

T H E S I S

on

HOW TECHNICAL INDUSTRIAL ARTS COURSES
MAY CONTRIBUTE TO THE TRAINING OF EXPRESSIONAL
HAND-WORK TEACHERS IN GRADES I TO VIII

Submitted to the
OREGON STATE AGRICULTURAL COLLEGE

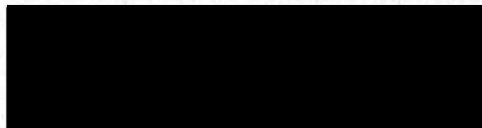
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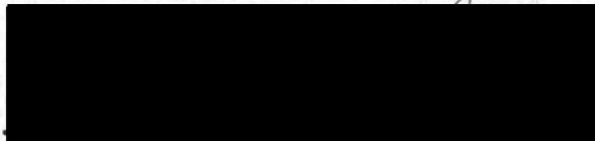
by

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CHAPTER I.

INTRODUCTION

A. Statement of the Problem. - Department heads of teacher-training institutions are often at a loss as to what should be the subject-matter content of the various courses offered in the department. Especially is this true of courses that have been but recently introduced into the school curriculum.

Too often the teacher of the new subject in such cases gives "free run" to his whims and fancies and decides what he shall or shall not teach on the basis of personal preference or prejudice. Only when enough study and research has been made to determine common practice can some standard be set up. Such a problem is met in the training of teachers of expressional hand-work in the grades.

It has been the purpose of this study to determine, if possible, a factual basis for setting up a course of study for the training of class-room teachers who will be capable of handling expressional hand-work in the first eight grades.

In order to discover common class-room practice in the hand-work activities and to learn of the prevailing types of teacher-training throughout the country, it was

necessary to determine:

1. The activities taught in expressional hand-work in grades one to eight:
 - a. In rural districts under county supervision.
 - b. In small towns of 2500 to 10,000.
 - c. In cities from 100,000 to 200,000.
2. The department of college or normal school in which training for these activities was received.
3. Additional training that may be desirable or necessary.

B. Significance of the Problem. - Table I, pages 6 to 7, lists many suggestions as to what activities might be taught and what the program might include. However, there is no study available to show to what extent these suggested activities are actually being taught, nor to what extent teachers are being trained to teach them.

It is very evident that the training of teachers for these activities might well be done in more than one department of a training school or college. It is desirable to know what departments are giving the necessary training and to what extent. Such information would enable the training school to avoid unnecessary duplication, to centralize its facilities, and to build a stronger program of training.

Teachers are frequently called upon to teach subjects for which they have no training; the extent to which this is true of teachers of expressional hand-work is signifi-

cant for two reasons: first, it shows to what extent teacher-training institutions are failing to recognize the needs of the teachers of expressional hand-work; and second, it is an indication of the importance of the subject in the class-room program. It is also important to know to what extent teachers are making use of the activities for which they are being trained.

Further, it is desirable to determine in what grades the various activities are being taught so that the needs of the teachers of the several grades may be met. Further, it is desirable to know which of the activities are most important, judging from the frequency with which they occur in the school program, and which ones the teachers think the program should include. With this information at hand, training can be centered upon those activities judged more important.

C. Method of Procedure. - In order to solve these problems the following procedure was followed:

1. The "Readers' Guide to Periodical Literature" was consulted and a list was made of all likely articles on or related to the subject. These were later examined for usable material.
2. The "card index" to library books on the subject of "Elementary Industrial Arts", and to books on methods and teacher-training in "Industrial Arts",

was used to compile a bibliography.. Any cross-references were investigated for suitable material.

3. From these, seven books and articles were selected as being of value for the study. The activities tabulated in Table I were selected from these sources.
4. Selection of activities to appear on the questionnaire was made from the list in Table I on the basis of their expressional value and frequency of mention by the seven sources.
5. Available catalogues of teacher-training institutions in all the states were examined for courses offered for teachers of expressional hand-work. Those states in which colleges or normal schools were offering courses in expressional hand-work activities, were made the basis of the states to which letters and questionnaires were sent. It was thought that teachers of these states would be better qualified to give the desired information.
6. The states were chosen so as to get a fair cross-section of the United States. Counties within each of the states were selected so as to get a distribution from the least populous to the most

populous sections. Four counties were selected in each of eighteen states.

7. Similarly, four cities were selected in each of the eighteen states. Three of which were from 2500 to 10,000 population, and the other from 100,000 to 200,000 population. In case the state did not have so large a city, then the largest city was chosen.
8. A letter was sent to each of the respective county and city superintendents asking for a list of names of grade teachers who were teaching some form of expressional hand-work in their classes and would, therefore, be best able to furnish information of the type desired.
9. From the names submitted by the superintendents, two mailing lists were compiled, one of rural teachers and one of city teachers.
10. Questionnaires were mailed to 224 rural school teachers and to 200 city school teachers.
11. The data gathered by means of the questionnaires, together with that derived from a study of the works of the more prominent authors in the field of elementary industrial arts, was used as a basis for the conclusions presented herewith. The various tabulations and comparisons are made a

part of this thesis as a means of giving a background for, and supporting the basic assumptions made in the conclusions.

TABLE I.

ACTIVITIES MENTIONED BY PROMINENT WRITERS AS A PART OF THE EXPRESSONAL INDUSTRIAL ARTS WORK FOR THE GRADES.

Industrial Arts Activities	Sources listed in bibliography, designated by corresponding Roman numerals.						
	I	II	III	IV	V	VI	VII
Clay Modeling	x	x	x	x	x		x
Salt & Flour	x						
Pottery	x	x	x	x	x		
Basketry	x	x	x	x	x	x	x
Reed Work	x	x		x		x	x
Paper Cutting	x		x	x			x
Paper Tearing	x		x	x			x
Pasting & Mounting		x	x	x			x
Block Printing	x	x	x	x	x	x	x
Sand Table	x		x	x			
Stick Printing		x		x			
Corrugated Containers			x				
Art Metal			x				
Metal Casting	x		x				
Bead Work			x	x		x	
Designing	x	x	x	x			
Stenciling							
Raffia					x	x	x
Art Leather						x	x
Box Furniture	x			x		x	x
Gesso							
Toy Making	x	x					x
Elementary Woodwork	x		x		x	x	x
Wood Carving						x	x
Cane & Rush Work						x	x
Enameling	x					x	x
Printing							
Elementary Book					x		
Binding	x	x	x	x	x	x	
Mechanical Drawing					x		
Free-hand Drawing	x	x	x	x	x		x
Sketching	x	x	x	x	x		x

Table I. (Cont.)

Industrial Arts Activities	Sources listed in bibliography, designated by corresponding Roman numerals.						
	I	II	III	IV	V	VI	VII
Soap Making	x		x				
Cement and Concrete			x		x		x
Brick and Tile	x		x				
Preparation of Food	x			x			
Preservation of Food	x				x		
Stuffed Dolls					x		
Garment Making	x						
Knitting	x						
Weaving	x	x	x	x			
Budgets	x						
Rug Weaving	x	x	x				
Dressing Dolls				x			
Sources of Materials	x		x	x			
Care of Clothing	x			x	x		
Characteristics of Materials	x						
History of Processes	x			x			
Pagentry	x						
History of Manufac- turing	x	x	x	x	x		
Study of Building Materials				x			
Study of Industries			x	x			
Iron and Steel			x				
Power and Machines				x			
Transportation				x			
Correlations	x			x			

Note: The "Activities" appearing on the questionnaire were selected from this list on the basis of expressional value and frequency of mention by the seven sources. A copy of the questionnaire will be found on page 11.

A study of Table I reveals that some of the activities, such as "preparation of food", "knitting", and "garment making", while expressional in character, clearly belong to

the work of the home economics department. Another group of activities could not be classed as expressional but belong to the trade and industries group. "Power and machines", "brick and tile work", and "soap making", would fall in this class. A third group would consist of items mentioned infrequently or only once by all the sources combined.

All activities that fell within these three classifications were eliminated so far as the questionnaire was concerned, with the exception of "gesso" and "art metal", each of which appeared only once. These two items were used because of the recency of their introduction as an activity, and because of their particular application to the upper grades.

Still another grouping of activities, mentioned in Table I, may be made from those dealing with related information. Such items as "characteristics of materials", "history of processes", "history of manufacturing", etc., were, for convenience, incorporated in the questionnaire in the form of three questions; one on correlations, one on occupational studies, and one on sources and history of materials.

