TWO DIFFERENT PRINTING APPROACHES AT THE HIGH SCHOOL LEVEL

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ABSTRACT

This study was carried out to determine if any differences exist between the industrial arts printing approach and the vocational printing approach, and to survey the aims and objectives of high school printing instructors regarding these two approaches.

The review of related literature revealed that the main objectives of industrial arts education are different from the main objectives of vocational education, but instructors of printing do not always understand these different approaches.

A survey to determine the aims and objectives of present printing instructors was carried out by sending a questionnaire to a printing instructor in each school that offers printing in the states of Minnesota, Wisconsin, Iowa, Washington, Idaho, and California. A total of thirty-five questionnaires were sent, and there were twenty-three usable returns.

From this study, the following conclusions were made:

1. More high schools offer vocational printing education courses than industrial arts printing education courses.
2. Instructors prefer to teach vocational printing over industrial arts printing at the high school level.
3. Industrial arts printing education as well as vocational printing education has a place in the school shop.
4. Student needs are an important consideration in determining which approach should be used in teaching high school printing courses.
5. Industrial arts printing courses attract more students than do the vocational printing courses.
6. Vocational printing courses demand more class time than do industrial arts printing courses.
7. There is more agreement over the relative importance of vocational printing objectives than there is over industrial arts printing objectives.

CHAPTER I

INTRODUCTION

Practically every teacher of shop subjects is confronted with the problem, at some time or other, of understanding the difference between industrial arts and vocational approaches to teaching. High school printing instructors, because of their wide differences in training and qualifications, seem to have special difficulty with this problem. The frequency of discussion, whenever printing instructors meet, shows that a common problem of printing instructors is understanding the different printing approaches.

In an interview with one of the leading men in the field, it was related to the author that many present shop teachers do not understand the difference between industrial arts and vocational teaching.[1] It is the opinion of the author, however, that while a teacher of printing may not understand the technical differences of the different printing approaches, he may still have his preference as to which approach is the most important to the student.

Printing may be found in various types of schools and in different kinds of shops, such as vocational schools, printing trade schools, junior high schools, senior high schools, private schools, reform schools, and colleges and universities. Although an understanding of different approaches is not confined to the print shop alone, the growing concern among printing instructors makes this problem of prime importance.

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[1] Industrial Arts Department Head Ralph Kench, of Montana State College, in a personal interview, July, 1963.

Statement of the Problem

The problem of this study was to determine if any differences exist between the industrial arts and vocational approaches to printing education at the high school level, and to determine the aims and objectives of teachers of printing in relation to these approaches.

Procedure

A review of literature was the procedure used to determine if any differences exist between the industrial arts and vocational approaches to printing education at the high school level. The procedures used to determine the aims and objectives of teachers of printing in relation to the industrial arts and vocational approaches are as follows:

1. A sample of high schools offering industrial arts and vocational printing was selected for the survey.
2. A questionnaire form (Appendix B, page 30) was prepared and sent to the selected high schools.
3. The results of the questionnaires were tabulated and evaluated.

Limitations

The results of this study were limited by the fact that the sample consisted of public high schools that offer printing in the states of Minnesota, Wisconsin, Iowa, California, Washington, and Idaho.

Definition of Terms

In order to avoid misunderstanding of terminology, it was necessary to clarify the meanings of certain terms. As used in this study, these terms are defined as follows:

"Industrial arts printing approach" refers to the area of study and practice in the various methods of printing and its allied trades that has the objectives of a general education as its goal. It is an exploratory course concerned with the tools, materials, products, and processes of the printing industry, and with the attitudes and appreciations which come through a study of industry and its processes. "Industrial arts printing" is also referred to as "graphic arts."

"Vocational printing approach" refers to the area of instruction that is concerned with training students to earn a living and progress in a definite printing job. Its purpose is to develop a craftsman.

CHAPTER II

REVIEW OF LITERATURE

After carefully reviewing the literature in the field to find out if any differences between the industrial arts and vocational approaches at the high school level do exist, it was desirable to carry on the discussion under three different divisions. These divisions are as follows:

1. Relationship of Vocational Education to Industrial Education,
2. Objectives of Vocational Education,
3. Objectives of Industrial Education.

