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A STUDY OF 43 PUBLIC SCHOOL PRINTING DEPARTMENTS
LOCATED IN SEVEN UPPER MIDWEST STATES

BY

CLYDE W. MILLER

A thesis submitted
in partial fulfillment of the requirements for the
degree Master of Science, Department of Printing
and Journalism, South Dakota State
College of Agriculture
and Mechanic Arts

March, 1963

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A STUDY OF 43 PUBLIC SCHOOL PRINTING DEPARTMENTS

LOCATED IN SEVEN UPPER MIDWEST STATES

This thesis is approved as a creditable, independent investigation by a candidate for the degree, Master of Science, and is acceptable as meeting the thesis requirements for this degree, but without implying that the conclusions reached by the candidate are necessarily the conclusions of the major department.

Thesis Adviser

Head of the Major Department

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Table listing various categories and page numbers, including 'CWM' and 'Total' entries.

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CHAPTER I

INTRODUCTION

Purpose of Study

This printing education topic was selected to obtain information about high school printing laboratories in the Upper Midwest for the benefit of school officials and printing teachers. (The Upper Midwest was defined to include the states of Wisconsin, Iowa, Minnesota, North Dakota, South Dakota, Nebraska, and Montana. These states, except Wisconsin, border on South Dakota.)

This study was made to enable interested school officials, printing teachers, and prospective printing teachers to determine the 1960 status of printing education in the study area. Matters considered in the study were curriculum classifications, size of high schools, number of teachers, printed forms produced, printing department enrollment, job placement services, and school newspaper production method.

To meet the needs of the growing population and the expanding industrial and agricultural economy of the area, high schools have developed three general curriculum classifications: general education, vocational training, and adult education (13-7).* This study has investigated the role of the high school printing laboratory in meeting

*All citations used in the thesis refer to the appropriate work listed in Literature Cited and the page number of that work which is pertinent to the matter being discussed. The first number refers to the entire work. The second figure, that following the hyphen, is the page number.

student needs in these three curriculum classifications, each of which will be defined later.

Printing laboratory work involving both practical printing experience and actual printing production were investigated. Examples of such work would be producing the school newspaper and printed forms for school use.

After the students have completed the printing curriculum, the system of placement is a factor in successfully meeting community needs for the curriculum. The extent and nature of such placement activities should be of interest to school officials, printing teachers, and industry leaders.

The study will show the number of schools offering instruction in the various areas of letterpress and offset printing, as determined by responses to a questionnaire. The study of production in the schools' laboratories will present the approximate number of printed forms produced by letterpress and offset processes. The school newspaper production method will be shown also.

The number of students having the opportunity to study letterpress and offset printing processes as well as the curriculum classification will be given.

School officials, printing teachers, prospective printing teachers, and printing curriculum planners may find this study helpful in planning a printing curricula.

Importance of Study

Commercial printing, one of the nation's major industries, is essential to commerce, science, the arts, education, and government.

Since World War II, the lithographic, or offset printing process, has considerably increased in use in printing shops. Although letterpress printing is the dominant method of printing, offset lithography has made inroads in the field of graphic reproduction (5-25). The United States Department of Labor reports that offset printing has become the third largest segment of the printing industry (12-392).

The Department of Labor lists several divisions of the printing industry which may be grouped as follows: commercial print shops, newspaper shops, lithographic shops, specializing shops which print books, magazines and business forms, gravure shops, and silk screen process shops (12-392).

The industry's largest segment is commercial shops, which number 12,000. The next largest segment is the newspaper industry, with approximately 1,800 daily newspapers and 9,000 weekly shops which do their own printing. Lithography shops comprise the third largest segment in the industry. Although the silk-screen process is increasing in importance, it is used much less extensively than are letterpress, lithography, and gravure.

The 1959 national receipts for commercial printing (excluding lithography) were \$2,696,714,000. Receipts for lithographic printing for the same year were \$1,465,323,000 (14-67).

Gerard H. Cormier, an economist with the United States Department of Labor, estimates 12 per cent more workers would be needed in the printing industry in the United States by 1965 because of economic growth. He further estimates an additional 12 per cent will be needed by that date because of normal retirements (1-10).

No centrally compiled figures are available on the number or location of printing schools in the states under investigation, nor is there any data concerning curricula, placement, or production performed in the printing schools in these states. It should be important to educators in college printing departments, as well as to others interested in vocational education, to have this resource material.

Comparisons with Previous Studies

This study attempted to investigate the present role of high school printing departments in training students to meet the needs of the printing industry.

Although it would seem that the growth of offset printing and the improved wage rates in the field may have provided opportunity for high school printing departments to direct placement toward offset printing, a 1951 survey of placement needs for Kansas printing shops did not list offset printing as a process that high school printing students should be required to learn (15). Some employers in the survey, however, did indicate a desire to have offset printing instruction.

C. H. Gardner, a printing teacher in a Lake County, Illinois, high school, made a placement study during 1950 in Lake County print shops. In surveying the equipment used in those print shops which

employed 30 or fewer persons. Gardner found that the offset-lithography process was being used in 8 of the 29 shops so included for that county (4-10).

Summary

The information presented in this study can serve as a basis for comparing curriculum classifications, number of semesters of printing courses offered, number of full-time and part-time teachers, number of forms printed, number of printing students enrolled in each class year, job placement procedures, general areas of instruction, and method of producing the school newspaper.

This study may also help school officials, printing teachers, and prospective printing teachers develop high school printing curricula and printing laboratory administration procedures.

General education, and post-high school adult education. A general education curriculum provides education growing out of those needs which are common to all students (11-7). Vocational training curricula are for those students whose occupations require that their vocationally directed programs be started in high school. Such programs can be continued after high school to post-high school or the first two years of college (11-10). An adult education curriculum is a program similar to the vocational training program in scope, but directed to the needs of the post-high school age student.

2. Total high school enrollment for the 1960-61 school year.
3. Number of semesters of printing courses available.
4. Number of full-time and part-time teachers.

CHAPTER II

METHODOLOGY

Questionnaire

A questionnaire was used to secure information from the teachers involved. Fifty-two questionnaires were mailed, and 43 responses were received--an 82.7 per cent response rate. The distances involved made personal interviews with teachers prohibitive.

The questionnaire was designed to investigate the general scope of the printing curriculum of each school rather than detailed to promote minor year-to-year changes in method and content.

Specifically, the survey investigated:

1. Classifications of printing instruction: vocational training, general education, and post-high school adult education. A general education curriculum provides education growing out of those needs which are common to all students (13-7). Vocational training curricula are for those students whose occupations require that their vocationally directed programs be started in high school. Such programs can be continued after high school to post-high school or the first two years of college (11-50). An adult education curriculum is a program similar to the vocational training program in scope, but directed to the needs of the post-high school age student.
2. Total high school enrollment for the 1960-61 school year.
3. Number of semesters of printing courses available.
4. Number of full-time and part-time teachers.

5. Number and method of production of forms printed for school, civic, charity, personal, business, or other use.

6. Number of students, by sex and class, enrolled in printing courses in high school and adult education classes.

7. Placement services.

8. Areas or departments of instruction--including composition, imposition, letterpress printing, offset, bindery, and management.

9. Revenue obtained from production work done for school or other use.

The questionnaire did not cover silk-screen and gravure printing. Although the silk-screen method is increasing in importance, it is generally produced in a specialty shop and not in most commercial shops. Gravure is also produced in specialty shops, and job placement would require many years of apprentice training. It is unlikely that high school printing graduates would find employment in gravure shops, because the process is too technical.

The questionnaire was prepared with the assistance of the thesis adviser, Prof. Paul H. Jess. When the questionnaire was completed, it was checked by a printing teacher in an Illinois community high school. He was selected to examine the questionnaire because he was known to the investigator, his school was not in the area studied, and he was associated with a printing program in a state close to the studied states. He suggested that an item to determine the status of the teaching of layout and design be included in the composition section of the questionnaire.

It was the objective of the questionnaire to investigate high school printing curricula in the seven states and the number of students and teachers connected with these curricula. The amount of revenue that might be obtained from other sources than direct allocations from the school administration was also investigated.

Questionnaire Distribution

A mailing list of 52 schools which had teachers of printing was established from information obtained from several sources. No complete list of printing schools could be found; therefore, the list used was not known to be complete.

The state department of public instruction for each state supplied an educational directory which listed teachers and subject matter taught by each teacher. By comparing these directories with the membership list of the International Graphic Arts Education Association, it was discovered that some members of the association were not included in the directories as printing teachers. Thus, it is possible that not all printing teachers are listed as such in the state directories.

The trade and industry section and the vocational and adult education section of the departments of public instruction also supplied directories that listed printing teachers and schools with printing instruction.

The Wisconsin Vocational and Adult Education Directory listed 37 schools (17). Iowa listed 38 (13); Minnesota, 37 (6); and South Dakota, 16 (2). Nebraska (9), North Dakota (10), and Montana (8) directories did not report this kind of school department separately.