The following list of items was finally chosen on the basis mentioned above, i.e. expressional value and frequency of mention by the several sources:

Clay Modeling

Basketry

Raffia

Paper Cutting

Paper Tearing

Cardboard Construction

Model Villages, etc.

Block Printing

Stick Printing

Art Metal

Color Cement

Art Leatherwork

Pine Needle Work

Bead Work

Gesso

Designing

Box Furniture

Toy Making

Wood Carving

Cane & Rush Work

Enameling

Elementary Book Binding

Free-hand Drawing

Mechanical Drawing

Sketching

CHAPTER II.

LETTERS AND QUESTIONNAIRES TO TEACHERS CO-
OPERATING IN THE STUDY, WITH MAPS
INDICATING DISTRIBUTION.

Letter Number 1.

To City and County Superintendents
as Indicated in Tables IV and V

OREGON STATE AGRICULTURAL COLLEGE

Corvallis

Department of Industrial Education

Date-----

Dear Sir:

Controversies arise frequently over the subject-matter to be included in teacher-training curricula. Such controversies have arisen in connection with the training of teachers for primary and intermediate hand-work in grades 1-8. It is our purpose to study the different points of view with reference to the training that should be offered for teachers who must handle the primary and intermediate hand-work, as well as the usual academic class-room subjects in those grades.

You can assist us in this study by furnishing the names and addresses of those in your school system who may be teaching any form of hand-work. According to the usual interpretation this would include work in the following group: elementary industrial arts, arts and crafts work, toy making, raffia, basketry, clay modeling, or any similar form of expressional handwork.

For your convenience and ours, please make use of the inclosed form in reporting the names and addresses. A stamped, self-addressed envelope is included. We shall, of course, be glad to furnish an outline of the findings of this survey to all those cooperating.

Please accept our sincere thanks for your cooperation.

Very truly yours,

Approved:

Albert M. Capron

Prof. of Industrial Ed.

Questionnaire Number 1.

Accompanying Letter Number 1, as a means of securing more uniform procedure in the submitting of the names for mailing lists.

Supt. of Schools _____

Street _____ City _____

County _____ State _____

Check here ☐ if interested in receiving an outline of the results of this study.

Please furnish below the names and addresses of any teachers of expressional hand-work in grades 1-8 in your system.

Letter Number 2.

To Superintendents and Supervisors enlisting
their aid in placing Letter Number 3 and
Questionnaire Number 2 in the hands of the
class-room teachers.

OREGON STATE AGRICULTURAL COLLEGE
Corvallis

Department of Industrial Education

Date-----

In response to the information which you furnished recently, indicating an interest in a study of the training desired for teachers of elementary hand-work, may we ask your further cooperation by placing the inclosed questionnaire in the hands of those teachers most qualified to answer? We shall be glad to have YOUR reaction to this questionnaire, if you care to give us the benefit of your experience with class-room or special-subject teachers who handle this type of work.

Accompanying each copy of the questionnaire is an explanatory letter which should be given to the class-room teacher. There is also an extra copy of the questionnaire for the teacher's file. An outline of the findings of the survey will be furnished all those cooperating in the study.

Very truly yours,

A. M. Capron,
Tabulator of Returns.

Approved:

Prof. of Industrial
Education

Letter Number 3.

Accompanying Questionnaire Number 2 to
class-room teachers.

OREGON STATE AGRICULTURAL COLLEGE
Corvallis

Department of Industrial Arts

Date-----

Controversies arise frequently over the subject-matter to be included in teachers-training curricula. Such controversies have arisen in connection with training of teachers for the elementary industrial arts work in grades 1-8. It is our purpose to study the different points of view with reference to the training that should be offered for teachers who must handle this type of primary and intermediate hand-work, as well as the usual academic class-room subjects for those grades.

You can assist in this study by filling out and returning to us at your earliest convenience one copy of the enclosed questionnaire. The other copy is for your files. A stamped, self-addressed envelope is included. An outline of the findings of the survey will be furnished to all those cooperating in the study.

Very truly yours,

A. M. Capron,
Tabulator of Returns.

Approved:

Prof. of Industrial
Education

Questionnaire Number 2.
To class-room teachers.

A Questionnaire on Subject-Matter
and Courses for Teacher-training in
Elementary Industrial Arts.

Directions:

1. In column "A" below, indicate the activities which you are teaching and the grades in which they occur. Example:- If your program includes basketry and it is taught in the 4th grade, record a "4" in column "A" opposite basketry.
2. In column "B" check those activities which you think your program should include. If you choose, we would be glad to have you indicate the grades in which you believe they should be taught.
3. In the proper column under the section designated "Department in which training was received", place a check after each activity for which you have received training, indicating the department in which training was received. Example:- If your preparation included clay modeling, and it was taught by the Art Department of your training school, place a check in the "Art" column opposite clay modeling.
4. If there are activities which you teach or for which there is a demand, that are not listed here, please write them in the additional space provided and check in the proper column.

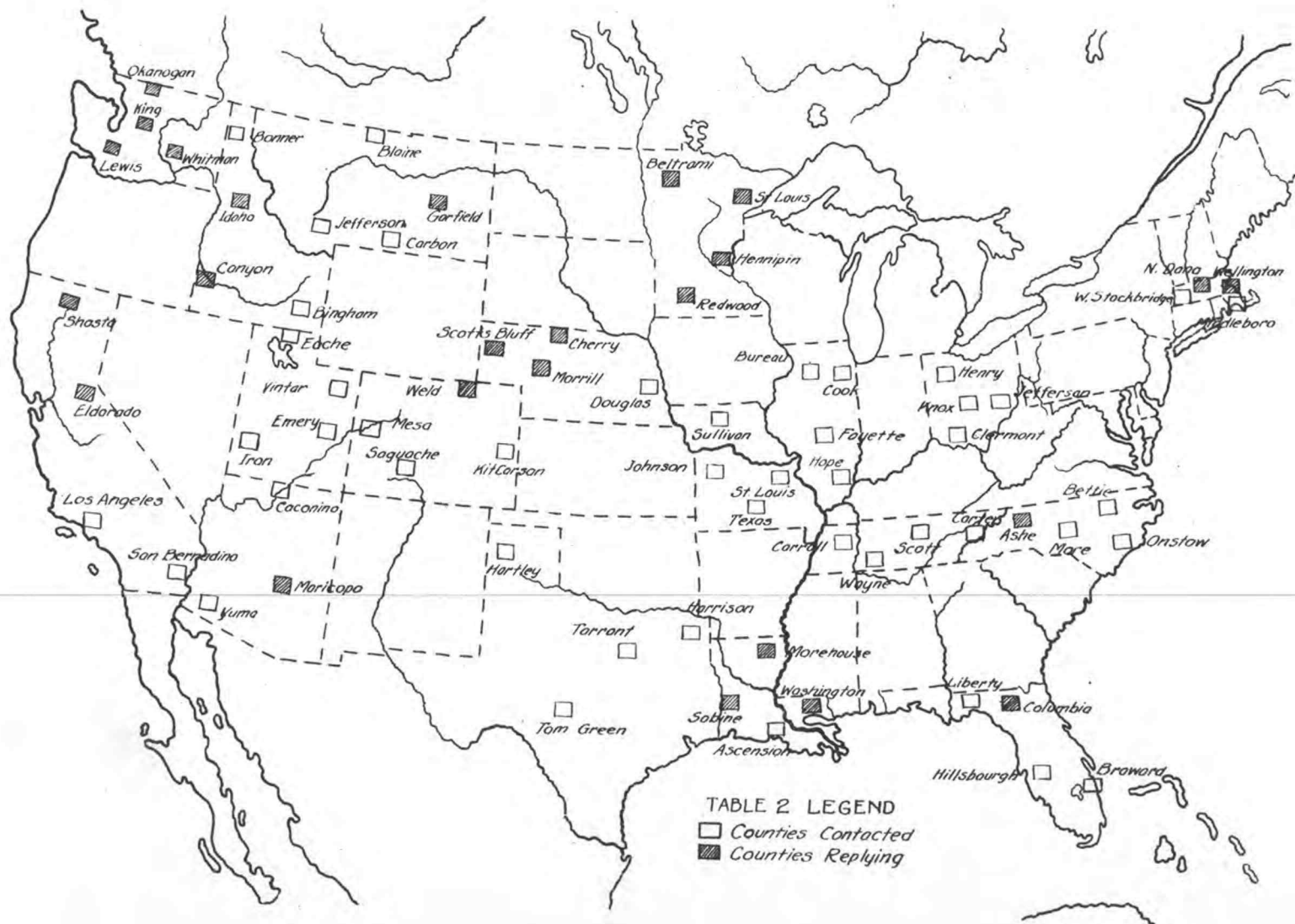
Activities	A	B	Department in which training was received					C
	I am teaching	The program should include	Art	Home Economics	Industrial Arts or Manual Training	Primary Education	No specific training for these activities	Would like more training in
Clay Modeling								
Pottery								
Basketry								
Reed Work								