Relationship of Vocational Education to Industrial Education

That some confusion has existed for many years with reference to the relationship between industrial arts and vocational education is evident. One writer believes that the conflicting points of view are due to a variety of reasons. In the following examples he points out that some instructors cannot tell the difference between the industrial arts and vocational approaches because both approaches use similar materials and facilities, while other instructors do not want to understand the difference, since federal aid is given to the vocational classes and not the industrial arts classes:

> Some general educators maintain that there is little difference between industrial arts and vocational industrial education and that the trend is for these two subjects to become more and more alike. Vocational educators and industrial arts educators, on the other hand, insist that the two programs are different and should remain distinct and separate programs. These conflicting points of view are due to a number of causes. First, both types of courses use similar tools, equipment and materials, and in the smaller schools the same shop is used for both programs. The use of similar materials and facilities has led some persons to make no distinction between the nonspecialized activities of industrial arts and the specialized activities and processes of vocational industrial education. Then, too, the fact that Federal aid is provided for vocational industrial education and not for industrial arts has led some educators to make less differentiation between the two

courses than is justified in order to enroll larger numbers of students in the federally aided courses.[1]

Another writer sees the relationship of industrial arts and trade-technical education as a favorite topic of discussion among industrial educators. In the following paragraph he states that these discussions are often colored with prejudices:

> Discussions often are colored with prejudices one has acquired during his early training and teaching experience. The stand taken by individuals varies from a position of complete separation to one that brings the programs so close together the aims of each program become "fuzzy."[2]

Roberts, in stressing the importance of clearly defined course objectives, points out that it is not difficult to determine whether a specific course is industrial arts or vocational education:

> The problem of determining whether a specific course involving industrial shop activity is industrial arts or vocational industrial education is simply a matter of determining the major purpose of the shop activity. If it is designed to serve the needs held in common by a majority of school students or adults it is industrial arts insofar as these persons are concerned. If, on the other hand, the shop activity is organized to enable a student to prepare for or progress in a specific occupation of his choice the shop activity is classified as vocational industrial education.[3]

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[1]Roy W. Roberts, Vocational and Practical Arts Education (New York: Harper, 1957), p. 408.

[2]Walter C. Brown and John H. Erickson, "Aims of Industrial Education on Which There is Reasonable Agreement," American Vocational Journal, XXXVIII (March, 1963), p. 25.

[3]Roberts, op. cit., p. 409.

The quality of trade and industrial education is directly related to the level of competence of its classroom teachers.[4] The development of a course of printing and the methods to be used will be greatly influenced by the aims and objectives of the teaching staff.

Objectives of Vocational Education

Vocational education is part of the total experience of the individual whereby he learns successfully to carry on a gainful occupation. In addition, it implies the existence of a series of controlled and organized experiences used to train any person or persons for a given employment.[5]

Brown and Erickson point out that leaders in vocational education seem to agree upon the following aims for pre-employment training:

1. Skills. Trade technical education seeks to develop in each student a degree of competency in the common skills of the trade.

2. Related information. The student should develop an understanding of the basic related technical knowledge of his chosen trade.

3. Personal-social traits. Instruction and experiences in trade-technical education should foster the development of desirable character traits in students.

4. Advanced learners. Trade-technical education aims to prepare individuals for entrance into skilled and technical jobs as advanced learners.

5. Safety and health. The student should develop desirable habits and attitudes in regard to health and safety which will carry over into his employment.

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[4]John P. Walsh, Teacher Competencies in Trade and Industrial Education, U. S. Department of Health, Education, and Welfare, Bulletin No. 285 (Washington: Government Printing Office, 1960), p. 1.

[5]Charles A. Prosser and Thomas H. Quigley, Vocational Education in a Democracy (Chicago: American Technical Society, 1949), p. 2.

6. Occupational information. Instruction in the program should increase the students understanding of the occupational requirements and opportunities in his chosen field.[6]

The above list provides objectives for all types of vocational education. However, the Illinois State Board of Vocational Education lists specific vocational printing objectives which are in general agreement with the vocational education objectives listed above.

To prepare the student for advantageous entrance into, and growth within the printing industry and its allied trades by:

1. Providing an opportunity for students to develop skills and techniques that approach industrial standards.

2. Providing related and technical information essential to an understanding of the printing trade and its processes.

3. Developing proper professional work habits and attitudes.

4. Developing an appreciation for fine craftsmanship.

5. Laying a foundation for self-supporting citizenship.[7]

The value of vocational education is stressed by several leaders as being of particular importance. Secretary of Labor Wirtz, while testifying before the Senate Subcommittee on Labor and Public Welfare, gave this opinion:

I have a very great respect for the job which is being done through vocational education programs in this country. I have such great respect for it that I think it should be expanded, and that it represents one of the absolute essential needs of the adjustment of the work force and of the educational programs in this country, to the new demands of the technical age.

