central State College N.W. State Teachers College N.E. State Teachers College	Columbia Cape Girardeau Springfield Warrensburg Maryville Kirksville
Montana	Montana State College	Bozeman
Nebraska	Peru State Teachers College Kearney State Teachers Col. Wayne State Teachers College Chadron State Teachers Col. University of Nebraska	Peru Kearney Wayne Chadron Lincoln
Nevada	None	

TABLE VIII (continued)

State	Name of Institution	Location
New Hampshire	Keene Teachers College University of New Hampshire	Keene Durham
New Jersey	State Teachers College State Teachers College	Trenton Newark
New Mexico	University of New Mexico New Mexico Highlands Univ. New Mexico State Teachers Col. Eastern New Mexico College	Albuquerque Las Vegas Silver City Portales
New York	State Teachers College State Teachers College New York University	Oswego Buffalo New York
North Carolina	North Carolina State College	Raleigh
North Dakota	Wahpeton Science School University of North Dakota Dickinson Teachers College	Wahpeton Grand Forks Dickinson
Ohio	Ohio State University Kent State University Miami University Ohio University Bowling Green State Univ. Wilmington College	Columbus Kent Oxford Athens Bowling Green Wilmington
Oklahoma	A & M College University of Oklahoma Central State College Southwestern State College Northeastern State College East Central State College Southeastern State College Northwestern State College	Stillwater Norman Edmond Weatherford Tahlequah Ada Durant Alva
Pennsylvania	Millersville State Teachers Col. California State Teachers Col. Pennsylvania State College	Millersville California State College
Oregon	Oregon State College	Corvallis
Rhode Island	Rhode Island School of Design	
South Carolina	Clemson A & M College State A & M College	Clemson Orangeburg

TABLE VIII (continued)

State	Name of Institution	Location
South Dakota	State College Northern Teachers College University of South Dakota	Brookings Abredene Vermillion
Tennessee	University of Tennessee Memphis State College Mid Tennessee State College East Tennessee State College Tennessee Polytechnical Inst. Austin Peay State College George Peabody Col. for Teach.	Knoxville Memphis Murfreesboro Johnson City Cookeville Clarksville Nashville
Texas	A & M College East Texas State Teachers Col. Sam Houston State College North Texas State Teachers Col. West Texas State Teachers Col. Sol Ross State Teachers College A & I College	College Station Commerce Huntsville Denton Canyon Alpine Kingsville
Utah	Utah State Agricultural College	Logan
Vermont	University of Vermont	Burlington
Virginia	Virginia Polytechnic Inst. Hampton Institute Virginia State College	Blacksburg Hampton Petersburg
Washington	Washington State College University of Washington Western Washington Col. of Ed. Central Washington Col. of Ed. Eastern Washington Col. of Ed.	Pullman Seattle Billington Ellensburg Cheney
West Virginia	West Virginia Inst. of Technology Marshall College Concord College West Virginia University	Huntington Athens Morgantown
Wisconsin	Platteville State Teachers Col. River Falls State Teachers Col. Stout Institute	Platteville River Falls Menomonie
Wyoming	University of Wyoming	Laramie

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

1. Forty-seven of the 48 states have definite industrial arts programs in the secondary schools. Arkansas has a few shops but no definite organized program.
2. Thirty-two states have a person or persons designated to supervise the industrial arts program.
3. Ten states reimburse the local districts part of the expense of the industrial arts program.
4. The salary range is \$1,530. to \$5,800.
5. One-half of the states pay industrial arts teachers on the same salary scale as other teachers.
6. Twenty-one states have suggestive courses of study that are given teachers as a guide.
7. Fourteen states have some shop activities in elementary schools.
8. California and Delaware have industrial arts in all secondary schools.
9. Nineteen states provide a minimum of four years of professional preparation for the issuance of a teaching certificate.
10. Only four states issue certificates to industrial arts teachers with less than Bachelor's degree except in emergency.
11. Arizona and Washington require one year preparation beyond the Bachelor degree for certification.
12. Requirements for certification vary with each state.
13. Delaware and Nevada do not train any industrial arts teachers.
14. Sixteen states are not training enough teachers.