Activities	A	B Department in which training was received						C
	I am teaching	The program should include	Art	Home Economics	Industrial Arts or Manual Training	Primary Education	No specific training in these activities	Would like more training in
Raffia								
Paper Cutting								
Paper Tearing								
Pasting & Mounting								
Cardboard Const.								
Model Villages, etc.								
Block Printing								
Stick Printing								
Art Metal								
Color Cement								
Art Leather Work								
Pine Needle Work								
Bead Work								
Gesso								
Designing								
Stenciling								
Box Furniture								
Toy Making								
Elementary Woodwork								
Wood Carving								
Cane & Rush Work								
Enameling								
Elem. Bookbinding								
Drawing: Free-hand								
Mechanical								
Sketching								

Are these activities which you are teaching correlated with other school subjects? Yes _____ No _____

Do you include the general study of the occupations in connection with this work? Yes _____ No _____

Do you include a study of the sources of materials and of the history of the industries that furnish those materials? Yes _____ No _____



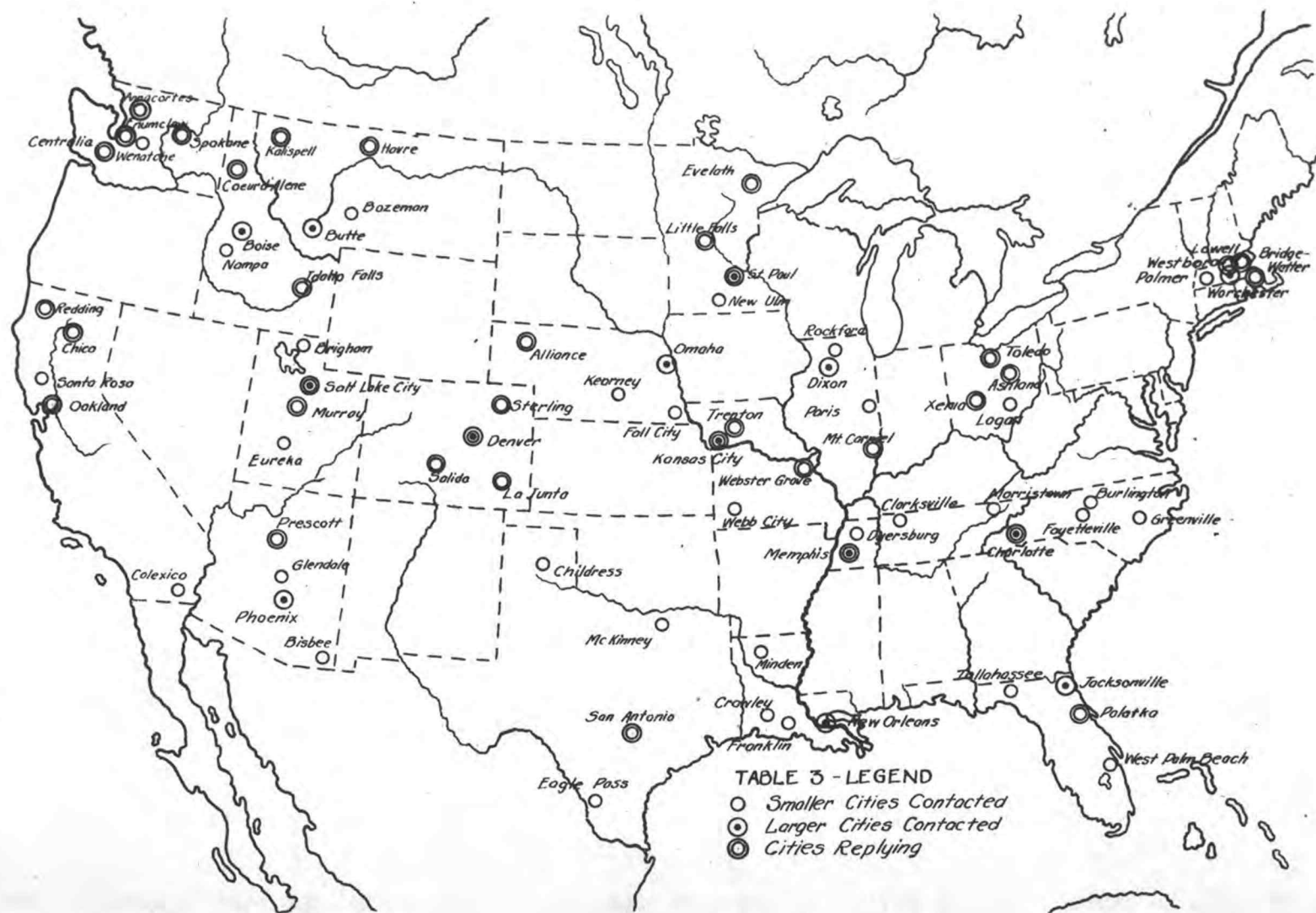


TABLE IV.

THE NUMBER OF QUESTIONNAIRES SENT TO THE VARIOUS COUNTIES
IN THE DIFFERENT STATES AND THE NUMBER RETURNED.

State & County	Questionnaires Sent	Questionnaires Returned
1. Arizona		
Maricopa	15	3
2. California		
Eldorado	5	1
Shasta	10	1
3. Colorado		
Weld	15	2
4. Florida		
Columbia	4	1
5. Idaho		
Canyon	21	2
Idaho	16	2
6. Louisiana		
Sabine	5	1
Morehouse	1	0
7. Massachusetts		
Middlesex	3	0
8. Minnesota		
Hennepin	7	3
Bettrami	15	2
St. Louis	7	4
Redwood	4	0
9. North Carolina		
Ashe	5	0
10. Nebraska		
Cherry	7	3
Morrell	23	5
11. Utah		
Cache	5	0
12. Washington		
Okanogan	5	0

Table IV. (Cont.)

State & County	Questionnaires Sent	Questionnaires Returned
Whitman	20	1
King	21	3
Lewis	<u>10</u>	<u>3</u>
Total	224	37

Questionnaires returned but not usable on account of inaccuracies:

California	
Shasta	1
Washington	
King	1
Minnesota	
St. Louis	1
Idaho	
Idaho	1
Nebraska	
Morrill	<u>1</u>
Total	5

TABLE V.

THE NUMBER OF QUESTIONNAIRES SENT TO THE VARIOUS CITIES IN THE DIFFERENT STATES AND THE NUMBER RETURNED.

	Questionnaires Sent	Questionnaires Returned
1. Arizona		
Prescott	5	3
2. California		
Chico	2	0
Oakland	10	5
Redding	1	1

Table V. (Cont.)

	Questionnaires Sent	Questionnaires Returned
3. Colorado		
Sterling	4	4
Salida	2	1
La Junita	3	2
Denver	10	0
Gunnison	5	3
4. Florida		
Jacksonville	11	4
Palatka	5	0
5. Idaho		
Coeur d'Alene	6	2
Boise	11	1
Idaho Falls	10	5
6. Massachusetts		
Westboro	5	3
Bridgewater	1	1
Lowell	1	1
7. Minnesota		
St. Paul	10	1
Little Falls	4	1
Eveleth	3	2
8. Missouri		
Webster Groves	6	0
Webb City	10	1
9. Montana		
Havre	3	1
Kalispell	13	3
10. Nebraska		
Alliance	2	0
11. North Carolina		
Charlotte	10	7
12. New Jersey		
Ocean City	5	0
13. Ohio		
Toledo	10	5

Table V. (Cont.)

	Questionnaires Sent	Questionnaires Returned
Xenia	2	0
Ashland	5	5
14. Tennessee		
Memphis	12	2
15. Utah		
Murray	4	0
Salt Lake City	5	1
16. Washington		
Anacortes	4	3
Centralia	5	3
Enumclaw	<u>5</u>	<u>3</u>
Total	200	74

Questionnaires returned but not usable on account of in-
accuracies:

Arizona	
Prescott	1
Idaho	
Boise	1
Idaho Falls	1
Minnesota	
Little Falls	1
Utah	
Salt Lake City	<u>1</u>
Total	5

CHAPTER III.