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[6]Brown and Erickson, op. cit., p. 26.

[7]Printing Objectives, Standards, Instructional Material, Bulletin No. 133 (Springfield: Trade and Industrial Service, State Board of Vocational Education, 1952), pp. 1, 71.

> I would like to say that the experience in the position I now occupy has made me realize the absolute indispensable contribution of vocational education to part of a rounded out educational program.[8]

Various leaders in education recognize vocational education as being important. Through vocational education, students are able to prepare for a particular occupation, or train for a given employment.

Objectives of Industrial Education

Industrial arts is included in school curriculums primarily to serve the nonoccupational needs of the students. The objectives of industrial arts are those of a general education. While some skills useful in a vocation are frequently acquired in industrial arts courses, this acquisition is incidental and secondary to the major purposes of the course.[9]

Brown and Erickson have listed what they consider to be the aims of industrial education. They believe that most leaders in the field agree on the following points:

> 1. Exploratory and guidance values. Industrial arts should assist the student to identify his interests and aptitudes in industrial activities and occupational fields.
>
> 2. Basic skill development. Industrial arts should provide the students an opportunity to develop basic skills in the use of common hand tools and machines.
>
> 3. Consumer knowledge. To enable students to gain a knowledge of the relative values and uses of industry is a prime aim of industrial arts.
>
> 4. Safety and health. Industrial arts should seek to develop desirable attitudes and habits in regard to health and safety.

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[8]"Secretary Wirtz Supports V. E.," American Vocational Journal, XXXVIII (April, 1963), p. 18.

[9]Roberts, op. cit., p. 409.

5. Language of industry. Students in industrial arts classes should develop the ability to read and understand industrial drawings.

6. Design. Instruction in industrial arts should provide students an opportunity to become familiar with the factors of good industrial design and to develop an understanding of and ability in design techniques.

7. Personal-social traits. Industrial arts should foster the development of desirable character traits.[10]

The above list of objectives pertain to all types of industrial arts courses. The following graphic arts objectives are similar to the above:

1. To help the student discover his aptitude and interest in activities in the graphic arts field.

2. To acquaint the student with the basic processes, operations, and materials of the field.

3. To acquaint the student with the occupational opportunities in the graphic arts industry.

4. To provide manipulative and other experiences which will contribute to an appreciation of the major fields in the graphic arts.

5. To develop in the student good work habits and a wholesome attitude toward work.

6. To have the student recognize the importance of cooperative efforts with others.

7. To develop an appreciation of printed products from the consumer point of view.

8. To provide opportunities for the development of leadership qualities in a practical industrial situation.[11]

The above graphic arts objectives are considered important by the Illinois State Board of Vocational Education. The International Graphic

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[10]Brown and Erickson, op. cit., pp. 25-26.

[11]Printing Objectives, Standards, loc. cit.

Arts Education Association combine many of these industrial arts printing objectives into three broad categories. They are as follows:

> (a) General Education -- to develop in the pupil through the study of the history and art of printing, an appreciation of its contribution to society and an understanding of its relation to other human activities; to provide situations that enable the pupil to recognize the importance, in his personal and vocational life, of English, spelling, mathematics, and the sciences; to help form good working habits of accuracy, thoroughness, neatness, and safety; to develop the ability to work harmoniously with others; to provide a basis for leisure activities in later life.
>
> (b) Consumer Education -- to provide the pupil with basic knowledge and interest for the intelligent selection and use of printed products.
>
> (c) Guidance -- to supply experience in a variety of graphic arts areas to help the pupil determine his aptitudes and to sample simple manipulative and technical phases of various graphic arts vocations in order to discover a possible interest in these or such related phases as commercial art, advertising, journalism, etc., to familiarize the pupil with the numerous kinds of jobs in the graphic arts industry, nature of work performed in each, working conditions, wages, etc., as a basis for a possible vocational choice.[12]

Printed products in many forms are being used by nearly everyone today, but relatively few individuals know how printing is done. People would have a greater appreciation of their daily newspapers, books, magazines, and many other products of printing if they knew something of the story of how they are made.[13] Graphic arts activities in industrial arts classes are being broadened to give a better cross section of the industry as well as

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[12] A Survey of Graphic Arts Education in Schools and Colleges of the United States (Washington: Education Council of the Graphic Arts Industry, Inc., and the International Graphic Arts Education Association, 1954), p. 9.