Not all authorized vocational schools had printing courses, and not all schools having trade and industry aid had printing courses. Also, printing was taught in some schools that were not in the trade and industry or vocational and adult education groups. The net result of these situations was the lack of an available list of high schools that taught printing in the seven-state area.

A questionnaire was mailed to the printing teacher in each school in which a printing department was found. A questionnaire was sent directly to the printing teacher in a department if his name was known to the investigator. In those departments known to have more than one printing teacher, questionnaires were sent to all the teachers, but the "head printing teacher" only was asked to complete the form. "Head printing teacher" was the designation on the questionnaire in cases where the printing teacher's name was not known.

A duplicate questionnaire and second transmittal letter were sent to all departments which did not respond to the original mailing three weeks after the original questionnaire was sent. Approximately 10 more teachers responded after this second mailing.

Two printing teachers from Sheboygan, Wisconsin, responded after the second mailing. Only one department was known at the time of the original and duplicate mailings, but it developed that both Sheboygan North High School and Sheboygan South High School conducted separate printing classes.

The printing teacher at Waterloo, Iowa, East High School was the last to respond and failed to indicate total printing department

enrollment. A second request was made for this information, but no response was received.

Total high school enrollment information was obtained from the principal's office of each high school when this information was not reported on the questionnaire.

CHAPTER III

FINDINGS

Location, Total School Enrollment, Total Printing Enrollment, and Number of Printing Teachers

Printing teachers in the various schools were asked to report total high school enrollment, total printing enrollment (male and female), and number of full-time and part-time printing teachers.

Only 38 girls were enrolled in printing, so tabulations include male and female printing students combined.

To show the relative sizes of the various high schools that had printing curricula, total high school enrollment information was requested. A separate request was sent to the principals of those schools which did not supply this information.

Answers to the total school enrollment question revealed that total high school enrollment in the various schools did not contain identical student classifications, because three-year, four-year, and six-year high schools were included. Those schools which had adult education programs also included these students in the total school enrollment figure.

All schools to which the questionnaire was sent have been included in Tables 1 through 5.

Wisconsin Schools. Twenty-three schools in Wisconsin were found to have printing curricula; responses to the questionnaire were obtained from 17. Data are found on Table 1.

Table 1. Total 1960-61 School Enrollment, Total Printing Enrollment, and Number of Printing Teachers in the Wisconsin Schools in the Study

City, High school	Total school enrollment	Printing enrollment	Number of teachers
Appleton, Vocational High School	4216	50	1FT
Delavan, School for the Deaf	189	39	1FT
Green Bay, Vocational and Adult School	*	—	—
Kenosha, Mary D. Bradford High School	2400	48	2FT
LaCrosse, Vocational and Adult School	3860	24	2FT
Madison, Vocational and Adult School	9920	183	3FT 2PT
Madison, West High School	1417	90	1FT
Manitowoc, School of Vocational and Adult Education	1699	15	1FT
Menasha, Public and Adult School	760	141	1FT 1PT
Merrill, Senior High School	962	34	1FT
Milwaukee, Vocational and Adult School	*	—	—
Milwaukee, Custer High School	*	—	—
Milwaukee, Boys Trade and Technical High School	*	—	—
Neenah, High School	*	—	—
Oshkosh, School of Vocational and Adult Education	1700	72	2FT
Sheboygan, North High School	1094	28	1PT

Table 1. (Continued)

City, High school	Total school enrollment	Printing enrollment	Number of teachers
Sheboygan, South High School	1300	90	1FT
Spoooner, High School	*	—	—
Stevens Point, P. J. Jacobs High School	1008	60	1FT
Two Rivers, Washington High School	900	57	1FT
Wausau, School of Vocational and Adult Education	450	30	1FT
West Allis, Vocational High School	4800	21	1FT
Wisconsin Rapids, School of Vocational and Adult Education and Lincoln High School	2356	63	1FT
Total	38431	1045	

FT--Full time.

*Printing teacher did not return questionnaire.

There were 38,431 students enrolled in the 17 Wisconsin schools, and 1,045 of this number were enrolled in printing courses. The School for the Deaf had 189 high school students--the smallest total school enrollment in the Wisconsin group. The 15 printing students in the Menasha Public and Adult School comprised the smallest printing enrollment for any school in the Wisconsin group.

The largest total school enrollment, 9,920, as well as the largest printing enrollment, 183, was found at the Madison Vocational and Adult School. Three full-time and two part-time printing teachers

were employed at this school. These five teachers comprised the largest teaching group for the Wisconsin schools studied.

Eleven Wisconsin printing departments each had one full-time teacher of printing. Two of these departments had 90 printing students each, which was the largest enrollment for all schools with only one full-time teacher.

Other teaching arrangements found: one full-time, four part-time--1; two full-time--3; one full-time, one part-time--1.

Iowa Schools. The study found 11 Iowa schools to have printing curricula. Teachers from 10 departments returned the questionnaire. Data concerning Iowa schools are found in Table 2.

There were 16,028 high school students enrolled in the 10 Iowa schools, with a known printing department enrollment of 423.

Total high school enrollment ranged from a high of 3,280 at Sioux City Central High School to 114 at the School for the Deaf. The School for the Deaf, however, was the only Iowa high school in the study with fewer than 1,000 students enrolled.

All printing departments had one full-time teacher except Des Moines Technical High School which employed three full-time teachers.

The largest printing enrollment, 90 students, was found at Muscatine Senior High School which had only one full-time teacher.

Table 2. Total 1960-61 School Enrollment, Total Printing Enrollment, and Number of Printing Teachers in the Iowa Schools in the Study

City, High school	Total school enrollment	Printing enrollment	Number of teachers
Burlington, Senior High School	1200	30	1FT
Council Bluffs, Jefferson High School	1147	61	1FT
Council Bluffs, School for the Deaf	114	20	1FT
Davenport, Senior High School	3421	39	1FT
Des Moines, Technical High School	1540	71	3FT
Dubuque, Senior High School	1605	43	1FT
Fort Dodge, Senior High School	1521	44	1FT
Muscatine, Senior High School	1100	90	1FT
Ottumwa, Senior High School	*	—	—
Sioux City, Central High School	3280	25	1FT
Waterloo, East High School	1100	**	1FT
Total	16028	423	

FT--Full time.

*Printing teacher did not return questionnaire.

**Printing teacher did not report printing enrollment.

Minnesota Schools. Nine Minnesota high schools were found to teach printing. Eight of these schools were included in this study, with the data found on Table 3.

Total high school enrollment ranged from 310 at Eveleth High School to 3,086 at Austin High School. The Minnesota Educational Directory combined senior high and junior high school enrollment to

give total secondary school enrollment. This study did not determine how many, if any, of the eight schools surveyed actually included junior high school enrollment. Three schools claimed to have fewer than 1,000 students enrolled.

Table 3. Total 1960-61 School Enrollment, Total Printing Enrollment, and Number of Printing Teachers in the Minnesota Schools in the Study

City High school	Total school enrollment	Printing enrollment	Number of teachers
Austin, High School	3086	32	1FT
Duluth, Central High School	1251	8	1FT
Edina, Edina-Morningside High School	1250	117	2FT
Eveleth, High School	310	28	1FT
Minneapolis, Vocational High School and Technical Institute	1450	89	4FT
St. Cloud, High School	1910	51	1FT
St. Paul, Vocational School	*	—	—
Virginia, High School	576	19	1FT
Winona, High School	950	28	1FT
Total	10783	372	

FT--Full time.

*Printing teacher did not return the questionnaire.

Printing enrollment in the Minnesota schools ranged from eight students at Duluth Central High School to 117 at Edina-Morningside High School.

One full-time teacher was employed by each of the six printing departments, Edina-Morningside High School had two full-time teachers, and Minneapolis Vocational High School and Technical Institute each had four full-time teachers.

Nebraska Schools. Three high schools with printing curricula were found in Nebraska, and responses were obtained from printing teachers in all three. Data from the Nebraska schools are found in Table 4.

Table 4. Total 1960-61 School Enrollment, Total Printing Enrollment, and Number of Printing Teachers in the Nebraska Schools in the Study

City, High school	Total school enrollment	Printing enrollment	Number of teachers
Lincoln, High School	1700	85	1FT
Lincoln, Southeast High School	1000	70	1FT
Boys Town, High School	524	35	2FT
Total	3224	190	

FT--Full time.

Boys Town High School was the only privately supported high school in the entire study.

Both high schools in Lincoln had 1,000 students or more. The printing departments of these two schools had 85 and 70 students enrolled.

North Dakota, South Dakota, and Montana Schools. To facilitate tabulation, data from the high schools in these states were placed in one table. The schools are located in the larger cities of states which have agriculture as the principal industry. Data from these three states' high school printing departments are found in Table 5.