TABULATION OF RETURNS AND GENERAL
COMPARISON OF RESULTS.

TABLE VI.

THE TOTAL TABULATION OF THE ITEMS ON THE QUESTIONNAIRE AS REPORTED BY SEVENTEEN SUPERVISORS AND FIFTY-TWO CLASS-ROOM TEACHERS IN THE CITY SCHOOLS.

Activities	A	B	Department in which training was received					C
	I am teaching	The program should include	Art	Home Economics	Industrial Arts or Manual Training	Primary Education	No Specific training for these activities	Would like more training in
Clay Modeling	38	16	20	1	8	3	10	15
Pottery	10	13	16		5		6	13
Basketry	13	11	14		12	2	3	7
Reed Work	8	10	8		8	2	4	3
Raffia	10	9	9		9	3	4	5
Paper Cutting	54	4	32		5	2	7	3
Paper Tearing	39	5	24		4	12	3	1
Pasting & Mounting	51	6	34	1	14	9	7	5
Cardboard Construct.	32	8	15		7	6	8	2
Model Villages, etc.	30	5	8		6	11	9	5
Block Printing	25	6	25		6	2	5	11
Stick Printing	21	2	16		3	5	2	3
Art Metal	2	6	4		4		7	12
Color Cement		2	2		2	1	5	6
Art Leather Work	4	6	7		3	1	5	9
Pine Needle Work	4	2	3		3	1	3	5
Bead Work	3	3	1		1	2	6	3
Gesso	9	6	10		6		6	4
Designing	36	5	28	3	6	1	3	14
Stenciling	14	4	15		3	2	3	3
Box Furniture	20	5	4		8	6	3	5
Toy Making	29	8	8		15	3	11	10
Elementary Woodwork	21	8			19	1	5	10
Wood Carving	9	4	2		4		5	9
Cane & Rush Work	3	3			5		4	3
Enameling	19	5	8	1	7		7	3
Elementary Bookbind.	18	9	14		5		8	14

Table VI. (Cont.)

Activities	A	B	Department in which training was received					C
	I am teaching	The program should include	Art	Home Economics	Industrial Arts or Manual Training	Primary Education	No specific training for these activities	Would like more training in
Free-hand Drawing	58	2	45		5	2	3	12
Mechanical Drawing	12	3	11		9		3	6
Sketching	34	5	29		6	1	4	1
Soap Sculpture	1							
Weaving	2	1						1
Wood Finishing	1							
Upholstery	1				1			
Lettering	2		3					
Electricity	2	1			2		1	1
Sheet Metal	2	1			2		1	1
Cobbling	1				1			
Brush Making	4				4			

The activities were being correlated with other school subjects in fifty-seven of the schools reporting. In forty-nine of the schools reporting, a general study of occupations was included. A study of the sources of materials and of the history of the industries that furnish those materials, was included in the program of thirty-nine of the schools.

TABLE VII.

PERCENTAGE TABULATION OF THE ITEMS ON THE QUESTIONNAIRE AS REPORTED BY THE SIXTY-NINE CLASS-ROOM TEACHERS AND SUPERVISORS IN THE CITY SCHOOLS.

Activities	A	B	Department in which training was received					C
	I am teaching	The program should include	Art	Home Economics	Industrial Arts or Manual Training	Primary Education	No specific training for these activities	Would like more training in
Clay Modeling	45.	23.2	29.	1.4	11.6	4.3	14.5	21.8
Pottery	14.5	18.9	23.2		7.2		8.7	18.9
Basketry	18.5	16.	20.3		17.4	2.9	4.3	10.1
Reed Work	11.6	14.5	11.6		11.6	2.9	5.8	4.3
Raffia	14.5	13.	13.		13.	4.3	5.8	7.2
Paper Cutting	78.4	5.8	46.4		7.2	2.9	10.1	4.3
Paper Tearing	56.5	7.2	34.8		5.8	17.4	4.3	1.4
Pasting & Mounting	74.	8.7	49.4	1.4	20.3	13.	10.1	7.2
Cardboard Const.	41.4	11.6	18.9		10.1	8.7	11.6	2.9
Model Villages, etc.	43.5	7.2	11.6		8.7	16.	13.	7.2
Block Printing	36.2	8.7	36.2		8.7	2.9	7.2	16.
Stick Printing	30.4	2.9	23.2		4.3	7.2	2.9	4.3
Art Metal	2.9	8.7	5.8		5.8		10.1	17.4
Color Cement		2.9	2.9		2.9	1.4	7.2	8.7
Art Leather Work	5.8	8.7	10.1		4.3	1.4	7.2	13.
Pine Needle Work	5.8	2.9	4.3		4.3	1.4	4.3	7.2
Bead Work	4.3	4.3	1.4		1.4	2.9	8.7	4.3
Gesso	13.	8.7	14.5		8.7		8.7	5.8
Designing	52.3	7.2	40.5	4.3	8.7	1.4	4.3	20.3
Stenciling	20.3	5.8	21.8		4.3	2.9	4.3	4.3
Box Furniture	29.	7.2	5.8		11.6	8.7	4.3	7.2
Toy Making	42.	11.6	11.6		21.8	4.3	16.	14.5
Elementary Woodwk.	30.4	11.6			27.6	1.4	7.2	14.5
Wood Carving	13.	5.8	2.9		5.8		7.2	13.
Cane & Rush Work	4.3	4.3			7.2		5.8	4.3
Enameling	27.6	7.2	11.6	1.4	10.1		10.1	4.3

Table VII. (Cont.)

Activities	A	B	Department in which training was received					C
	I am teaching	The program should include	Art	Home Economics	Industrial Arts or Manual Training	Primary Education	No specific training for these activities	Would like more training in
Elementary Book Binding	26.1	13.	20.3		7.2		11.6	20.3
Free-hand Drawing	84.	2.9	65.4		7.2	2.9	4.3	17.4
Mechanical Drawing	17.4	4.3	16.		13.		4.3	8.7
Sketching	49.4	7.2	42.		8.7	1.4	5.8	1.4
Soap Sculpture	1.4							
Weaving	2.9	1.4						1.4
Wood Finishing	1.4							
Upholstery	1.4				1.4			
Lettering	2.9		4.3					
Electricity	2.9	1.4			2.9		1.4	1.4
Sheet Metal	2.9	1.4			2.9		1.4	1.4
Cobbling	1.4				1.4			
Brush Making	4.8				5.8			

The activities were being correlated with other school subjects in 82.5% of the schools reporting. In 71% of the schools reporting, a general study of occupations was included. A study of the sources of materials and the history of the industries that furnish those materials, was included in the program of 56.5% of the schools.

An examination of Tables VI and VII reveals the following relationships:

1. Under the heading "I am teaching" in both tables can be seen the relative importance of the activities as determined by the frequency of their occurrence. Free-hand drawing heads the list with fifty-eight, which is eighty-four per cent of the sixty-nine cases reporting. A glance will show the order of frequency in which other activities occur.

2. By comparing the columns in which training was received, the relative importance of each department as a source of training can be determined. The following comparisons are of importance to this study:

a. Those activities for which training was received mostly in the "Industrial Arts" department in the order of their importance are:

Toy Making	Wood Carving
Elementary Woodwork	Brush Making
Box Furniture	

b. The activities for which training was equally distributed between the "Art" and the "Industrial Arts" departments, in the order of their frequency of occurrence are:

Raffia
Reed Work

Pine Needle Work
Bead Work
Color Cement

- c. The activities for which training was received mostly in the "Art" department but for which the training received in the "Industrial Arts" department was nearly equal to that of the "Art" department, listed in the order of their importance are:

Mechanical Drawing
Basketry
Enameling
Model Villages

3. In the case of "Model Villages", the "Primary Education" department trained more than either the "Art" or "Industrial Arts" departments.
4. The training received in the "Home Economics" department for any of the activities was negligible and for the purpose of this study could have been omitted.
5. In these tables and in all subsequent tables will appear nine activities not listed on Questionnaire Number 2. These items were added after being submitted as activities by teachers reporting. With the possible exception of "Soap Sculpture" and "Weaving", this group does not belong in the expressional hand-work list but is usually a part of the technical industrial arts program.

TABLE VIII.

THE TOTAL TABULATION OF THE ITEMS ON THE QUESTIONNAIRE AS REPORTED BY THREE SUPERVISORS AND TWENTY-NINE CLASS-ROOM TEACHERS IN THE RURAL SCHOOLS.