[13] C. W. Hague, Printing and Allied Graphic Arts (Milwaukee: The Bruce Publishing Co., 1957), p. 1.

providing experiences for popular and worthwhile leisure time hobbies.[14]

Summary

The general objectives of industrial arts and vocational courses are different, although these differences are often misunderstood by many industrial arts and vocational instructors. It is possible, however, to tell the difference between industrial arts and vocational education by determining the major purposes of the shop activity. The objectives of industrial arts are that of a general education, and serves the needs held in common by a majority of the students, while the objectives of vocational education are to prepare the student for a specific occupation. Vocational printing objectives are in general agreement with the objectives of other vocational courses, and industrial arts printing objectives are in general agreement with the objectives of other industrial arts courses.

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[14]Darvey E. Carlsen, Graphic Arts (Peoria: Charles A. Bennett Co., Inc., 1958), p. 8.

CHAPTER III

AIMS AND OBJECTIVES OF INDUSTRIAL ARTS AND VOCATIONAL PRINTING COURSES AS VIEWED BY HIGH SCHOOL INSTRUCTORS OF PRINTING

In order to determine the aims and objectives of high school printing instructors in relation to the industrial arts and vocational printing approaches, 35 questionnaires were sent to every high school that offers printing in the state of Minnesota, Wisconsin, Iowa, California, Washington, and Idaho. The addresses for this mailing list were obtained from a directory entitled "Preparatory Trade and Industrial Training Program in Public Schools."[1]

The questions of the questionnaire were arrived at after a careful study of the literature in the field. The questionnaire was then submitted to a panel of experts in the field for their evaluation and recommendations to insure that the questions selected would elicit the most useful information for this study. Table I shows the tabulation of returns on the questionnaire.

TABLE I. NUMBER OF QUESTIONNAIRES MAILED AND PER CENT OF USABLE RETURNS.

Questionnaires	Number	Per Cent of Total Mailed
Mailed	35	. . . .
Returned	31	88.6
Not usable	8	22.8
Total usable	23	65.7

[1] Preparatory Trade and Industrial Training Program in Public Schools, Office of Education, United States Department of Health, Education, and Welfare, 1961-62 Directory (Washington: Government Printing Office, 1962).

As shown in the table, 31 of the questionnaires were returned, or 88.6 per cent of all those mailed. Eight of the 31 returns were not usable, since five were answered incompletely and three were not concerned with the high school. Two were sent back with notations to the effect that they were adult courses, and one was a rehabilitation service and had their printing done at a state institution. After eliminating those which were not usable, 23 questionnaires remained, or 65.7 per cent of all those mailed.

Question 1--Printing Approaches Offered

The first question asked was, "Do you presently offer industrial arts or vocational printing courses at the high school level?" Table II shows how the respondents answered this question.

TABLE II. PRINTING APPROACHES OFFERED BY HIGH SCHOOL PRINT SHOPS.

Responses	Number	Per Cent of Responses
Offer industrial arts approach only	0	0.0
Offer vocational approach only	5	20.7
Offer both industrial arts and vocational approaches	18	79.3
Total responses	23	100.0

Table II shows that over three fourths of the schools in this study offer both industrial arts and vocational printing, while only five schools offer the vocational approach alone. None of the schools offer industrial arts printing without also offering vocational printing.

Question 2--Preferred Printing Approach

This question asked the respondents to check the type of course they preferred to teach--industrial arts or vocational. Table III shows the number and per cent who checked each type of course. The majority of respondents prefer to teach vocational printing, and only one out of 23 prefers to teach industrial arts. Two respondents checked both industrial arts and vocational, indicating they have no preference.

TABLE III. TEACHERS PREFERENCE OF HIGH SCHOOL PRINTING APPROACH.

Responses	Number	Per Cent
Prefer to teach industrial arts printing	1	4.3
Prefer to teach vocational printing	20	87.1
Both responses	2	8.6
Total responses	23	100.0

Question 3--Easiest Teaching Approach

The respondents were asked to check the printing approach easiest to teach. Table IV shows the extent to which they feel that vocational printing is easier to teach than industrial arts printing.