Table 5. Total 1960-61 School Enrollment, Total Printing Enrollment, and Number of Printing Teachers in the North Dakota, South Dakota, and Montana Schools in the Study

City, High school	Total school enrollment	Printing enrollment	Number of teachers
North Dakota			
Fargo, High School	1400	49	1FT
Grand Forks, High School	935	50	1FT 1PT
Total North Dakota	2339	91	
South Dakota			
Aberdeen, Central High School	1036	40	1FT
Sioux Falls, Washington High School	2368	41	1FT
Total South Dakota	3404	81	
Montana			
Great Falls, High School	1820	129	1FT
Kalispell, Flathead County High School	*	—	—
Total Montana	1820	129	

FT--Full time; PT--Part time.

*Printing teacher did not return the questionnaire.

All high schools in this group, with the exception of Grand Forks High School with 935 students, had more than 1,000 students enrolled.

Four of the five printing departments in this group each had one full-time teacher. The printing department at Grand Forks employed one full-time and one part-time teacher.

Average Printing Enrollment. The average printing enrollment for those Wisconsin printing departments with one full-time teacher was 49.9 students. Iowa printing departments averaged 44 students for one full-time teacher. Similar Minnesota printing departments averaged 27.6 students. North Dakota, South Dakota, and Montana printing departments averaged 64.8 students for one full-time teacher.

Printing department enrollment expressed as a percentage of total school enrollment ranged from 20.6 per cent at Wisconsin School for the Deaf to 0.4 per cent at West Allis Vocational School.

The ratio of total high school enrollment to printing department enrollment in the 43 schools was 100 to 2.9.

State and High School Class Total Printing Enrollment. There was a total of 2,339 printing students in this study. With the varying number of departments from each state, a direct total enrollment comparison by states was not given.

The first year high school enrollment was smallest, with 337 students enrolled. When possible, junior high school printing department enrollments were omitted in an attempt to keep the study at the senior high school and adult education level. State-by-state printing

enrollment is found in Table 6.

According to the educational directories, Wisconsin and Iowa high schools used both the four-year and three-year plans. Minnesota schools used three-year, four-year, and six-year plans.

Table 6. A State-by-State Listing of Printing Enrollment According to High School Class and Post High School

State	1st yr.	2nd yr.	3rd yr.	4th yr.	Ad. ed.	Total enrollment	Total schools
Wisconsin	240	219	198	208	180	1045	17
Iowa*	50	166	114	93		423	10
Minnesota	47	106	114	92	13	372	8
Nebraska		60	72	58		190	3
North Dakota		10	65	24		99	2
South Dakota		32	29	20		81	2
Montana		41	43	45		129	1
Total	337	634	635	540	193	2339	43

*Waterloo, Iowa, printing teacher did not submit printing enrollment.

Except for 13 adult students in Minnesota schools, Wisconsin schools reported the only adult education enrollment in printing.

Comparison of City Population and Total High School Enrollment.

Thirty-three high schools in this study had more than 1,000 students each and 10 had fewer than 1,000 as shown in Table 7.

The schools which responded to the survey were located in various size cities, with every city-size category represented by a school with

a printing department. Seven schools were located in cities with less than 15,000 population, and seven were located in cities in the 90,000 and over category. Largest representation in any city size was 11 schools in the 45,000 to 59,999 category. Each school enrollment category was also represented, with four departments in the 0 to 499 category and 8 departments in the over 2,000 category. Largest representation was 15 printing departments in the 1,000 to 1,499 category. These data show printing departments were located in all sizes of cities and schools. The table does show, however, that most of the printing departments were found in schools with at least 1,000 total enrollment. City population information was obtained from 1960 Bureau of Census figures in the 1961 World Almanac.

Table 7. Comparison of City Population and High School Enrollment in Cities and Schools Studied

City population*	School enrollment					Total
	0-499	500-999	1000-1499	1500-1999	2000 & over	
0** to 14,999	2	5	0	0	0	7
15,000 to 29,999	0	1	4	2	0	7
30,000 to 44,999	1	1	1	2	0	5
45,000 to 59,999	1	0	5	3	2	11
60,000 to 74,999	0	0	1	0	3	4
75,000 to 89,999	0	0	0	0	2	2
90,000 and over	0	0	4	2	1	7
Total	4	7	15	9	8	43

*World Almanac, New York World Telegram, 1961.

**Boys Town, Nebraska, is not incorporated.

In addition to the different number of classes included in total high school enrollments, some schools had forum classes and adult education short courses which increased total enrollment.

Educational Directory Classification of Schools and
Departments in the Study

The Wisconsin Educational Directory listed both general education and vocational high schools. In addition to this Educational Directory, the Wisconsin State Board of Vocational and Adult Education published a list of schools with departments of instruction that were supervised, in part, by this Board.

Printing departments in the study listed in the Vocational and Adult Education Directory were: Appleton Vocational High School, LaCrosse Vocational and Adult School, Madison Vocational and Adult School, Manitowoc Vocational and Adult School, Menasha Public and Adult School, Oshkosh Vocational and Adult School, Wausau School of Vocational and Adult Education, West Allis Vocational High School, Wisconsin Rapids School of Vocational and Adult Education, and Lincoln High School (17).

It should be pointed out that Appleton Vocational High School, Manitowoc School of Vocational and Adult Education, and Wausau School of Vocational and Adult Education did not have adult enrollment in the printing departments.

General education Wisconsin high schools in the study are: Kenosha Mary D. Bradford High School, Madison West High School, Merrill Senior High School, Sheboygan North High School, Sheboygan South High

School, Stevens Point P. J. Jacobs High School, and Two Rivers Washington High School (16).

The Iowa Educational Directory listed all public schools in the state. A Trade and Industry group was also presented in this directory (3).

The printing teacher at Sioux City Central High School requested that his department be excluded from the vocational group and instead be classified purely general educational in nature.

Des Moines Technical High School was placed in the vocational high school classification because the curricula of this high school were divided into vocational departments.

The Iowa School for the Deaf at Council Bluffs was supervised by the Iowa Board of Regents and was on neither the general education list nor the trade and industry list.

The Minnesota Education Directory listed all Minnesota public schools (6). In addition, the Trade and Industrial Unit of the State Department of Education published a directory of high school vocational departments that were supervised in part by this unit (7).

Minnesota high school printing departments which were included in the Trade and Industrial Vocational Directory were: Duluth Central High School, Eveleth High School, Minneapolis Vocational High School and Technical Institute, St. Cloud High School, Virginia High School, and Winona High School.

The two Lincoln, Nebraska, high schools were listed in the Nebraska General Educational Directory. The Trade and Industrial section

of this directory did not list separate departments of instruction offered. Nebraska printing teachers in the study were classified only in industrial arts (9).

The two North Dakota high school printing departments in the study were located in general education high schools. Vocational departments of instruction were not classified separately in the North Dakota Educational Directory (10).

The two South Dakota high schools with printing departments were listed in the general education directory. The Trade and Industrial Education grouping did not classify the separate departments of instruction; however, both South Dakota high schools in the study were classified in the Trade and Industry group (2).

Four Curriculum Classifications. The questionnaire asked the printing teachers to categorize printing instruction according to the following classifications: vocational training, general education, and adult education.

By using the classification given in the state educational and vocational directories, and the curriculum and enrollment classification given by the printing teacher for each high school printing department in the study, four general kinds of high school printing curricula were found:

1. The vocational high school in which general education curriculum augmented a vocationally directed printing curriculum. Printing teachers in this group classified their printing courses to be vocational

training only. This classification was designated group "A."

2. The general education high school which offered a printing curriculum to augment the general education curriculum. Printing teachers in this group reported their printing course to be general education. This classification was designated group "B."

3. The general education high school which had a vocationally directed printing curriculum. Printing teachers in this group reported their printing course to be a combination of general education and vocational training. This classification was called group "C."

4. The vocational and adult school which had a general high school curriculum and which offered a combination general education vocationally directed printing course for high school students, and a vocationally directed printing course for post high school students. Teachers of such programs classified their departments as a combination of vocational training, general education, and adult education. This classification was called group "D."

Fifteen of the 43 schools studied had printing department curricula which were classed as Group B; 11 were classified as Group A; nine were classed Group C; and eight were Group D.

Number of Semesters in Which Printing Taught. Each printing teacher was asked to indicate the total number of semesters an individual student could study printing.

Job Placement Service. Each printing teacher was also asked to describe job placement services provided for students. As determined

by responses to this section, placement services were classified into four main groups:

Group 1. Job placement with aid of school coordinator, guidance teacher, on-the-job training, or cooperative training.

Group 2. Job placement with the aid of government agencies.

Group 3. Job placement with the aid of printing teacher.

Group 4. No job placement services offered. Also placed in this category were departments whose questionnaires were returned with this question unanswered.

State-by-State Breakdown of Semesters of Printing.

Curriculum Classification and Job Placement Services

Wisconsin Departments. A comparison of job placement services with curriculum classification in Wisconsin schools, Table 8, showed that curriculum classification seemed to have little effect on the type of job placement services offered to students.