Activities	A	B	Department in which training was received					C
	I am teaching	The program should include	Art	Home Economics	Industrial Arts or Manual Training	Primary Education	No specific training for these activities	Would like more training in
Clay Modeling	17	5	8		8	5	5	5
Pottery	1	7	5		4		4	5
Basketry	8	6	7		7		5	7
Reed Work	9	4	7		6		5	5
Raffia	9	5	8		3	3	6	6
Paper Cutting	21		14		4	7	3	3
Paper Tearing	22		12		3	7	3	2
Pasting & Mounting	27		12	1	6	5	4	3
Cardboard Construction	10	4	8		9	5	3	2
Model Villages, etc.	14	3	4		5	4	4	1
Block Printing	6	6	6		3	2	2	3
Stick Printing	3	6	5		3	3	2	2
Art Metal		1	3		1	1		1
Color Cement	2	1	2			1	1	2
Art Leather Work		4	3		2	1		2
Pine Needle Work		6	4		3	1	2	4
Bead Work		2	1			1	1	2
Gesso		4	2			1	2	2
Designing	12	7	14	1	1	1	1	6
Stenciling	11	2	12	1		1	1	3
Box Furniture	9	3	2	1	8	1	4	4
Toy Making	16	5	4	1	10	4	7	4
Elementary Woodwork	8	4	1	1	2		2	3
Wood Carving	2	5	2	1	1	1	2	3
Cane & Rush Work			1		1	1		
Enameling	9	4	5		5	1	4	1
Elementary Book Binding	6	3	5		1	3	1	3
Free-hand Drawing	28		24		1	1	2	7
Mechanical Drawing	2	2	4		1	1	1	1

Table VIII. (Cont.)

Activities	A	B	Department in which training was received					C
	I am teaching	The program should include	Art	Home Economics	Industrial Arts or Manual Training	Primary Education	No specific training for these activities	Would like more training in
Sketching	13	3	14				1	5
Soap Sculpture	1		1					
Weaving								
Wood Finishing								
Upholstery								
Lettering								
Electricity								
Sheet Metal								
Cobbling								
Brush Making								

The activities were being correlated with other school subjects in twenty-eight of the schools reporting. In twenty of the schools reporting, a general study of occupations was included. A study of the sources of materials and of the history of the industries that furnish those materials, was included in the program of nineteen of the schools.

TABLE IX.

PERCENTAGE TABULATION OF THE ITEMS ON THE QUESTIONNAIRE AS REPORTED BY THE THIRTY-TWO CLASS-ROOM TEACHERS AND SUPERVISORS IN THE RURAL SCHOOLS.

Activities	A	B	Department in which training was received					C
	I, am teaching	The program should include	Art	Home Economics	Industrial Arts or Manual Training	Primary Education	No specific training for these activities	Would like more training in
Clay Modeling	53.2	15.6	25.		25.	15.6	15.6	15.6
Pottery	3.1	21.8	15.6		12.5		12.5	15.6
Basketry	25.	18.7	21.8		21.8		15.6	21.8
Reed Work	28.	12.5	21.8		18.7		15.6	15.6
Raffia	28.	15.6	25.		9.3	9.3	18.7	18.7
Paper Cutting	65.7		43.7		12.5	21.8	9.3	9.3
Paper Tearing	68.9		37.6		9.3	21.8	9.3	6.2
Pasting & Mounting	84.5		37.6	3.1	18.7	15.6	12.5	9.3
Cardboard Const.	31.2	12.5	25.		28.	15.6	9.3	6.2
Model Villages	43.7	9.3	12.5		15.6	12.5	12.5	3.1
Block Printing	18.7	18.7	18.7		9.3	6.2	6.2	9.3
Stick Printing	9.3	18.7	15.6		9.3	9.3	6.2	6.2
Art Metal		3.1	9.3		3.1	3.1		3.1
Color Cement	6.2	3.1	6.2			3.1	3.1	6.2
Art Leather Work		12.5	9.3		6.2	3.1		6.2
Pine Needle Work		18.7	12.5		9.3	3.1	6.2	12.5
Bead Work		6.2	3.1			3.1	3.1	6.2
Gesso		12.5	6.2			3.1	6.2	6.2
Designing	37.6	21.8	43.7	3.1	3.1	3.1	3.1	18.7
Stenciling	34.4	6.2	37.6	3.1		3.1	3.1	9.3
Box Construction	28.	9.3	6.2	3.1	25.	3.1	12.5	12.5
Toy Making	50.	15.6	12.5	3.1	31.2	12.5	21.8	12.5
Elementary Woodwk.	25.	12.5	3.1	3.1	6.2		6.2	9.3
Wood Carving	6.2	15.6	6.2	3.1	3.1	3.1	6.2	9.3
Cane & Rush Work			3.1		3.1	3.1		
Enameling	28.	12.5	15.6		15.6	3.1	12.5	3.1
Elementary Book Binding	18.7	9.3	15.6		3.1	9.3	3.1	9.3

Table IX. (Cont.)

Activities	A	B	Department in which training was received					C
	I am teaching	The program should include	Art	Home Economics	Industrial Arts or Manual Training	Primary Education	No specific training for these activities	Would like more training in
Free-hand Drawing	87.5		75.		3.1	3.1	6.2	21.8
Mechanical Drawing	6.2	6.2	12.5		3.1	3.1	3.1	3.1
Sketching	40.7	9.3	43.7				3.1	15.6
Soap Sculpture	3.1		3.1					
Weaving								
Wood Finishing								
Upholstery								
Lettering								
Electricity								
Sheet Metal								
Cobbling								
Brush Making								

The activities were being correlated with other school subjects in 87.5 of the schools reporting. In 62.5 of the schools reporting, a general study of the occupations was being included. A study of the sources of materials and the history of the industries that furnish those materials, was included in the program of 59.5 of the schools.

A study of Tables VIII and IX for the rural schools brings to light the following relationships:

1. Under the heading "I am teaching" we find the numbers or percentages which will show the order of importance. Free-hand drawing heads the list with twenty-eight cases, 87.5% of the thirty-two teachers reporting.
2. By comparing the columns showing the department in which training was received, the Industrial Arts department leads with the following activities in the order of their importance.

Toy Making
Model Villages
Cardboard Construction
Box Furniture
Elementary Woodwork

3. The "Art" and the "Industrial Arts" departments are of equal importance in training for

Clay Modeling
Enameling
Basketry

4. For Reed Work, the "Art" and "Industrial Arts" departments stand seven to six in favor of "Art" training.
5. As was the case with the training for the activities of the city group, (Tables VI and VII) the "Home Economics" department had a negligible part in the training.

6. Taken as a whole, the "Primary Education" department had more part in training for the activities of rural teachers than for the city teachers.

A comparison of Tables VI and VII with Tables VIII and IX shows the order of relative importance of the activities to be pretty much the same for both the city and rural groups. Especially is this true for the first few on the list. There is, however, more disagreement on those toward the lower end of the list.

It will be noted that except for Soap Sculpture, the items added to the original list of activities on the questionnaire do not appear to be taught in the rural group. This substantiates the earlier statement that this group probably does not belong in the expressional hand-work list but is a part of the technical industrial arts program.

The percentages on most of the activities run higher for the rural group which would seem to indicate that there is more emphasis placed upon hand-work in the rural schools than in the city schools. While the percentages are higher for the activities reported by the rural group, there are fewer activities taught in the rural schools.

By combining the score from the cities and the rural schools on the activities for which training was received mostly in the industrial arts department (See Tables VI

to IX), it is possible to make a further selection of activities which it seems feasible to include in the industrial arts program.

The combined scores are given below:

Activities		Training received in		
		Art Dept.	Industrial Arts Dept.	Primary Ed. Dept.
Toy Making	*	12	15	7
Elementary Woodwork		1	21	2
Box Furniture	*	6	16	7
Wood Carving	**	4	5	1
Brush Making	*		4	
Raffia	#	17	12	6
Reed Work	**	15	14	7
Pine Needle Work	**	7	6	2
Color Cement	#	4	2	2
Mechanical Drawing	#	15	10	1
Basketry	**	21	19	7
Enameling	**	13	12	1
Model Villages	**	12	11	15
Cardboard Construction	#	23	16	11
Clay Modeling	#			

*Indicates activities that are clearly allocated to the Industrial Arts Department on the basis of frequency of training received by the teachers reporting.

**Borderline cases, with the weight of opinion generally in favor of industrial arts training.

#Questionable, either in terms of insufficient cases or debatable ground.