TABLE IV. EXTENT TO WHICH INSTRUCTORS FEEL ONE PRINTING APPROACH IS EASIER TO TEACH THAN THE OTHER.

Responses	Number	Per Cent
Industrial arts easier to teach	9	39.1
Vocational easier to teach	14	60.9
Total responses	23	100.0

In order to determine if the ratings of this question were statistically significant, the Chi Square test[1] was used. This test revealed that there was no significant difference at the 5% level concerning which approach is easier to teach. Fourteen of the 23 respondents felt that vocational printing is easier to teach, while nine out of 23 felt that industrial arts is easier to teach.

In relating question three to question two, an overwhelming majority prefer to teach vocational printing, but they do not necessarily consider it to be easier to teach.

Question 4--Most Important Printing Approach for the Student

This question asked the respondents which printing approach they considered to be more important for the student, and there were numerous added responses. Thirteen of them answered vocational, while two checked them both, three checked neither one, one said "both have their place," another said "industrial arts for beginners and vocational for advanced," and another said "it depends on what the student does with his training." The remaining two checked industrial arts, but qualified their answers by adding, "except the boy who becomes a printer," and, "I would have to say I.A. because here they have to take I.A. before vocational, and what they learn here will reflect on

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[1] The steps of the computation of the Chi Square test are as follows:

(1) Cast the observed frequencies in a k x r contingency table, using the k columns for the groups.

(2) Determine the expected frequency under H_0 for each cell and divide this product by N.

(3) Compute χ^2 by using formula

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

(4) Determine the significance of the observed value of χ^2 by reference to the table of Critical Values of Chi Square.

(Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences. (New York, Toronto, London: McGraw-Hill, 1956), p. 178.)

the rest of their learning."

Questions 5 and 6--Number of Years the Various Schools Have Offered Printing, and the Teaching Experience of the Respondents

Question five asked the respondents how many years the schools in this study have offered printing. Question six asked the respondents how many years they have been teaching printing. Because these two questions are of similar nature, they will be discussed together. Table V shows the number of years the schools have offered printing, and Table VI shows the teaching experience of the respondents.

TABLE V. NUMBER OF YEARS THE SCHOOLS HAVE OFFERED PRINTING.

Responses to total years	Number	Per Cent
10-25	4	16.0
over 25	18	84.0
Total responses	22	100.0
No response	1	

TABLE VI. EXPERIENCE OF INSTRUCTORS IN THE TEACHING OF PRINTING.

Responses as to total years experience	Number	Per Cent
5 or less	3	13.0
5 - 10	2	8.7
10- 25	13	56.6
over 25	5	21.7
Total responses	23	100.0

Eighteen of the 23 schools have offered printing for over 25 years, and four other schools have been teaching it between ten and 25 years. One

of the respondents did not answer this question.

Most of the respondents, or 78.3 per cent, have been teaching printing over ten years. The remaining 21.7 per cent have been teaching for less than ten years--two between five and ten years, and three for five years or less.

A majority of the schools have offered printing for over 25 years, while more than half of the respondents have between ten and 25 years of teaching experience.

Question 7--Importance Placed on the Different Printing Approaches

This question consisted of two parts. Part one asked the respondents if they felt vocational printing has a place in the school shop, and part two asked whether or not they felt industrial arts printing has a place in the school shop. An overwhelming majority answered yes to both of these parts. All 23 respondents feel that industrial arts printing has a place, and all but one feel that vocational printing also has a place in the school shop.

In relating this question to question 2, a majority of the respondents prefer to teach vocational printing, but they feel that both industrial arts and vocational printing have their place.

Questions 2 and 7 might be related to question 4. Since most of the respondents prefer to teach vocational, but they feel that both vocational and industrial arts have their place, this may be an indication that the respondents think of student needs when they consider which approach is more important for the student.

Question 8--Time Allotment and Average Enrollment of Industrial Arts Courses

Those who offered industrial arts printing were asked to answer this question, which consisted of four parts. The respondents were asked, (a) the

length of their industrial arts class period, (b) how many hours a week the classes meet, (c) how many months this is continued, and (d) the number of students presently enrolled. The tabulation of responses to these parts is presented in Table VII.