15. Ten states employ some non-college trained personnel.

16. There are 114 teacher training institutions in 45 states training industrial arts teachers.

Conclusion

1. The development of industrial arts programs has been continuous during the first half of the twentieth century. The program in Mississippi is still being organized. Arkansas has a few industrial arts shops but there should be need for development on a state wide basis.

2. Of the 32 states which have persons to supervise the industrial arts program, only nine are designated as supervisors or consultants for industrial arts.

I, therefore, propose as the number one need the formulation, through united effort, of those educational values which should serve as guides in selecting and providing for industrial arts learning experience.¹ This can only be accomplished through state-wide supervision and state cooperation.

3. One-half the states give extra consideration or have different salary schedules for industrial arts teachers. This is due partly to two factors:

- a. Supply and demand; the supply has not equaled the demand and too many of these teachers would take better paying jobs in industry if there were no difference in salary.
- b. Low professional standards; it is obvious that the high-standard states provide better education for their children. It is also true that high standards insure a better supply of teachers and much better salaries for teachers.

¹

John R. Ludington, "What Industrial Arts Needs Most." School Shop Magazine, April, 1947.

4. The need for course planning and reorganization is a continual one as our mode and manner of living changes. Industrial arts teachers should think through their program and record plans and procedures used in attaining predetermined goals. Only 21 states publish suggestive outlines, units of work, or course of study.

5. There should be a minimum program of under graduate education where industrial arts teaching is the major objective. There is a wide range of diversity in the certification of industrial arts teachers in various states.

6. Some states, due to the lack of qualified teachers or adequate funds, hire non-college trained personnel. There is a need for recruiting and selecting prospective industrial arts teachers other than the haphazard manner in many states which result in many persons drifting into teaching positions without contributing anything to the profession.

7. Due to the inequalities in financial resources of the various states there is a need for some type of financial aid to provide a minimum program of industrial arts, teaching personnel, facilities and supplies for every school age child in every state.

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QUESTIONNAIRE

1. Who is responsible for the supervision of industrial arts in your state?
Name _____ Title _____
2. To whom is the supervisor of industrial arts directly responsible?
Name _____ Title _____
3. To what extent does your state subsidize industrial arts?
 - a. Teachers' salaries
 - b. Equipment
4. Does your state supply each industrial arts teacher with a course of study for the subject he teaches?
Is the use of this course of study required? _____ Suggestive _____
5. What is the approximate salary for industrial arts teachers in your state?
High _____ Low _____
6. Are industrial arts teachers and all other secondary teachers paid on the same salary scale? _____ If not, what is the difference? _____
7. How many elementary schools are there in your state? _____
How many of these schools have industrial arts or arts and crafts? _____
8. How many secondary schools are there in your state? _____
How many of these schools offer courses in industrial arts? _____
9. How many industrial arts teachers are there in your state? _____
10. Please list the teacher training institutions in your state offering courses specifically designed to train industrial arts teachers.

11. Do you employ non-college trained personnel for industrial arts teaching? _____
12. Are the industrial arts teacher training institutions in your state training enough teachers to meet the present demand for teachers in your state, or are you having to go outside of the state to find enough people to fill your positions? _____
13. How many additional industrial arts teachers are needed to adequately staff the departments in your secondary schools? _____

QUESTIONNAIRE

Certification of Industrial Arts Teachers

Is a college degree required for the issuance of a certificate to teach industrial arts?

Bachelors _____ Masters _____ None _____

What is the minimum number of college semester hours required in the subjects below for the issuance of a certificate to teach industrial arts?

Industrial Arts _____

English _____

Mathematics _____

Science _____

Social Science _____

Health and First Aid _____

Education _____

Any other definite requirements

What is the life of this certificate?

What are the requirements for the renewal of this certificate?

If non-college or trade personnel are certified, what are the main points considered?

750 Belmont Avenue
Charlottesville, Virginia

March 9, 1949

In preparation for my Master thesis, I am making a study of the industrial arts programs in each of the forty-eight states of the United States. It will be necessary for me to have the data asked for on the enclosed questionnaire. I trust that you will be able to give me the desired information on the questionnaire, and I should appreciate any other information available concerning industrial arts.

A self-addressed envelope is enclosed for your convenience in returning the questionnaire.

Thank you sincerely for your kindness in complying with my request for information on industrial arts.

Sincerely yours,

Clyde Pool

CP:s
Encs.