Of the seven departments classified as general education departments, three offered no job placement services and four provided placement service with the aid of the printing teacher.

There were four Wisconsin printing departments classified as vocational in nature. Three of these were placed in Group 1, placement with the aid of school coordinator, and one was placed in Group 3, placement with the aid of the printing teacher.

The remaining six Wisconsin departments were classed as vocational and adult education. Three of these offered placement through the aid

Table 8. A 1960-61 Summary of Number of Semesters Printing Curricula Were Offered, Printing Curricula Classifications, and Job Placement Services in the Wisconsin Schools in the Study

Name of school	Number of semesters	Kind of curricula	Job placement service
Appleton, Vocational High School	4	A	1
Delavan, School for the Deaf	8	A	3
Kenosha, Mary D. Bradford High School	2	B	4
LaCrosse, Vocational and Adult School	4	D	1
Madison, Vocational and Adult School	7	D	1
Madison, West High School	4	B	4
Manitowoc, School of Vocational and Adult Education	2	A	1
Menasha, Public and Adult School	8	D	3
Merrill, Senior High School	2	B	4
Oshkosh, School of Vocational and Adult Education	6	D	1
Sheboygan, North High School	6	B	3
Sheboygan, South High School	6	B	3
Stevens Point, P. J. Jacobs High School	8	B	3
Two Rivers, Washington High School	6	B	3
Wausau, School of Vocational and Adult Education	4	A	1

Table 8. (Continued)

Name of school	Number of semesters	Kind of curricula	Job placement service
West Allis, Vocational High School	6	D	4
Wisconsin Rapids, School of Vocational and Adult Education and Lincoln High School	4	D	3

Kind of Curricula: Group A--Vocational curricula in a vocational high school; Group B--General education curricula; Group C--Vocational curricula in a general education high school; Group D--Combination vocational and adult education curricula.

Job Placement Service: Group 1--Job placement by coordinator-guidance department; Group 3--Job placement by teacher assistance to student; Group 4--No job placement.

of the guidance coordinator, two through the aid of the printing teacher, and one offered no placement services.

A similar lack of correlation was found between job placement services and number of semesters of printing available. Departments offering no placement services to students were found in two-, four-, and six-semester programs, and job placement with the aid of the printing teacher was found in four-, six-, and eight-semester departments. Placement with guidance-coordinator assistance was found in two-, four-, six-, and seven-semester programs.

Iowa Departments. Printing departments in Iowa high schools in the study were found to have the same absence of pattern as was found in Wisconsin high schools insofar as relation to curriculum classification and job placement services were concerned. (See Table 9.)

Table 9. A 1960-61 Summary of Number of Semesters Printing Curricula Were Offered, Kind of Printing Curricula, and Job Placement Services in the Iowa Schools in the Study

Name of school	Number of semesters	Kind of curricula	Job placement service
Burlington, Senior High School	2	C	3
Council Bluffs, Jefferson High School	8	C	1
Council Bluffs, School for the Deaf	8	A	2
Davenport, Senior High School	4	C	3
Des Moines, Technical High School	5	A	3
Dubuque, Senior High School	6	C	3
Fort Dodge, Senior High School	6	C	4
Muscatine, Senior High School	8	C	4
Sioux City, Central High School	6	B	4
Waterloo, East High School	6	C	4

Kind of Curricula: Group A--Vocational curricula in vocational high school; Group B--General education curricula; Group C--Vocational curricula in general education high school.

Job Placement Service: Group 1--Job placement by coordinator-guidance department; Group 2--Job placement by government agencies; Group 3--Job placement by teacher assistance to student; Group 4--No job placement.

Guidance-coordinator assistance was found in one of the departments, a combination vocational and general education program. One vocational department, in the Iowa School for the Deaf, offered job placement service with the aid of a government agency. Four departments offered job placement service with the aid of the printing teacher--three

of these departments were vocationally directed programs in general education high schools and one was vocational in nature. Three vocational-general education programs offered no placement services.

No traceable pattern was to be found, either, in comparing job placement services with number of semesters of printing instruction available.

Minnesota Departments. Minnesota high school printing departments showed more similarity between both number of semesters of printing offered and type of curriculum when compared with job placement services than did either Wisconsin or Iowa departments. This was true because of the great similarity of placement help offered. Six of eight Minnesota departments offered placement service with the aid of the printing teacher, and the other two placed with the help of the school guidance coordinator. Data are shown in Table 10.

The two departments which offered placement through the assistance of guidance coordinators were six-semester departments. One of these departments offered a vocational program, the other had a vocational and adult education program.

The six departments which offered placement services with printing teacher assistance included two 2-semester programs, two 4-semester programs, one 6-semester program and one 8-semester program.

According to curriculum classification, three of the departments which offered printing teacher assistance in job placement were classified as vocational, two were general education, and one was a vocational and adult education program.

Table 10. A 1960-61 Summary of Number of Semesters Printing Curricula Were Offered, Kind of Printing Curricula, and Job Placement Services in the Minnesota Schools in the Study

Name of school	Number of semesters	Kind of curricula	Job placement service
Austin, High School	2	B	3
Duluth, Central High School	4	A	3
Edina, Edina-Morningside High School	8	B	3
Eveleth, High School	4	D	3
Minneapolis, Vocational High School and Technical Institute	6	A	1
St. Cloud, High School	6	D	1
Virginia, High School	6	A	3
Winona, High School	2	A	3

Kind of Curricula: Group A--Vocational curricula in vocational high school; Group B--General education curricula; Group C--Vocational curricula in general education high school; Group D--Combination vocational and adult education curriculum.

Job Placement Service: Group 1--Job placement by coordinator-guidance department; Group 3--Job placement by teacher assistance to student; Group 4--No job placement.

Nebraska Departments. No job placement patterns could be developed for printing departments in Nebraska high schools in the study because of the small number of departments involved. Only three schools in Nebraska were included in the study schools, and all three had different curriculum classifications and different job placement services. Data for Nebraska schools are found in Table 11.

Table 11. A 1960-61 Summary of Number of Semesters Printing Curricula Were Offered, Kind of Printing Curricula, and Job Placement Services in the Nebraska Schools in the Study

Name of school	Number of semesters	Kind of curricula	Job placement service
Lincoln, High School	5	C	4
Lincoln, Southeast High School	2	B	3
Boys Town, High School	6	A	1

Kind of Curricula: Group A--Vocational curricula in vocational high school; Group B--General education curricula; Group C--Vocational curricula in general education high school.

Job Placement Service: Group 1--Job placement by coordinator-guidance department; Group 3--Job placement by teacher assistance to student; Group 4--No job placement.

North Dakota, South Dakota, and Montana Departments. Similar to the Nebraska situation, few returns from North Dakota, South Dakota, and Montana prevented the development of recognizable patterns with regard to job placement services. Data for these three states are found in Table 12.

Of the five schools included in this three-state area, three offered no job placement services whatever. The other two provided placement service with the aid of the printing teacher. The South Dakota and Montana departments offered no placement services, but the two North Dakota departments offered printing teacher assistance in placement.

There appeared to be a tendency in these states to offer the shorter, or two-, three-, and four-semester programs for printing. The programs also tended to be of a general education character. Only

Table 12. A 1960-61 Summary of Number of Semesters Printing Curricula Were Offered, Kind of Printing Curricula, and Job Placement Services in the North Dakota, South Dakota, and Montana Schools in the Study

Name of school	Number of semesters	Kind of curricula	Job placement service
North Dakota			
Fargo, High School	4	B	3
Grand Forks, High School	4	B	3
South Dakota			
Aberdeen, Central High School	4	B	4
Sioux Falls, Washington High School	3	C	4
Montana			
Great Falls, High School	2	B	4

Kind of Curricula: Group B--General education curricula; Group C-- Vocational curricula in general education high school.
 Job Placement Service: Group 3--Job placement by teacher assistance to student; Group 4--No job placement.

one of the five programs was vocational, and that was found in a general education high school.

Curriculum Classification Compared

With Number of Semesters of Printing Offered

Group A Departments. Eleven Group A, or straight vocational programs, were found in the seven-state area. (Table 13 contains complete curriculum and semester data for all states.)

Table 13. Semester Summary, by Curriculum Classification, in the High School Printing Departments in the Study

Curriculum classification	Number of semesters							Total schools
	2	3	4	5	6	7	8	
Vocational High School printing curricula (A)	2	0	3	1	3	0	2	11
General Education High School printing curricula (B)	5	0	4	0	4	0	2	15
Vocational printing curricula, General Education High Schools (C)	1	1	1	1	3	0	2	9
Vocational and Adult School printing curricula (D)	0	0	3	0	3	1	1	8
Total	8	1	11	2	13	1	7	43

No discernible pattern could be developed concerning the number of semesters of printing taught in Group A Departments, although seven of the eleven departments offered from four to six semesters each. Two each offered two- and eight-semester programs.