From this tabulation of combined scores, it is concluded that the technical industrial arts program of institutions training teachers for the grades can render a very definite contribution to the training of expressional hand-work teachers in grades I to VIII. The principal contribution, as judged on the basis of training experiences

of teachers now employed in the expressional hand-work, would be through courses in:

Toy Making
Elementary Woodwork
Box Furniture
Wood Carving
Brush Making

The borderline cases in which the "Industrial Arts" and the "Art" departments make about equal contribution would include:

Reed Work
Pine Needle Work
Basketry
Enameling
Model Villages

"Mechanical Drawing", while listed in the questionable group, is usually taught as a technical industrial arts subject, and would be doubtfully included as a part of the expressional work for grades one to six. Even when given, it is about universally reserved for the upper grades and then takes a technical flavor.

TABLE X.

SHOWING THE FREQUENCY WITH WHICH ANY ONE ACTIVITY OCCURS IN RELATION TO THE OTHERS IN EACH OF THE EIGHT GRADES OF THE CITY GROUP. THE RESULTS ARE SHOWN IN BOTH NUMBERS AND PER CENTS.

Activities Taught	Distribution in the Grades															
	1		2		3		4		5		6		7		8	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Clay Model.	18	78	19	70	10	41	8	34	3	16	3	17	3	12	2	8
Pottery			4	14	3	12	2	8								
Basketry			1	3	1	4	1	4	1	5	1	5			1	4
Reed Work			1	3	1	4	1	4								
Raffia			2	7	1	4	1	4							1	4

Table X. (Cont.)

Activities Taught	Distribution in the Grades															
	1		2		3		4		5		6		7		8	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Paper Cut.	20	87	26	96	20	83	17	74	12	63	12	67	7	29	6	23
Paper Tear.	15	65	20	74	14	58	7	30	1	5	2					
Pasting & Mounting	20	87	21	78	20	83	19	82	16	84	14	78	10	42	10	38
Cardboard Construct.	9	39	11	41	10	41	12	52	5	26	8	44	6	25	5	19
Model Vil.	5	21	13	48	7	29	9	39	5	21	6	33	2	8	3	11
Block Print.	1	4	2	7	1	4	6	26	7	37	5	28	9	37	11	42
Stick Print.	7	30	9	33	6	25	5	21	3	16	2	11	2	8	2	8
Art Metal															1	4
Color Cem.																
Art Leather																
Pine Needle					1	4			1	5						
Bead Work																
Gesso													1	4	2	8
Designing	9	39	13	48	10	41	12	52	12	63	13	72	13	54	13	50
Stenciling	3	13	3	11	4	16	4	17	2	10	2	11	5	21	5	19
Box Furn.	9	39	7	26	5	20	4	17			1	5	3	12	1	4
Toy Making	7	30	10	37	7	29	6	26	4	21	3	17	5	21	5	19
Elementary																
Woodwork	2	8	4	14	1	4							6	25	6	23
Wood Carv.									1	5	2	11	4	17	3	11
Cane & Rush Work																
Enameling	1	4	2	7	1	4	4	17	3	16	1	5	2	8	4	15
Elementary Book Bind.	1	4	2	7	2	8	4	17	5	26	3		5	21	7	27
Free-hand Drawing	22	95	25	92	21	87	20	87	17	89	16	89	16	67	16	62
Mechanical Drawing											1	5	8	33	7	27
Sketching	4	17	7		6	25	9	39	10	53	10	56	13	54	12	46
Soap Scul.			1	3					1	5	1	5	1	4	1	4
Weaving																
Wood Fin.													1	4		
Upholster.													1	4		
Lettering	1	4	1	3	2	8	2	8	3	16	2	11	2	8	2	8
Electric.													2	8	2	8
Sheet Metal													2	8	2	8
Cobbling																
Brush Mak.													1	4	1	

TABLE XI.

SHOWING THE FREQUENCY WITH WHICH ANY ONE ACTIVITY OCCURS IN RELATION TO THE OTHERS IN EACH OF THE EIGHT GRADES OF THE RURAL GROUP. THE RESULTS ARE SHOWN IN BOTH NUMBERS AND PER CENTS.

Activities Taught	Distribution in the Grades															
	1		2		3		4		5		6		7		8	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Clay Model.	13	68	10		4	25	4	22	4	20	3	15	3	16	3	17
Pottery							1	5	1	5	1	5				
Basketry							5	27	7	35	5	25	4	22	3	17
Reed Work	1	5	1	5	2	12	5	27	6	30	5	25	5	27	3	17
Raffia	3	15	3	17	4	25	7	38	6	30	5	25	5	27	3	17
Paper Cut.	17	89	15	88	12	75	10	55	12	60	9	45	7	38	6	35
Paper Tear.	14	73	12	70	10	62	7	38	7	35	5	25	4	22	3	17
Pasting & Mounting	15	79	14	82	13	81	12	66	13	65	13	65	11	61	10	58
Cardboard Construct.	9	26	10	58	10	62	9	50	7	35	8	40	4	22	4	23
Model Villages, etc.	5	47	5	29	7	43	7	38	5	25	7	35	6	33	5	29
Block Print.	1	5	2	11	3	18	4	22	5	25	5	25	4	22	4	23
Stick Print.	1	5	1	5	2	12	2	11	2	10	2	10	2	11	2	11
Art Metal																
Color Cement													2	11	2	11
Art Leather Work																
Pine Needle Work																
Bead Work																
Gesso																
Designing	5	26	4	23	7	43	8	44	8	40	8	40	8	44	8	47
Stenciling	5	26	6	35	9	56	7	38	8	40	7	35	6	33	6	33
Box Furn.	4	21	5	29	6	37	5	27	7	35	5	25	5	27	5	29
Toy Making	6	31	7	41	7	43	9	50	11	55	10	50	10	55	8	47
Elementary Woodwork	4	21	4	23	4	25	5	27	5	25	6	30	7	38	5	29
Wood Carv.	1	5	1	5	1	6	1	5	2	10	2	10	1	5	1	5
Cane & Rush Work																
Enameling	2	11	3	17	5	31	5	27	8	40	8	40	8	44	8	47
Elementary Book Bind.	1	5	1	5	2	12	3	16	3	15	3	15	4	22	3	17
Free-hand Draw.	18	94	17	100	16	100	18	100	19	95	19	95	17	94	16	94
Mechanical Draw.									1	5	1	5	1	5	2	11
Sketching	4	21	6	31	8	50	9	50	9	45	9	45	6	33	7	41
Soap Scul.											1	5	1	5	1	5

Table XI. (Cont.)

Activities Taught	Distribution in the Grades															
	1		2		3		4		5		6		7		8	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Weaving																
Wood Fin.																
Upholster.																
Lettering																
Electricity																
Sheet Metal																
Cobbling																
Brush Mak.																
No. cases re- porting in each grade	19		17		16		18		20		20		18		17	

Tables X and XI, showing the frequency with which any one activity occurs in relation to the others, in each of the eight grades, furnish an index as to what should be the subject-matter content in training teachers for the various grades. The activities may be arranged in four groups.

A. Activities in which primary teachers should be trained - grades 1, 2, and 3:

1. Clay Modeling
2. Paper Cutting
3. Paper Tearing
4. Pasting & Mounting
5. Cardboard Construction
6. Stick Printing

B. Activities especially frequent in the intermediate grades and for which teachers of these grades should be trained:

1. Pottery
2. Basketry
3. Reed Work

4. Raffia
5. Pine Needle Work

C. Those activities in which teachers of the seventh and eighth grades should be trained:

- *Wood Finishing
- *Upholstering
- *Color Cement
- *Mechanical Drawing
- Soap Sculpture
- Gesso
- *Art Metal
- *Elementary Woodwork
- *Wood Carving
- *Electricity
- *Cobbling
- *Brush Making
- *Sheet Metal

D. Activities reported by the teachers as occurring in all the grades to about an equal degree. For these, all grade teachers should be trained.

1. Pasting & Mounting
2. Cardboard Construction
3. Model Villages
4. Block Printing
5. Designing
6. Elementary Woodwork
7. Stenciling
8. Box Furniture
9. Enameling
10. Wood Carving
11. Free-hand Drawing
12. Sketching
13. Lettering
14. Toy Making
15. Elementary Book Binding

*These subjects are of such nature that it is usually conceded they will require a special teacher and equipment not ordinarily possible with the regular classroom teacher and equipment.

TABLE XII.

ACTIVITIES THAT "SHOULD BE INCLUDED" IN THE EXPRESSONAL
INDUSTRIAL ARTS PROGRAM AS RATED BY TEACHERS NOT NOW
TEACHING THESE ACTIVITIES.

