A STUDY OF THE POSSIBLE AND ACHIEVED VALUES IN PRINTING INSTRUCTION IN THE PUBLIC SCHOOLS

CARL G. BRUNER
THE UNIVERSITY OF WICHITA

A STUDY OF THE POSSIBLE AND ACHIEVED VALUES IN PRINTING INSTRUCTION IN THE PUBLIC SCHOOLS

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CARL G. BRUNER

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CHAPTER I
INTRODUCTION

It is rather typical of Americans to do everything on a "grand" scale; to pyramid their activities under the stress of competition and promotional propaganda until they have assumed vast proportions, only to find, when they have been forced to a moment of thoughtful contemplation, that much of their effort has been mis-directed or at least not thoroughly capitalized upon.

Many things have been and are being done in the name of printing education. This typical American ambition and the likewise typical individuality has characterized the introduction of printing as a subject of instruction in the public schools. Wide differences in local needs, educational philosophy, personal desires, and actual information of the educators in charge of the individual situations have resulted in a wild diversity of organization, equipment, and results. Largely as a result of the rapid growth and the lack of any semblance of standards in aim, method, entrance requirement, or graduation requirement, thinking on the subject is in a chaotic state.

"There are in the United States more than two thousand schools in which students are taught how to set type and run printing presses. So important has education in printing become that one of the great printing supply houses maintains a special department devoted to the planning and equipping of printing outfits suited to instructional requirements."
This condition is in striking contrast to the condition to be found a little over fifty years ago when there was hardly a school, or department of a school, of printing establishment to be found in which beginners were taught in a systematic manner even the rudiments of the trade."¹

The earliest record of a school of printing that the writer has been able to find was in connection with the Workingmen's Institute at New Harmony, Indiana. "Printing, among other industrial activities, was taught in the early New Harmony schools. The 'Disseminator', which made its appearance in 1828, was the earliest school newspaper issued, and the printing of it was done by the boys of the school."²

While there were some private schools offering printing as a subject of instruction, there is no record of its being offered in the public schools earlier than 1875. It was not commonly found until after 1910. Since that time the growth has been very rapid. The federal vocational education movement in 1917 gave added impetus to the tendency to include printing in the curriculum.

"There has been apprenticeship in printing almost from the invention of movable types, and from the first the rights

¹Oswald, John Clyde, in a History of Printing, Chapter XXVIII, p 353.
and privileges of apprentices have been provided for in indentures. These obligated the master to teach the art and 'mystery' of printing, but immediate rather than future production was the aim of the teaching, and whatever knowledge the apprentice acquired usually came to him by observation while engaged in the more or less menial tasks that are inseparable from printing office routine."³

According to basic educational theory, manual arts activities can and should be used as tools or techniques in the education of practically all of the students in the schools. The purpose of manual training "was not to teach the boy a trade, as Rousseau had advocated, or to train children in sense-perception, as Pestalozzi had employed all of his manual activities, but as a form of educational expression, and for the purpose of developing creative power within the child".⁴ "As the writings of Pestalozzi, Herbart, and Froebel were studied more closely, and with the new light on child development gained from child-study and the newer psychology, these new subjects (manual training) came to be conceived of in their proper light as means of individual expression, and to be extended to new forms, materials, colors, and new practical and artistic ends. Today

³Oswald, John Clyde, in a History of Printing, Chapter XXVIII, p 353.

the instruction in manual work and the household arts in all of their forms has been further changed to make of them educational instruments for interpreting the fields of art and industry and home life in terms of their social significance and usefulness."5

However in practice, printing, along with practically all the other industrial, manual, and household art activities, was added to the public school curriculum in an attempt to broaden the scope so that something of value could be provided for the students who were not primarily interested in the college preparatory courses that formerly constituted the entire offering. Printing was offered as a new tool to use on those students who could not or would not grasp the abstract matter provided for them in the regular academic courses. The aim was not primarily to teach printing, but by means of printing or other manual subjects to give the training necessary for good citizenship, and to allow the student to spend his time profitably in school. The logical assumption was that much of the essential general educational material could be taught around the "core" of interest provided by an intrinsically interesting subject which afforded the opportunity for concrete expression; in fact, the teaching of a minimum of abstract material by

organizing it around the manual activity as a unifying and motivating interest was the actuating motive in introducing the manual arts and household arts subjects into the schools.

With the foregoing thought in mind it can readily be seen that printing has been offered and is being offered to satisfy the needs of the students, to provide for their development, and to cater to their interests—not primarily to satisfy the needs or cater to the desires of industry. Printing courses of the industrial or manual type exist for purely educational reasons; training for the trade is a secondary consideration. The idea of probably success in the industry does not enter into the original selection of the students for the courses in printing in the majority of the public schools.

However, in the minds of most workers and employers in the printing industry; likewise in the minds of many educators and teachers not actually working in the printing departments the enrollment of a student in a course in printing means that he is planning to become a worker in the printing industry. While this obviously is not true, it results in misunderstandings that decimate the contributions of not only the printing departments but also of the school as a whole.

Leaders in printing education and the majority of the teachers of the subject see vocational efficiency and entrance into the printing trade as the intention of only a small
percentage of the students enrolled in the public school printing courses. Only the definitely vocational courses in which the student spends three or more hours per day on printing and related subjects are expected to graduate any appreciable percent of their enrollment into the trade.