Group B Departments. The study schools include 15 departments in the Group B, or general education, category.

Again, no real pattern of semesters of printing offered was apparent, although five of the fifteen Group B departments did fall in the two-semester category. Four more departments were classified as having four-semester programs and another four as having six-semester courses. Two were eight-semester plans.

Group C Departments. Nine departments in the study were classified as being vocationally directed departments in general

education high schools, Group C.

As was the case with both Group A and B departments, Group C departments operated for no set number of semesters. Modal figure for the nine Group C departments was six semesters, with three departments having such programs. Two departments operated on an eight-semester basis and the remaining four departments were distributed one each among the two-, three-, four-, and five-semester plans.

Group D Departments. The study showed eight of the schools investigated to have adult education offerings. These eight vocational and adult education departments showed no more pattern in their semester offerings than did any of the other curriculum classifications.

Three departments offered four-semester programs and three others offered six-semester plans. The other two departments in the Group D classification operated on seven- and eight-semester plans respectively.

Summary. More than one-third, or 15 of 43 of the departments studied, were classed as general education departments. More than one-fourth, 11, of those remaining were vocational in character.

Although no length of program was predominant in the findings, the most popular programs were those with an even number of semesters offered. Six-, four-, two-, and eight-semester plans, in that order, proved most common. Only 4 of the 43 departments offered programs of three, five, or seven semesters in length. There was, then, a tendency among the schools studied, to plan printing programs on a full-year basis.

Curriculum Classification Compared

With Job Placement Services

Group A Departments. All vocational departments, Group A, offered some form of job placement service for students. Of the 11 departments so categorized, not one returned a questionnaire which indicated that this aspect of the program had been overlooked. Group A departments constituted the only group in which all respondents indicated having some form of job placement service. (Table 14 contains complete job placement-curricular data.)

Table 14. Job Placement Service Summary, by Curriculum Classification, in the Schools in the Study

Curriculum classification	Group 1	Group 2	Group 3	Group 4	Total schools
Vocational High School printing curricula (A)	5	1	5	0	11
General Education High School printing curricula (B)	0	0	9	6	15
Vocational printing curricula, General Education High Schools (C)	1	0	3	5	9
Vocational and Adult School printing curricula (D)	4	0	3	1	8
Total	10	1	20	12	43

Group 1--Job placement by guidance-coordinator department.
 Group 2--Job placement by government agencies.
 Group 3--Job placement by teacher assistance to student.
 Group 4--No job placement.

Five of the vocational departments offered placement through the guidance coordinator, five through the printing teacher, and one with the aid of a government agency.

Group B Departments. The 15 general education departments in the study split into two distinct groups. One group of nine departments offered job placement service with the aid of the printing teacher. The other group, consisting of six departments, offered no placement services at all. There appeared to be a tendency in Group B departments to offer either no placement or to offer the more informal printing teacher help. Group B departmental philosophy was apparently that general education programs are not designed for industry placement, so placement services are not highly important.

Group C Departments. Vocationally directed programs in general education high schools presented a less unified approach to job placement than did vocational departments in vocational high schools.

Five of the nine departments offered no job placement services. Three offered placement service with the aid of the printing teacher, and only one with the help of the guidance coordinator. Group C departments, then, similar to Group B departments which are also situated in general education high schools, tend to offer either no placement service or placement informally through the printing teacher.

Group D Departments. Half of the eight vocational and adult education departments in the study offered job placement service with the aid of the guidance coordinator. Three others assisted placement

through the printing teacher. Only one Group D department did not offer some sort of job placement services.

Summary. Thirty-one of the 43 departments in the study offered some form of job placement service. Twenty helped through the printing teacher and 10 through the guidance coordinator. Only one department, the Iowa School for the Deaf, offered government agency placement aid.

Group A and Group D departments, both categories vocational in nature, appeared to offer more placement than did Groups B and C, which were primarily general educational in nature. Of the 19 Group A and D departments, only one failed to offer some job placement, whereas nine offered guidance-coordinator assistance. Informal, or printing teacher assistance, was offered by the remaining eight departments in the two groups.

Eleven of the 24 Group B and C departments did not offer any job placement services. Only one provided central assistance through the guidance coordinator and the 12 remaining departments aided informally through the printing teacher.

Number of Semesters of Printing Taught

Compared With Job Placement Services

Group 1 Departments. Departments which provided placement service centrally, or through the assistance of the high school guidance coordinator, tended to fall into either the four- or six-semester categories. The modal figure, with four departments so classified, was the six-semester program. Three other Group 1 departments offered printing

for four semesters, so seven of the 10 Group 1 departments followed the four- and six-semester plans. The remaining three departments in this classification were divided one each into two-, seven-, and eight-semester categories. (Complete semester-placement data in Table 15.)

Table 15. Job Placement Service Summary, by Number of Semesters of Printing Offered, in Schools in the Study

Job placement service	Number of semesters							Total schools
	2	3	4	5	6	7	8	
Placement with aid of guidance coordinator (1)	1	0	3	0	4	1	1	10
Placement with aid of government agency (2)	0	0	0	0	0	0	1	1
Placement with aid of printing teacher (3)	4	0	6	1	5	0	4	20
Placement services not offered (4)	3	1	2	1	4	0	1	12
Total	8	1	11	2	13	1	7	43

Group 2 Department. The only department in the study which offered job placement assistance through a government agency was Iowa School for the Deaf, an eight-semester program.

Group 3 Departments. Nearly half of all of the departments in the study were classed as Group 3 departments, or those which offered job placement with the aid of the printing teacher. There was no pattern of correlation between semester offerings and job placement among Group 3 departments. Modal figure was four semesters of offerings, with six departments being so classed. Five of the 20 departments in the

group had six-semester programs, and four each operated on two- and eight-semester plans. The lone remaining department was operated on a five-semester system.

Group 4 Departments. Twelve of the 43 departments offered no placement services for their students. There was no pattern whatever in the attempted correlation between semester offerings and job placement services in this group. Modal figure was the six-semester plan, in which fell four departments. Three departments operated on the two-semester plan, and two operated as four-semester departments. The remaining three departments were divided one each into the three-, five-, and eight-semester categories.

Summary. Group 1 and Group 2 departments, which could be classified as placement through formal channels, had a slight tendency to have longer programs than did either Group 3 or Group 4 departments, although the difference was not statistically significant.

Twice as many departments operated with informal, or printing teacher placement, as operated with the more formal guidance-coordinator system. Nearly one-third of all departments studied offered no placement services for students. No reasonable statements could be made concerning patterns of placement in relation to number of semesters of printing offered by a department except that, as a percentage, more schools with formal methods of placement service tended to have printing courses of six-, seven-, and eight-semester duration than had courses of shorter length.

Areas of Instruction Offered

Composition. The questionnaire listed the following areas of instruction for composition and asked each printing teacher to indicate which were taught in his department: (1) hand composition, (2) machine composition, (3) Ludlow composition, (4) offset (cold type) composition, (5) layout and design, and (6) job composition. Table 16 provides a complete breakdown of departments with regard to instructional areas offered in composition.

Table 16. Number of Schools, by Curriculum Classification, in Which the Major Areas of Composition Instruction Are Offered

Curriculum classification	Group 1*	Group 2	Group 3	Group 4	Group 5	Group 6
Vocational High School printing curricula (A)	11	11	0	5	11	11
General Education High School printing curricula (B)	15	4	0	4	9	10
Vocational printing curricula, General Education High Schools (C)	9	2	0	5	6	8
Vocational and Adult School printing curricula (D)	8	6	0	5	7	7
Total	43	23	0	19	33	36

Group 1--Hand composition.

Group 2--Machine composition.

Group 3--Ludlow composition.

Group 4--Offset composition.

Group 5--Layout and design.

Group 6--Job composition.

*All schools taught hand composition.

Hand composition was offered in all 43 departments, whereas Ludlow composition was not offered in any department.

Machine composition, considered essential in printing curricula 10 years ago, (15) was taught in slightly more than half of the departments in the study. Machine composition was offered in only six of the 24 Group B and C departments, considered general educational in nature, but was found in all but two of the 19 Group A and D departments.

Offset composition, a process which transfers the type image to photographic paper or film, was taught in 19 of the 43 departments. Departments offering such composition were found in all states except South Dakota and Montana. Ten of 19 Group A and D departments and 9 of 24 Group B and C departments offered instruction in offset composition. Strangely, Group C and Group D combined to have the highest percentage of offset composition instruction, with 10 of 17 offering such instruction.

Vocational departments, Group A, appeared more slow to develop instruction in offset composition than did any of the other three curriculum groups. All 11 vocational departments offered machine composition, but only 5 offered offset composition. In contrast, four Group B departments offered offset composition as compared to a similar number which offered machine composition. Five Group C departments offered offset composition compared to only two which offered machine composition. In Group D departments, five offered offset composition and six offered machine composition. Thus it appears that Group B, C, and D departments have accepted offset composition instruction into their

schedules more readily than have Group A departments, which have tended to cling to "hot type" methods.