Parts (a), (b) and (c) each have a total of 18 responses, since there were 18 schools offering industrial arts printing.

Seventeen industrial arts printing classes met for one 55 minute period a day, while one class met for two periods a day. The length of these two periods a day were not indicated. All 18 classes of industrial arts printing met five times a week. The classes are continued for five months in two schools, six months in one school, nine months in nine schools, nine and one-half months in four schools, and ten months in two schools.

As Table VII shows, fifty per cent or more of the industrial arts printing classes meet for 55 minutes a day, five times a week, nine months a year, with a mean enrollment of 46 students.

Question 9--Time Allotment and Average Enrollment of Vocational Printing Courses

This question consisted of the same four parts as in question 8 described above; the only difference being that it pertained to the vocational rather than the industrial arts printing approach. The tabulation of responses to these same four parts are presented in Table VIII.

Parts (a) and (b) each have a total of 23 responses, since all 23 schools offer vocational printing. Part (c) has only 22 responses, however, since one respondent did not answer this part.

As can be seen in Table VIII, parts (a) and (b) have an identical number of responses under each column. The first column of both parts show

TABLE VII. TIME ALLOTMENT AND AVERAGE ENROLLMENT OF INDUSTRIAL ARTS PRINTING COURSES

(a)

	meet for 55 minute class periods	meet for 2 periods
classes	17	1

(b)

	meet five times a week
classes	18

(c)

	continue for 5 months	continue for 6 months	continue for 9 months	continue for 9½ months	continue for 10 months
classes	2	1	9	4	2

(d)

	lowest enrollment	mean enrollment	highest enrollment
students	14	46	125

TABLE VIII. TIME ALLOTMENT AND AVERAGE ENROLLMENT OF VOCATIONAL PRINTING COURSES.

(a)

	meet for 1 hour and 50 minutes	meet for 1 hour and 40 minutes	meet for 2 hours	meet for 3 hours
Classes	1	1	4	17

(b)

	meet 5½ hours a week	meet 6⅔ hours a week	meet 10 hours a week	meet 15 hours a week
Classes	1	1	4	17

(c)

	continue for 5 months	continue for 6 months	continue for 9 months	continue for 9½ months	continue for 10 months
Classes	1	1	13	4	3

(d)

	lowest enrollment	mean enrollment	highest enrollment
Students	4	22	85

that one class met for one hour and 40 minutes, three times per week, for a total of five and one-half hours a week. Another class met for one hour and 40 minutes five times, for a total of eight and one-half hours a week. Four classes met for two hour periods five times a week for a total of ten hours a week. Seventeen classes met for three hour periods five times a week, for a total of 15 hours.

More than half of the vocational printing classes met for three hours a day, five days a week, nine months a year, with a mean enrollment of 22 students.

Question 10--Importance of Various Course Objectives

In order to determine the relative importance that instructors place upon various course objectives, the respondents were asked to rate a number of objectives. Those offering industrial arts printing were asked to rate the degree of importance by checking one of the following: of major importance, of moderate importance, of little importance, of no importance. The course objectives to be rated were citizenship, craftsmanship, consumer knowledge, hobbies and leisure time, and occupational. Table IX shows the percentage of those offering industrial arts who checked each of these categories for the various objectives.

In order to determine if the ratings of industrial arts printing objectives were statistically significant, the Chi Square test[1] was used. This test found the objective of citizenship significant at the one tenth of one per cent level, and the objective of craftsmanship was significant at the two per cent level. Citizenship was considered of major importance, and craftsmanship

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[1]See footnote 1, page 15.

TABLE IX. EXTENT TO WHICH INSTRUCTORS FEEL CERTAIN INDUSTRIAL ARTS PRINTING OBJECTIVES ARE OF IMPORTANCE.

Responses	Degree of Importance in Per Cent			
	Major	Moderate	Little	No
Citizenship	77.8	16.7	5.5	0.0
Occupational	55.6	27.7	16.7	0.0
Craftsmanship	50.0	50.0	0.0	0.0
Consumer knowledge	33.3	55.6	11.1	0.0
Hobbies and leisure time	16.7	38.9	44.4	0.0

was divided between major and moderate importance. All of the industrial arts printing respondents rated each of the five objectives as being of some importance. They do not agree, however, as to the relative importance of each objective.

Those offering vocational printing were then asked to rate the same five objectives. Table X shows how these objectives were rated.