[illegible]

Table XII. (Cont.)

Activity	City								Rural							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Upholstery																
Lettering																
Electricity							1	1								
Sheet Metal							1	1								
Cobbling																
Brush Mak.																
No. cases reporting	18	19	16	14	13	11	16	16	13	13	13	14	15	15	11	11

Table XII supplements Tables X and XI in that it gives opinions on various activities as expressed by teachers not now teaching those activities as a part of the program. Only those cases other than the ones being taught were used in this tabulation. For example, when a teacher was teaching clay modeling in grades 1, 2, and 3, and also indicated "it" should be included in those same grades, such a case was not counted. On the other hand, if this same teacher said it should be taught in the 6th and 7th grades, it was counted for those grades in which she was not teaching.

There is a very close agreement between what teachers thought the program should include and the grades in which the various activities should be taught, and the grades in which they are actually being taught. The possible exceptions are: Cardboard Construction and Color Cement, which would seem to belong more to the intermediate grades; Pottery, Basketry, and Enameling, to the upper grades; and

Reed Work and Raffia in all grades.

TABLE XIII.

ACTIVITIES BEING TAUGHT BY TEACHERS HAVING NO SPECIFIC TRAINING; AND ACTIVITIES IN WHICH ADDITIONAL TRAINING IS DESIRED.

Activities	Cities				Rural			
	(1)	(1-a)	(2)	(2-a)	(1)	(1-a)	(2)	(2-a)
Clay Modeling	7	18.4	7	24.8	3	17.5	4	26.7
Pottery	2	20.	10	17.	1	100.	5	16.1
Basketry	2	15.4	5	8.9	1	12.5	7	29.
Reed Work			4	6.6	2	22.1	4	17.4
Raffia	1	10.	4	6.8	5	55.5	4	17.4
Paper Cutting	5	9.2	1	6.7	3	11.1		
Paper Tearing	2	5.	1	3.3	3	13.6		
Pasting & Mount.	5	9.8			4	17.8		
Cardboard Const.	6	18.7	1	2.7	2	12.5	4	25.
Model Villages	6	20.	2	5.1	2	14.3	5	27.7
Block Print.	5	20.	5	14.1			3	11.5
Stick Print.	1	4.7	4	8.3			4	13.8
Art Metal			10	15.			2	6.3
Color Cement			7	10.1			1	3.3
Art Leather Work			7	10.7			6	18.7
Pine Needle Work	1	25.	5	7.7			4	12.5
Bead Work	1	33.3	2	3.4			2	6.2
Gesso	2	22.	3	5.			4	12.5
Designing	4	11.1	4	17.4			6	30.
Stenciling	1	7.1	4	7.1	1	9.1	2	9.5
Box Furniture	2	10.	4	8.2	3	33.3	4	17.4
Toy Making	9	31.	5	13.7	7	43.7	4	25.
Elementary Wood-work	2	9.5	7	14.5	2	25.	6	25.
Wood Carving	1	11.1	6	10.			5	16.6

Column (1) shows the number of times any activity is being taught by teachers having no specific training in that activity.

Column (1-a) indicates the percentage of untrained teachers as compared to the total number of teachers in that activity.

Column (2) shows the number of teachers not teaching the activities but who indicated a desire for more training in them.

Column (2-a) is the per cent these teachers are of the number not teaching the activity.

Table XIII. (Cont.)

Activities	Cities				Rural			
	(1)	(1-a)	(2)	(2-a)	(1)	(1-a)	(2)	(2-a)
Cane & Rush Work			2	3.2			1	3.5
Enameling	6	31.6	3	6.	3	33.3	2	8.7
Elementary Book Binding	2	11.1	10	19.6			4	15.4
Free-hand Draw.	2	3.4	1	9.1	2	71.5	1	25.
Mechanical Draw.			5	8.8			2	6.6
Sketching			4	11.4	1	7.7	2	10.5
Soap Sculpture								
Weaving			1		1.4			
Upholstery								
Lettering								
Electricity	1	50.						
Sheet Metal	1	50.						
Cobbling								
Brush Making								

Those activities for which ten per cent or over of the teachers had not been trained are as follows:

<u>Cities</u>		<u>Rural</u>	
*Electricity	50%	*Pottery	100%
*Sheet Metal	50	Free-hand Draw	71
Bead Work	33	Raffia	55
Toy Making	31	Toy Making	44
Enameling	31	Box Furniture	33
*Pine Needle Work	25	Enameling	33
Gesso	22	Elementary Woodwk.	25
Pottery	20	Reed Work	22
Model Villages	20	Pasting & Mount.	18
Block Printing	20	Clay Modeling	18
Cardboard Const.	19	Model Villages	14

<u>Cities</u>		<u>Rural</u>	
Clay Modeling	18%	Paper Tearing	14%
Basketry	15	*Basketry	13
Designing	11	Cardboard Const.	13
*Wood Carving	11	Paper Cutting	11
*Raffia	10		
Pasting & Mount.	10		
Box Furniture	10		
Elementary Woodwk.	10		

*Cases too few to be of value.

In columns (2) and (2-a) of Table XIII are the numbers and per cents of teachers not teaching the various activities but wishing more training in them. This tabulation is of value in that it gives the opinion of teachers not teaching the activities as to what, in their minds, is of importance.

For the city group we find that ten per cent or over of the teachers wish more training in:

Clay Modeling	25%	Elementary Woodwk.	14%
Elementary Book Binding	20	Toy Making	14
Pottery	17	Sketching	11
Designing	17	Color Cement	10
Art Metal	15	Art Leather Work	10
Block Printing	14	Wood Carving	10

The rural group gives the following list of activities in which more training is desired:

Designing	30%	Raffia	17%
Basketry	29	Box Furniture	17
Model Villages	28	Wood Carving	17
Clay Modeling	27	Pottery	16
Cardboard Const.	25	Elementary Book Binding	15
Toy Making	25	Stick Printing	14
Elementary Woodwk.	25	Pine Needle Work	13
Free-hand Drawing	25	Gesso	13
Art Leather	19	Block Printing	12
Reed Work	17	Sketching	11
		Stenciling	10

It will be noted that for the rural group there are more activities in which training is desired. This would indicate that rural teachers as a group are untrained in most of these activities and that in the rural school there is a greater demand for hand-work.

In columns (1) and (1-a) of Table XIII are given the number and per cent of teachers who are teaching activities for which they have received no specific training. Only those cases were included in the tabulation that indicated on the questionnaire that they had received no training.

Another large group failed to indicate whether its members had received specific training or not. We would

probably be safe in assuming that the majority of these cases had not been trained. However, for the sake of exactness it was thought best not to include this latter group in the tabulation. There is little doubt, had they been included, the number and per cent of those teaching activities for which they had not been trained, would have been higher.

TABLE XIV.

SHOWING THE RELATIVE FREQUENCY WITH WHICH EACH ACTIVITY OCCURS IN EACH OF THE GRADES.
THE COLUMN MARKED (%) GIVES THE PER CENT OF TEACHERS TEACHING THE VARIOUS ACTIVITIES
AS COMPARED WITH THE TOTAL NUMBER OF TEACHERS REPORTING.

Activities	Cities									Rural								
	1	2	3	4	5	6	7	8	%	1	2	3	4	5	6	7	8	%
Clay Modeling	21	19	11	9	4	5	3	2	33	14	12	5	4	4	3	3	4	33
Pottery	4	3	2						4				1	1	1			2
Basketry		1	1	1	1	2		1	3				6	7	5	4	4	16
Reed Work		1	1	1					1	1	1	2	6	6	5	6	4	19
Raffia		2	1	1				1	2	3	3	5	8	6	5	6	4	25
Paper Cutting	23	26	22	20	17	18	8	6	64	18	18	15	11	12	9	8	7	60
Paper Tearing	17	20	16	8	1	3			33	15	16	12	8	7	5	4	4	44
Pasting & Mounting	23	21	22	22	23	21	11	11	70	16	18	16	13	13	13	12	12	70
Cardboard Construct.	10	11	10	14	7	12	7	5	36	10	11	12	10	7	8	4	5	42
Model Villages	6	13	8	10	7	9	2	3	27	5	6	9	8	5	7	7	6	33
Block Printing		2	1	7	10	8	10	12	22	1	2	4	4	5	5	4	5	19
Stick Printing	8	9	7	6	4	3	2	2	18	1	1	2	2	2	2	2	2	9
Art Metal								1										
Color Cement																2	2	3
Art Leather																		
Pine Needle Work			1		1	2			2									
Bead Work																		
Gesso							1	2	1									
Designing	10	13	17	14	11	19	15	14	51	5	5	9	9	8	8	9	9	39
Stenciling		3	4	5	3	3	6	5	13	5	7	11	8	8	7	7	7	37
Box Furniture	10	7	6	5		2	3	1	16	4	6	7	6	7	5	6	6	29
Toy Making	8	10	8	7	6	5	6	5	25	6	8	9	10	11	10	11	9	41
Elementary Woodwork	2	4	1				7	8	9	4	5	5	6	5	6	8	6	28
Wood Carving					1	3	4	3	5	1	1	1	1	2	2	1	1	6
Cane & Rush Work																		
Enameling	1	2	1	5	4	2	2	4	9	2	4	6	6	8	8	9	9	32
Elementary Book Bind.	1	2	2	5	7	4	6	8	16	1	2	3	3	3	3	4	4	13

Table XIV. (Cont.)