Job composition and design and layout instruction were offered in all 11 vocational departments and in seven of eight vocational and adult education departments. General education departments, Group B, offered the least of all groups in these two instructional areas, yet the majority of departments. General education departments, Group B, offered the least of all groups in these two instructional areas, yet the majority of departments offered both areas.

Imposition. The section on imposition instruction in the questionnaire was divided into the following areas: (1) advertising setting, (2) multi-color job makeup, (3) newspaper makeup, (4) press lockup, and (5) book signature imposition and lockup. Table 17 gives a complete breakdown of instructional areas offered in imposition.

Press lockup was taught in all but one of the 43 departments in the study. That department was a Group C, or vocational program in a general education high school.

Thirty-three of the 43 departments taught advertising setting, with no one curriculum classification group including all departments in the group. Those departments which did not offer ad setting instruction were evenly spread among all four curriculum classifications.

Multicolor job makeup, offered in 27 of the 43 departments, was another instructional area which showed no pattern of correlation with curriculum classification.

Table 17. Number of Schools, by Curriculum Classification, in Which the Major Areas of Imposition Instruction Are Offered

Curriculum classification	Group 1	Group 2	Group 3	Group 4	Group 5	Total schools
Vocational High School printing curricula (A)	9	6	7	11	9	11
General Education High School printing curricula (B)	11	9	6	15	4	15
Vocational printing curricula, General Education High Schools (C)	6	6	4	8	4	9
Vocational and Adult School printing curricula (D)	7	6	5	8	6	8
Total	33	27	22	42	23	43

Group 1--Ad setting.

Group 2--Multicolor job makeup

Group 3--Newspaper makeup

Group 4--Press lockup.

Group 5--Book signature imposition and lockup.

The areas of instruction offered least often in the 43 departments were newspaper makeup and book signature imposition and lockup. A pattern could be developed with regard to these offerings by combining Groups A and D and Groups B and C. Twelve of 19 A and D departments taught newspaper makeup, whereas only 10 of 24 B and C departments taught the same material. Thirteen of the 19 A and D departments taught book signature imposition and lockup as compared to only 8 of the 24 B and C departments which offered instruction in this area.

A possible inference that could be drawn concerning areas of imposition instruction offered is that most departments tend to offer

the basic material in press lockup and advertising setting, but that many of the general education connected departments omit the more specialized instructional areas such as book signature imposition.

Letterpress Printing. The section of the questionnaire on letterpress printing was divided into platen and cylinder press instruction, with each major division having hand-fed and automatic press subdivisions. Complete tabular breakdown of curriculum classification and instruction in letterpress printing is provided in Table 18.

Table 18. Number of Schools, by Curriculum Classification, in Which the Major Areas of Letterpress Printing Instruction Are Offered

Curriculum classification	Platen		Cylinder	
	Hand*	Auto.	Hand	Auto.
Vocational High School printing curricula (A)	11	8	7	7
General Education High School printing curricula (B)	15	5	2	2
Vocational printing curricula, General Education High Schools (C)	9	8	2	3
Vocational and Adult School printing curricula (D)	8	5	2	4
Total	43	26	13	16

*All teachers reported hand-fed platen press instruction.

All departments in the study offered instruction on hand-fed platen presses, the only instructional area which was covered by all departments.

Automatic platen press instruction was offered by 26 of the 43 departments. Group B, the general education departments, was the only group in which fewer than half of the respondents offered such instruction.

Automatic cylinder press instruction was offered in slightly more than one-third of the 43 departments, with Group A, or vocational departments, the only group in which a majority of respondents indicated offering this material.

Only 13 of the 43 departments taught hand-fed cylinder presses. Group A departments alone made up more than half of this total.

Offset Department. The section of the questionnaire which dealt with offset department instruction was composed of four separate instructional areas: (1) press work, (2) camera work, (3) copy preparation, and (4) stripping and platemaking. Those departments which offered no offset instruction were numbered Group 5 for purposes of tabulation, found in Table 19.

Twelve of the 43 departments in the study did not offer offset instruction of any kind. As a point of interest, these departments were located in all states except North Dakota and Nebraska. Nearly half, 7 of 15, of the general education departments offered no offset instruction. Three of eight Group A departments had no offset instruction.

The questionnaire did not investigate the kind of offset equipment used for this instruction; therefore, the comparison is only numerical. The instructional differences between offset duplicators and

Table 19. Number of Schools, by Curriculum Classification, in Which the Major Areas of Offset Printing Instruction Are Offered

Curriculum classification	Group 1	Group 2	Group 3	Group 4	Group 5	Total schools
Vocational High School printing curricula (A)	8	2	6	7	3	11
General Education High School printing curricula (B)	8	3	5	5	7	15
Vocational printing curricula, General Education High Schools (C)	8	0	6	6	1	9
Vocational and Adult School printing curricula (D)	7	3	7	6	1	8
Total	31	8	24	24	12	43

Group 1--Press work.

Group 2--Camera work.

Group 3--Copy preparation.

Group 4--Stripping and platemaking.

Group 5--No offset department.

larger offset presses were not deemed important, because duplicator presses can be used for preliminary instruction for the larger presses.

Offset presswork instruction was offered in 31 of the 43 printing departments. Only the Group B departments, with 8 of 15 included, showed any marked tendency to omit such instruction. All departments which offered offset instruction offered instruction on offset presses. It is also interesting to note that offset press instruction was offered in more departments than was automatic letterpress instruction.

The instructional areas of copy preparation and stripping and platemaking were offered in 24 of the 43 departments in the study.

Again the general education departments showed less tendency to offer such instruction than did the other curriculum groups.

Only eight departments offered instruction in camera, with Group C containing no departments with such instruction.

Bindery. The bindery section of the questionnaire was subdivided into: (1) folding, (2) gathering, (3) stitching, and (4) wrapping.

Although no instructional subdivision in the bindery area was taught in all 43 departments in the study, bindery instruction was offered by more departments than was any other instructional area studied. Table 20 presents complete comparisons between curriculum classification and bindery offerings.

Table 20. Number of Schools, by Curriculum Classification, in Which the Major Areas of Bindery Instruction Are Offered

Curriculum classification	Group 1	Group 2	Group 3	Group 4	Total schools
Vocational High School printing curricula (A)	11	11	11	9	11
General Education High School printing curricula (B)	14	11	11	11	15
Vocational printing curricula, General Education High School (C)	8	9	8	9	9
Vocational and Adult School printing curricula (D)	8	8	8	8	8
Total	41	39	38	37	43

Group 1--Folding.

Group 2--Gathering.

Group 3--Stitching.

Group 4--Wrapping.

Group D, vocational and adult education departments, all taught each of the bindery subdivisions, but it was the only curriculum classification so represented.

General education departments, Group B, again tended to offer less instruction in bindery than did the other departments, although the majority offered all subdivisions of bindery instruction.

Management. The section on management instruction in the questionnaire was composed of three subdivisions: (1) inks and papers, (2) films and plates, and (3) estimating costs. In Table 21, Group 4 respondents were those which did not offer any management instruction.

Eight of the departments in the study indicated that they taught no management techniques. By comparing Tables 16 through 20 with Table 21 it is apparent that many departments which taught the production aspects of printing did not also teach the management aspects of that production.

Also readily apparent from Table 21 is the fact that instruction in the proper use and management of inks and papers was considered more important by most departments than was the instruction of management practices in the other two subdivisions. Material taught least often, by only 8 of 43 departments, was that concerning estimating procedures.

School Newspapers. Each printing teacher was asked to indicate whether the printing department printed the school newspaper. If the department printed the newspaper, the teacher was asked to tell what process was used in its production, the length of the normal press run,

Table 21. Number of Schools, by Curriculum Classification, in Which the Major Areas of Printing Management Instruction Are Offered

Curriculum classification	Group 1	Group 2	Group 3	Group 4	Total schools
Vocational High School printing curricula (A)	8	5	4	3	11
General Education High School printing curricula (B)	12	6	6	3	15
Vocational printing curricula, General Education High Schools (C)	7	3	3	1	9
Vocational and Adult School printing curricula (D)	7	5	4	1	8
Total	34	19	17	8	43

Group 1--Uses of inks and papers.

Group 2--Film and plates.

Group 3--Estimating costs.

Group 4--No management taught.

and the number of issues printed during the school year. Table 22 provides a tabular look at school newspaper production, by process, according to curriculum classification.

Nineteen of the 43 printing departments in the study did not produce newspapers for their high schools. The majority of those departments which did print school newspapers produced them by the letterpress method. One teacher reported that his department printed the newspaper by both letterpress and offset methods.

Two newspapers were printed in the Virginia, Minnesota, high school printing department. One was produced for the high school, the other for the junior college.