TABLE X. EXTENT TO WHICH INSTRUCTORS FEEL CERTAIN VOCATIONAL PRINTING OBJECTIVES ARE OF IMPORTANCE.

Responses	Degree of Importance in Per Cent			
	Major	Moderate	Little	No
Craftsmanship	100.0	0.0	0.0	0.0
Occupational	95.7	4.3	0.0	0.0
Citizenship	69.6	21.8	4.3	4.3
Consumer knowledge	26.1	56.5	17.4	0.0
Hobbies and leisure time	4.3	43.5	43.5	8.7

The Chi Square test[1] was again used in order to determine if the ratings of vocational printing objectives were of statistical significance. This test revealed that the two objectives of craftmanship and occupational were significant at the one tenth of one per cent level, while the two objectives of citizenship and hobbies and leisure time were significant at the one per cent level. Consumer knowledge was significant at the ten per cent level. The relative degree of importance that the vocational printing instructors place on each of the five objectives is: (a) craftmanship--of major importance, (b) occupational--of major importance, (c) citizenship--of major importance, (d) hobbies and leisure time--of moderate and little importance, and (e) consumer knowledge--of moderate importance.

All five of the vocational printing objective ratings were statistically significant, while only two of the industrial arts printing objective ratings were statistically significant. This may be accounted for by the fact that the vocational printing sample was a larger one. This also shows, however, that the respondents are in more agreement over the relative importance of vocational printing objectives than they are over industrial arts printing objectives.

Question 11--Importance of Continuing High School Printing Courses

The last question asked the respondents to rate the importance of continuing printing courses at the high school level, using the same rating scale described above.

Nearly all of the respondents consider it important to continue printing courses at the high school level, since 18 of the 23 respondents rated it of

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[1]See footnote 1, page 15.

major importance, and four respondents rated it of moderate importance. One respondent did not answer.

Summary

A study of the aims and objectives of industrial arts and vocational printing courses as viewed by instructors of printing at the high school level points out the following:

1. All 23 of the respondents in this study offer vocational printing, and 18 of them offer industrial arts printing.

2. Most of the respondents prefer to teach vocational printing, but they feel that both vocational and industrial arts printing have their place in the school shop.

3. The respondents think of student needs in considering which approach is more important for the student.

4. The industrial arts printing classes tend to meet for 55 minute periods, five times a week for nine months a year. They have a mean enrollment of 46 students.

5. More than half of the vocational printing classes meet for three hours a day, five days a week, nine months a year, with a mean enrollment of 22 students.

6. There is also more agreement over the relative importance of vocational printing objectives than there are over industrial arts printing objectives.

7. Nearly all of the respondents consider it important to continue printing at the high school level.

CHAPTER IV

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This study was carried out to determine if any differences exist between the industrial arts printing approach and the vocational printing approach, and to survey the aims and objectives of high school printing instructors regarding these two approaches.

Summary

A review of available literature sought to determine if the general objectives of industrial arts and vocational courses at the high school level are different. Marked agreement was found showing that the objectives of industrial arts and vocational classes are different, although these differences are often misunderstood by many of the instructors.

The objectives of industrial arts printing courses are to contribute to the general education of the student while the objectives of vocational printing courses are to prepare the student for a particular occupation. It is therefore possible to distinguish between industrial arts printing courses and vocational printing courses by determining the major objective of the shop activity.

In order to survey the aims and objectives of present printing instructors in relation to industrial arts and vocational printing approaches, a questionnaire was sent to 35 instructors in six midwestern and western states. The 23 usable returns revealed that high school printing instructors prefer to teach vocational printing, but they feel that both vocational printing and industrial arts printing have their place in the school shop. When the respondents were asked to rate a number of industrial arts printing

objectives, as well as a number of vocational printing objectives, concerning their degree of importance, it was revealed that there is more agreement over the relative importance of vocational printing objectives than there is over industrial arts printing objectives.

Conclusions

The review of literature revealed that differences exist between the industrial arts printing approach and the vocational printing approach at the high school level. A survey was then carried out to determine the opinions of the industrial arts printing instructors and the vocational printing instructors regarding these approaches. The following conclusions are based on the analysis of the data obtained from 23 high school printing instructors in six midwestern and western states:

1. More high schools offer vocational printing education courses than industrial arts printing education courses.

2. Instructors prefer to teach vocational printing over industrial arts printing at the high school level.

3. Industrial arts printing education as well as vocational printing education has a place in the high school shop.

4. Student needs are an important consideration in determining which approach should be used in teaching high school printing courses.