Activities	Cities										Rural									
	1	2	3	4	5	6	7	8	%	1	2	3	4	5	6	7	8	%		
Free-hand Drawing	25	25	23	23	24	24	18	17	82	19	20	20	19	19	19	19	19	97		
Mechanical Drawing						2	9	8	9					1	1	1	2	3		
Sketching	5	7	7	10	14	15	14	13	38	4	7	10	10	9	9	7	8	40		
Soap Sculpture		1			1	2	1	1	3						1	1	1	2		
Weaving																				
Wood Finishing							1													
Upholstering							1													
Lettering	1	1	2	2	4	3	2	2	7											
Electricity							2	2	2											
Sheet Metal							2	2	2											
Cobbling																				
Brush Making							1	1	1											

Table XIV serves as a further check on data presented in Tables X and XI, and also furnishes a direct means of comparing the over-all importance that may be attached to any one activity as judged by the frequency of offering in the first eight grades. The last column under each of the two groupings - Cities and Rural - indicates the relative frequency in per cent of all teachers teaching the various activities as compared with the total number of teachers reporting.

Comparisons between these two columns, and between various items within the columns, will show:

1. The relative emphasis placed upon the various activities within either group - Urban and Rural.
2. The comparative emphasis between the two groups for any activity.
3. The activities of the expressional industrial arts type that should receive most emphasis in the training of teachers for the rural schools, as compared with teachers in city systems.

Since there were an unequal number of cases reported in each grade (See Tables X and XI), a more accurate basis for comparing the importance of the activities can be had by prorating the frequency of the activities in each grade so that they will be comparable to those of the grade in which the greatest number of cases was reported. For

example, in the city group the greatest number of cases reported was twenty-seven, in the second grade. In the sixth grade, there are eighteen cases reported. Since twenty-seven is one and one-half times eighteen, all activities in the sixth grade were increased by one-half. The frequencies for all other grades of the city and rural groups were prorated in a like manner wherever necessary.

From a study of Table XIV the activities may be arranged in the order of their importance, judging from the per cent of teachers teaching them.

Following is the list of activities thus arranged for the city group:

1. Free-hand Drawing
2. Pasting & Mounting
3. Paper Cutting
4. Designing
5. Sketching
6. Cardboard Construction
7. Clay Modeling
- Paper Tearing _____ Q₃
8. Model Villages
9. Toy Making
10. Block Printing
11. Stick Printing
12. Box Furniture
- Elementary Book Binding
13. Stenciling
14. Elementary Woodwork _____ Q₂
- Enameling
- Mechanical Drawing
15. Lettering
16. Wood Carving
17. Pottery
18. Basketry
- Soap Sculpture
19. Raffia _____ Q₁

- Pine Needle Work
- Electricity
- Sheet Metal
- 20. Reed Work
- Gesso
- Brush Making
- 21. Art Metal

Following is a similar arrangement of the activities for the rural group.

- 1. Free-hand Drawing
- 2. Pasting & Mounting
- 3. Paper Cutting
- 4. Paper Tearing
- 5. Cardboard Construction
- 6. Toy Making _____ Q₃
- 7. Sketching
- 8. Designing
- 9. Stenciling
- 10. Model Villages
- 11. Enameling
- 12. Clay Modeling
- 13. Box Furniture _____ Q₂
- 14. Elementary Woodwork
- 15. Raffia
- 16. Reed Work
- Block Printing
- 17. Basketry
- 18. Elementary Book Binding _____ Q₁
- 19. Stick Printing
- 20. Wood Carving
- 21. Color Cement
- Mechanical Drawing
- 22. Pottery
- Soap Sculpture

The upper quartile for the cities falls between "Paper Tearing" and "Model Villages". The lower quartile falls between "Raffia" and "Pine Needle Work".

For the rural schools the upper quartile falls between "Toy Making" and "Sketching", and the lower quartile between "Basketry" and "Elementary Book Binding".

Electricity, Pine Needle Work, Sheet Metal, Pottery, Gesso, Brush Making, Art Metal, and Color Cement, are the activities that appear only in the lower quarter of either group. It would hardly seem advisable to train teachers for these seldom used activities unless there was some special reason for so doing.

IV. CONCLUSIONS

1. From the data presented with reference to the present training of classroom teachers capable of handling expressional industrial arts in the grades, it appears that the program of the technical industrial arts department of institutions training teachers for the grades might well include the following courses:

Toy Making	Basketry
Elementary Woodwork	Enameling
Box Furniture	Model Villages

2. Elementary Woodwork should probably be reserved, at least in its technical phases, for the upper grades only. The other activities named above should be taught, in one form or another, in practically all the grades.
3. There is a very close agreement between the teachers who are and those who are not teaching the activities, as to what grades the activities belong.

4. Teacher-training institutions are not meeting their obligations in training classroom teachers for the elementary industrial arts work. See Table XIII. Forty-nine per cent of the city teachers and fifty per cent of the rural teachers are teaching expressional hand-work without preparation. The percentage runs higher all the way through for the rural teachers.
5. The number of teachers desiring more training in the more essential activities runs from ten to twenty-five per cent for the cities, and from ten to thirty per cent for the rural teachers. A number of teachers wish training in Art Metal, Art Leather, Color Cement, and Wood Carving, the less frequently occurring activities. Training desired in these activities is probably due to the possibility of their application as personal hobbies.
6. The activities for which the technical industrial arts department should be given responsibility and the per cent of teachers teaching them without training, are as follows:

	<u>Cities</u>	<u>Rural</u>
Toy Making	31%	44%
Elementary Woodwork	10	25
Box Furniture	10	33
Basketry	15	13
Enameling	31	33

	<u>Cities</u>	<u>Rural</u>
Model Villages	20%	14%

7. The per cent of teachers desiring more training in these same activities is as follows:

	<u>Cities</u>	<u>Rural</u>
Toy Making	14%	25%
Elementary Woodwork	14	25
Box Furniture	--	17
Basketry	--	29
Enameling	--	--
Model Villages	--	28

8. The activities for which teacher-training should be given in the industrial arts department, arranged in the order of their importance are:

Model Villages	Elementary Woodwork
Toy Making	Enameling
Box Furniture	Basketry

With the exception of Basketry, which belongs more specifically to the intermediate and upper grades, and the technical phases of Elementary Woodworking, which should probably be reserved for the seventh and eighth grades, all of these activities should be taught to about the same extent in all grades.

9. It is evident that where activities are included in the training program, a method of correlation with other school subjects should be taught in connection with those activities. The same can be said of occupational information and a study of the history and sources of materials. (VI to IX).

In conclusion, it may fairly be stated that expressional hand-work holds an important place in the grade school program. While many of the present teachers are called upon to handle expressional hand-work activities with little or no specific training in the work involved, there is a strong desire on the part of most teachers to receive the training that would increase their effectiveness in such cases.

The training can be had in some cases from the "Art" department, in others from the "Primary Education" department, and in still others from the "Industrial Arts" department. Certain activities are peculiarly suited to the latter department, as shown in Tables VI to IX and XIV.

It seems evident, therefore, that the industrial arts departments of institutions training teachers for the grades should include certain subject-matter courses designed primarily for the training of those class-room teachers who will be called upon to give expressional hand-work in grades I to VIII. Such courses as have been mentioned on pages 34, 35, and 54, will combine readily with the technical industrial arts courses now considered essential to the training of the special industrial arts teacher for the secondary schools, and will make possible a stronger

program of training for the class-room teachers of the grades, at a minimum cost to the institutions concerned.

- The End -

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