Table 22. Number of Schools, by Curriculum Classification, in Which School Newspapers Were Printed by Letterpress or Offset Processes

Curriculum classification	Letter press	Offset press	Both types	None	Total
Vocational High School printing curricula (A)	4	4	1	2	11
General Education High School printing curricula (B)	4	2	0	9	15
Vocational printing curricula, General Education High School (C)	3	2	0	4	9
Vocational and Adult School printing curricula (D)	2	2	0	4	8
Total	13	10	1	19	43

The length of press run for school newspapers tended to vary directly with the enrollment of the high school involved. Two departments, however, reported press runs of 20,000 for the school paper--one of these departments was in Duluth Central High School, the other in Grand Forks High School.

School Production Forms. Although the questionnaire asked for information about forms produced for use outside the school system, responses indicated that few such forms were produced. No tables were constructed for non-school form production.

With regard to the production of school forms, printing teachers were asked to give the number of offset and letterpress forms, total number of impressions for each, and total amount charged for production during the 1959-60 school year. This particular year was selected to

enable the printing teacher to present information for a full year. The questionnaire was mailed in February, 1961, so a full-year summary for that school year could not be given. Tables 23 through 26 provide data on production of forms.

Only four departments of the 43 in the study gave information about cost of forms. These departments were at the following schools: Iowa School for the Deaf, Duluth Central High School, Virginia High School, and Madison West High School.

Many teachers declined response with statements that the information would take too much time to prepare, that costs were not figured, or that supplies were furnished and profits were not determined.

The 10 printing departments which did not provide information about production of school forms may be found in footnotes to Tables 23 through 26.

Information obtained about production of school forms shows that production of these forms can help printing teachers present the course material in a way which enriches instruction.

Table 23. Vocational High School Printing Departments That Print School Production Forms*

School	Offset press forms	Letterpress forms	Number of impressions	Cost
Wisconsin School for the Deaf	N	X	1000	X
Appleton Vocational High School	4-500	100	X	X
Wausau School of Vocational and Adult Education	50	200	160M	X
Iowa School for the Deaf	N	2000	X	\$13,100
Des Moines Technical High School**	X	X	X	X
Duluth Central High School	100	1000	1000M	\$25,000
Minneapolis Vocational High School and Technical Institute	150	1500	X	X
Virginia High School	X	120	195M	\$608.68

*Manitowoc School of Vocational and Adult Education, Winona High School, and Boys Town High School printing department teachers did not give information for school production forms.

**Des Moines Technical High School printing teacher listed a combined letterpress and offset press number of forms to be 962 with number of impressions and cost not given.

N--No production.

X--Information not given.

Table 24. General Education High School Printing Departments That Print School Production Forms*

School	Offset press forms	Letter- press forms	Number of impressions	Cost
Kenosha Mary D. Bradford High School	80	100	230M	X
Madison West High School	N	10	10M	\$100
Merrill Senior High School	50	150	75M	X
Sheboygan North High School	N	30	10-50M	X
Two Rivers Washington High School	N	175	X	X
Sioux City Central High School**	X	X	X	X
Lincoln Southeast High School	N	100	X	X
Fargo High School	50	25	X	X
Grand Forks High School	53	75	402M	X
Aberdeen Central High School	N	100	200M	X

*Sheboygan South High School, Stevens Point P. J. Jacobs High School, Austin High School, Edina-Morningside High School, Great Falls High School printing department teachers did not give information for school production forms.

**Printing teacher at Sioux City Central High School did not have records for the year studied, but stated that the laboratory produced a "tremendous volume" for the school system.

N--No production.

X--Information not given.

Table 25. Vocational Printing Departments in General Education High Schools That Print School Production Forms*

School	Offset press forms	Letter- press forms	Number of impressions	Cost
Burlington Senior High School	80	100	230M	X
Council Bluffs Jefferson High School	10	96	215M	X
Davenport Senior High School	75	50	X	X
Dubuque Senior High School	75	700	300M	X
Fort Dodge Senior High School	60	150	X	X
Muscatine Senior High School	50	200	X	X
Lincoln High School	100	150	204M	X
Sioux Falls Washington High School	N	200	2000M	X

*Waterloo East High School printing department teacher did not give information for school production forms.

N--No production.

X--Information not given.

Table 26. Vocational and Adult School Printing Departments That Print School Production Forms*

School	Offset press forms	Letter-press forms	Number of impressions	Cost
Madison Vocational and Adult School	2-250	5	40M	X
Menasha Public and Adult School	N	96	215M	X
Oshkosh School of Vocational and Adult Education	50	150	75M	X
West Allis Vocational School	30	175	400M	X
Wisconsin Rapids School of Vocational and Adult Education	150	200	6M	X
Eveleth High School	X	150	X	X
St. Cloud High School**	X	X	X	X

*LaCrosse Vocational and Adult School printing department teacher did not give information for school production forms.

**St. Cloud High School printing teacher stated that the laboratory produced 85 per cent of the school system's printing production.

N--No production.

X--Information not given.

CHAPTER IV

SUMMARY AND CONCLUSIONS

This printing education topic was selected to obtain data to show school officials, printing teachers, and prospective printing teachers the educational endeavors of the public school printing departments in a seven-state area.

Conclusions have been drawn to help persons interested in printing curricula development and job placement service.

The questionnaire method was used because the distances of these 43 schools from the investigator's home made personal interviews impractical.

Summary

A comparison with the teachers' response to curriculum classification and the Educational Directory classification has shown that those departments included in the general education group were also classed general education by the printing teachers.

There were, however, three departments classified as general educational by the teachers which were classed as vocational departments in the educational directories.

Other responses to the questionnaires were not compared with outside sources because such sources were not available.

It was found that total departmental enrollment did not increase proportionately as the number of teachers in the department increased. Apparently teachers were added to improve curriculum presentation rather

than to handle larger numbers of students.

Twenty-four departments were in schools in the 1,000 to 1,999 total school enrollment and 11 departments were in schools with fewer than 1,000 students. Although printing departments tend to be found in the larger high schools, it was apparent that smaller high schools also had successful printing curricula.

Four curriculum classifications were found: general education printing courses in general education high schools, vocational printing courses in general education high schools, vocational printing courses in vocational high schools, and vocational printing courses plus adult enrollment.

Tables 8 through 12 show that the number of semesters that printing curricula were offered had some influence on job placement, but that curriculum classification tended to be of more influence. The general education printing curriculum in the general education high school, Group B, showed job placement to be primarily a matter of the student's initiative and the teacher's assistance to the student. The vocational curriculum groups, Groups A and D, tended to offer more job placement with the help of the guidance coordinator.

The size of cities where printing departments were located had little apparent effect on the job placement service. One teacher, whose department was located in a smaller community, reported former students were placed in all the shops in town.

All departments offered hand composition, hand-fed platen press, and most of the bindery group, but other areas of instruction were found

in only some of the schools studied. Some departments classified as general educational in nature offered as many areas of instruction as did vocational departments, but most Group B departments offered significantly less instructional material. This is probably to be expected from such departments.

A study of Tables 22 through 26 shows that the general education departments printed school newspapers and school production forms, but that departments classified as vocational appeared to print a bigger volume of school production forms.

Conclusions

Job placement service was found to be more of an administrative function than a curriculum function.

A study of the printing areas taught by the departments in the study did not reveal a curriculum weakness, if the courses taught were realistic to possible application. Curriculum planners might improve the curriculum by a re-evaluation of the printing industry in the local community.

The principal teaching problem that could be determined from the study was that some departments with large printing enrollment had only one full-time teacher.

Suggestions for Further Study

1. A study to investigate a possible minimum standard for job placement for the individual student.

2. A study to determine the amount of time each student devotes to learning each production process.
3. A re-evaluation of local printing industry production methods to ascertain how increased mechanization has affected printing.
4. A study to promote job placement in nearby cities which do not have high school printing departments.
5. Investigate on-the-job and cooperative classes to improve learning.
6. An on-the-job study of high school printing graduates in each of the schools to determine the need for curriculum revision.
7. A survey of public school printing graduates to determine curriculum areas which might be beneficial.

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February 23, 1961

Enclosed is a questionnaire designed to secure the present status of existing schools at the high school level.

The questionnaire has been mailed to high schools in Lincoln, Marathon, Port Waikato, South Dakota, Wisconsin, and other states which offer graphic arts instruction. Responses should be returned to the address indicated.

The survey results regarding instruction concerning the present status of classes and general school information. The results will be analyzed and the data compiled and summarized. The results will be used for a master's thesis in relation to the Department of South Dakota State College.

Your cooperation in this survey will be appreciated.

Sincerely,
 Clyde W. Miller, Instructor
 Printing and Journalism Department
 South Dakota State College

APPENDIX A

LETTER OF TRANSMITTAL

February 20, 1961

Dear Sir:

Enclosed is a questionnaire designed to secure the general picture of printing schools at the high school level.