5. Industrial arts printing courses attract more students than do the vocational printing courses.

6. Vocational printing courses demand more class time than do industrial arts printing courses.

7. There is more agreement over the relative importance of vocational printing objectives than there is over industrial arts printing objectives.

Recommendations

During the course of this study, various questions were brought to the writer's attention. In an attempt to answer these questions the following recommendations for further study are made:

1. A study should be made of the general education contributions of printing at the high school level.

2. A follow-up study of industrial arts printing students and vocational printing students should be made in order to determine what percent of each enter the printing trade.

3. A study should be made to determine what printing processes are being offered in other industrial arts and art classes.

4. A study should be made to elicit the aims and objectives of other industrial arts courses, which would contribute in the planning and revising of printing education courses.

APPENDIX

APPENDIX A

Letter of Transmittal

837 Custer Place
Bozeman, Montana

Dear Sir:

In partial fulfillment of the requirements for an advanced degree at Montana State College, I am conducting a study of the different possible teaching approaches in the high school print shop. I feel that the opinions of the high school printing instructors regarding these approaches are of prime importance, and it is an area needing constructive study.

You can aid materially in the success of this study by filling in and returning promptly the enclosed questionnaire. Any additional comments or statements you care to make will be welcomed and will be held in strict confidence.

A summary of the findings of this study will be sent to you if you care to receive a copy.

Sincerely yours,

Kenneth L. Hoff

APPENDIX B

Questionnaire Form

TEACHING APPROACHES IN HIGH SCHOOL PRINT SHOPS

Industrial Arts Printing Approach = General Education. A finding, or exploratory course. Good for all students, both girls and boys.

Vocational Printing Approach = To give training that will enable a student to earn a living in and progress in a difinite job. To develop a craftsman.

1. Do you presently offer industrial arts or vocational printing courses at the high school level? __I.A. __Voc.

2. Which do you prefer to teach? __I.A. __Voc.

3. Which is easier to teach? __I.A. __Voc.

4. Which do you consider more important for the student? __I.A. __Voc.

5. For how many years has your school offered printing?
__ under 5 __5 - 10 __10 - 25 __ over 25

6. For how many years have you been a printing teacher?
__ under 5 __5 - 10 __10 - 25 __ over 25

7. (a) Do you feel that vocational printing has a place in the school shop? __yes __no
   (b) Do you feel that industrial arts printing has a place in the school shop? __yes __no

IF YOU OFFER INDUSTRIAL ARTS PRINTING, PLEASE ANSWER:

8. (a) What is the length of your industrial arts class period? _____
   (b) For how many hours a week do the classes meet? _____
   (c) For how many months is this continued? _____
   (d) How many students are presently enrolled? _____

IF YOU OFFER VOCATIONAL PRINTING, PLEASE ANSWER:

9. (a) What is the length of your vocational class period? _____
   (b) For how many hours a week do the classes meet? _____
   (c) For how many months is this continued? _____
   (d) How many students are presently enrolled? _____

10. Below is a list of possible course objectives that a high school teacher of printing may follow. Please check each one according to its importance.

	Of Major Importance	Of Moderate Importance	Of Little Importance	Of No Importance
Industrial arts objectives:				
Citizenship				
Craftmanship				
Consumer Knowledge				
Hobbies & leisure time				
Occupational				
Vocational objectives:				
Citizenship				
Craftmanship				
Consumer knowledge				
Hobbies & leisure time				
Occupational				

11. How important is it to continue printing courses at the high school level?

12. Would you like to receive the results of this study? __yes __no
(If so, please fill in your name and address in the space below.)

Name _____

Address _____

_____

I welcome any comments or statements that you may have, and they will be held in strict confidence.

APPENDIX C

Follow-up Letter

837 Custer Place
Bozeman, Montana

Dear Sir:

Recently, I sent you a questionnaire concerning the different teaching approaches in high school print shops. Since no reply has been received, I thought that perhaps the questionnaire did not reach you or that it has been mislaid. I am therefore sending you a second copy with this letter.

I will appreciate it if you will complete the enclosed form and return it to me as soon as convenient.

Sincerely yours,

Kenneth L. Hoff

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