The questionnaire has been mailed to high schools in Wisconsin, Minnesota, Iowa, North Dakota, South Dakota, Nebraska, and Montana which offer graphic arts instruction. There are fewer than 60 schools involved.

The first section requests information concerning the program, size of classes, and general school information. The second section investigates the major equipment and instructional centers. The third investigates revenue.

Questionnaire response will be used for a master's thesis in printing management at South Dakota State College.

Your prompt cooperation with this will be appreciated. Respondents will receive a summation of this survey.

Sincerely,

Clyde W. Miller, Instructor
Printing and Journalism Department
South Dakota State College

APPENDIX B

QUESTIONNAIRE

Name of school _____

City _____ State _____

1. What classification is your graphic arts instruction?

_____ Vocational training

_____ General education

_____ Adult education

2. Total high school enrollment for the 1960-61 school year _____

3. How many semesters of work are available in the graphic study?

_____ one _____ four _____ seven

_____ two _____ five _____ eight

_____ three _____ six _____ special _____ term

4. How many full-time instructors does the program have?

5. How many part-time instructors does the program have?

6. Does your laboratory do production work? If so, check appropriate blank or blanks:

_____ for school or school system

_____ for civic or charity groups

_____ for student's personal use

_____ for places of business

_____ other (specify) _____

7. Number enrolled in graphic arts courses during 1960-61.

First year high school: M _____; F _____

Second year high school: M _____; F _____

Third year high school: M _____; F _____

Fourth year high school: M _____; F _____

Adult education class: M _____; F _____

8. Do you provide placement service? If so, explain briefly:

GENERAL DEPARTMENTS OR AREAS OF INSTRUCTION

Check (if taught)

1. Composition

- _____ Hand composition
- _____ Machine composition
- _____ Ludlow composition
- _____ Offset composition (cold type)
- _____ Layout and design
- _____ Job composition

2. Imposition

- _____ Ad setting
- _____ Multicolor job makeup
- _____ Newspaper makeup
- _____ Press lockup
- _____ Book signature imposition and lockup

3. Letterpress printing

- _____ Hand fed platen
- _____ Automatic fed platen
- _____ Hand fed cylinder
- _____ Automatic fed cylinder

4. Offset department

- _____ Presswork
- _____ Camerawork
- _____ Copy preparation
- _____ Stripping and platemaking

5. Bindery

- _____ Folding
- _____ Gathering
- _____ Stitching
- _____ Wrapping

6. Management

- _____ Uses of inks and papers
- _____ Film and plates
- _____ Estimating (men, materials, machines) cost

REVENUE (12-MONTH PERIOD, 1959-60)

1. School paper: _____ Letterpress; _____ Offset

_____ Normal press run
_____ Number issues per year
_____ Total charged

2. Forms for school system

_____ Number of offset forms
_____ Number of letterpress forms
_____ Total number of impressions
_____ Total amount charged

3. Forms for civic or charity groups

_____ Number of offset forms
_____ Number of letterpress forms
_____ Total number of impressions
_____ Total amount charged

4. Forms for business places

_____ Number of offset forms
_____ Number of letterpress forms
_____ Total number of impressions
_____ Total amount charged

5. Forms for unclassified groups

_____ Number of offset forms
_____ Number of letterpress forms
_____ Total number of impressions
_____ Total amount charged

6. Forms for printing students' personal use

_____ Number of offset forms

_____ Number of letterpress forms

_____ Stock and ink furnished students

_____ Stock and ink paid by students

Name of School	No. of Students	Enrollment					Ad	Total
		1st Year	2nd Year	3rd Year	4th Year			
Appleton, Vocational High School	1	23	26					50
Delaunoy, School for the Deaf	1	10	12	11	6			39
Epworth, Vocational High School	1	44						44
Lafayette, Vocational and Adult School	1					24		24
Madison, Vocational and Adult School	1	12	6	4	4	97		123
Madison, Vocational School	1		21	50	20			90
Madison, Vocational and Adult Education	1				15			15
Manitowish, Public and Adult School	1	15	23	32	23	23		121
Merrill, Junior High School	1			1	33			34
Oakwood, School of Agriculture and Adult Education	1	45	11	1		12		59
Sheboygan, Public High School	1	3	3	0	0			6
Sheboygan, Public High School	1		25	30	35			90

APPENDIX C

Table 1. A 1960-61 Summary of Number of Semesters Printing Curricula Were Offered and Printing Enrollment by High School Year and Adult Education in the Wisconsin Schools in the Study

Name of school	High school printing enrollment						Total
	No. of semesters	1st year	2nd year	3rd year	4th year	Ad ed	
Appleton, Vocational High School	4	24	26				50
Delavan, School for the Deaf	8	10	12	11	6		39
Kenosha, Bradford High School	2	48					48
LaCrosse, Vocational and Adult School	4					24	24
Madison, Vocational and Adult School	7*	72	6	4	4	97	183
Madison, West High School	4		20	50	20		90
Manitowoc, School of Vocational and Adult Education	2				15		15
Menasha, Public and Adult School	8*	35	28	32	23	23	141
Merrill, Senior High School	2			1	33		34
Oshkosh, School of Vocational and Adult Education	6*	45	11	1		15	72
Sheboygan, North High School	6	6	6	8	8		28
Sheboygan, South High School	6		25	30	35		90

Table 1. (Continued)

Name of school	High school printing enrollment						Total
	No. of semesters	1st year	2nd year	3rd year	4th year	Ad ed	
Stevens Point, Jacobs High School	8		33	20	7		60
Two Rivers, Washington High School	6		22	10	25		57
Wausau, School of Vocational and Adult Education	4		2	10	18		30
West Allis, Vocational High School	6		8	6		7	21
Wisconsin Rapids, School of Vocational and Adult Education and Lincoln High School	4		20	15	14	14	63
Total		240	219	198	208	180	

Ad Ed--Adult Education

*These schools have more than a total of eight semesters when including adult education.

APPENDIX D

Table 2. A 1960-61 Summary of Number of Semesters Printing Curricula Were Offered and Printing Enrollment by High School Year and Adult Education in the Iowa Schools in the Study

Name of school	High school printing enrollment						Total
	No. of semesters	1st year	2nd year	3rd year	4th year	Ad ed	
Burlington, Senior High School	2		20		10		30
Council Bluffs, Jefferson High School	8	14	19	20	8		61
Council Bluffs, School for the Deaf	8	6	4	5	5		20
Davenport, Senior High School	4		19	13	7		39
Des Moines, Technical High School	5		30	20	21		71
Dubuque, Senior High School	6		16	12	15		43
Fort Dodge, Senior High School	6		26	14	4		44
Muscatine, Senior High School	8	30	20	20	20		98
Sioux City, Central High School	6		12	10	3		25
Waterloo, East High School*	6						
Total		50	166	114	93		423

Ad Ed--Adult Education

*Printing teacher did not list size of printing enrollment.

APPENDIX E

Table 3. A 1960-61 Summary of Number of Semesters Printing Curricula Were Offered and Printing Enrollment by High School Year and Adult Education in the Minnesota Schools in the Study

Name of school	High school printing enrollment						Total
	No. of semesters	1st year	2nd year	3rd year	4th year	Ad ed	
Austin, High School	2		17	11	4		32
Duluth, Central High School	4			3	5		8
Edina, Edina-Morningside High School	8	47	38	18	14		117
Eveleth High School	4*			12	8	8	28
Minneapolis, Vocational High School and Technical Institute	6		33	27	29		89
St. Cloud, High School	6*		14	22	10	5	51
Virginia, High School	6		4	3	12		19
Winona, High School	2			18	10		28
Total		47	106	114	92	13	372

Ad ed--Adult education

*These schools have more than a total of eight semesters when including adult education.

APPENDIX F

Table 4. A 1960-61 Summary of Number of Semesters Printing Curricula Were Offered and Printing Enrollment by High School Year and Adult Education in the Nebraska Schools in the Study

Name of school	No. of semesters	High school printing enrollment					Total
		1st year	2nd year	3rd year	4th year	Ad ed	
Lincoln High School	5		40	30	15		85
Lincoln, Southeast High School	2		10	30	30		70
Boys Town High School	6		10	12	13		35
Total			60	72	58		190

Ad ed--Adult education

APPENDIX G

Table 5. A 1960-61 Summary of Number of Semesters Printing Curricula Were Offered and Printing Enrollment by High School Year and Adult Education in the North Dakota, South Dakota, and Montana Schools in the Study

Name of school	High school printing enrollment						Total
	No. of semesters	1st year	2nd year	3rd year	4th year	Ad ed	
North Dakota							
Fargo High School	4			40	9		49
Grand Forks High School	4		10	25	15		50
Total			10	65	24		99
South Dakota							
Aberdeen, Central High School	4		24	16			40
Sioux Falls, Washington High School	3		8	13	20		41
Total			32	29	20		81
Montana							
Great Falls High School	2		41	43	45		129

Ad ed--Adult education