Before the twenty or more million dollars now invested in equipment for instruction in printing can be properly and profitably used; before the three thousand or more teachers of printing can effectively do their work; before the next crop of teachers of printing can be adequately trained and oriented; before the employing printers, the workingmen, the school authorities, and the general public can whole-heartedly cooperate with the teachers in their work; before text books and systems of instruction can be intelligently written; before the results of instruction can be fairly and objectively measured; before the relationship of the printing courses with the industry, the academic courses, the public, and the school can be determined; in short, before any kind of order can be brought out of the chaos that now exists in the collective mind of those now engaged in the teaching or the judging of the teaching of printing, the needs and desires of the different interested groups, the observations of their leaders, and the hopes, aims, and plans of those interested in providing printing education will have to be gotten together and subjected to the scrutiny of the research worker.
It is the purpose of this study to make a definite and much needed start toward the clarification of the thinking on the subject of instruction in printing in the public schools. If in this study definitions and classifications can be set up, other studies can set up standards and norms for each phase of the work. When this is done, printing instruction will be on a firmer foundation than it has ever possessed, and achievement and good will should eventually displace the uncertainty and misunderstanding that is now extant.
CHAPTER II
THE PROBLEM

When printing was introduced as a subject of instruction in the public schools, it became of vital importance and interest to at least three quite radically different groups: namely, the school authorities, the employing printers, and the journeymen workers. Since each of these groups has interests of its own that are quite different from the interests of either of the other groups, it can readily be seen that their viewpoints might vary greatly. Briefly stated, the employing printers are torn between the desire for trained workmen (plenty of them so that the wages will not be too high) and the longing for the profits on the production work that is being done in the school printing shops. They would also like the school to create a large group of buyers and users of printing who would recognize quality and who would be willing to pay generously for printed products.

The school administrators like to include all of the latest courses in the curriculum; the printshop is something of a show place for visitors. They like to have printed materials available at low evident cost with only slight penalty for frequent changes of copy. They like to have a place for those students who fail to fit into the regular academic course. They like to have newspapers, school magazines, annuals, etc. to promote school spirit and to serve as an outlet and reward for academic endeavor. Many educators see printing as a school subject of wide possibilities.
for academic, cultural, and vocational training.

The union workmen (we select the union group because they are the only ones so organized that their voices can be heard) are afraid of too many skilled and semi-skilled workers. They also see the school as a potential source of workers for the shops in case of a strike. The unions usually want to use the time spent on the job rather than personal achievement as the basis upon which to judge a worker's ability.

All three groups tend to think of printing instruction as trade training, and trade training in a very narrow sense.

In addition to these different viewpoints and interests on the part of those who are watching the schools, there is a wide variety of things being done in the name of printing education. The fact is obvious that those interested in printing instruction in the schools should plan an advertising campaign to let the public, the commercial printers, the school authorities, and the workmen in the shops know what can and what cannot be done in a school print shop, and—what is infinitely more important—let everyone interested know what has been attempted in each school situation so that the results can be fairly evaluated.

As chairman of a curriculum committee of the Kansas State Printing Teachers Association, the writer availed himself of the opportunity to find out what was being taught in the various school printing departments in the State. In
order to broaden the work, communications were held with a number of schools in all parts of the country. Such a diversity of aims, methods, and purported results were found that some of the differences of opinion of those who look into the school printing departments from the outside were explained immediately.

The printing instructors have, on the whole, attempted to do creditable pieces of work but the aim of their efforts vary widely; consequently their results vary. Many of them have been working under very serious handicaps in training, organization, and equipment. Those in charge of the organization of the shop have been, in many instances, unsympathetic or mis-informed. The equipment is frequently inadequate, not from lack of money expended, but because of poor selection when one considers the purpose for which the equipment was intended—education.

Examples of the conflicting methods and ideas are easy to find. Each basic idea might be defended but the very variety of them leads to damaging misunderstandings when the interested outsiders look at the results. A consideration of three radically different viewpoints, each of which has quite a following among teachers of printing should be not only enlightening but also profitable. Obviously these viewpoints do not apply to the truly vocational course where the student has a much greater amount of time to spend on the subject.
Many printing teachers are interested only in the growth and development of the student; subject matter is only incidental. Whether the student remembers any facts or acquires any skills does not matter at all, if in his passing contact with them he has developed mentally. In this theory of education the actual subject matter, whether it be printing, mathematics, or history is only a tool and as such is readily laid aside after it has been used. The aim of the course is individual development; it tends to search out and to develop the potentialities that are the student's native endowment. In theory he is then ready to adapt himself to any environment in which he finds himself. Any specialized skills will be acquired after he enters the life work of his choice.

Another group of printing teachers have selected, more or less at random, a few of the specialized fundamental skills of the industry. They reason something like this: "This student has only a limited time to spend with me. Later he may enter a commercial printing establishment and my work will be judged by how well he does things. What he learns, I want him to learn well. I do not have time for this finished instruction in many things. Design and layout, display composition, makeready, a study of printing costs, etc. will have to be omitted. I will keep him on straight composition and press feeding."

A third group of printing teachers take their students on what might be called a "sight seeing trip" through the
printing industry. Kinds and uses of paper, a study of ink, printing costs, history of printing, design and layout, development of machines and processes, makeready, including both hand-cut and mechanical overlays, selling, printed advertising, and the personal qualities necessary for success in the various branches of the industry are all discussed. Demonstrations, lectures, field trips, experiments, and shop work are all used by the necessarily versatile instructor as teaching tools. In the shop the student passes rapidly from one type of job to another so that a large number of typical operations will be understood. Of course, in the limited time no great amount of skill will be developed. The basic theory is that a great number of the boys and girls enrolled in the course will not enter the commercial shops as printers, but practically all of them will use printing. After the course they should be able to use it more effectively. The aim is practical information for a great number rather than special skills that will be used in all probability by only a few.

When we consider that these three basic theories are radically different, not to mention the multitude of widely varying teaching techniques employed in attempting to carry out each theory, and the differences in native endowment and experience of the teachers attempting the work, it is no wonder that the people outside of the printshop door frequently do not have any accurate idea concerning what is
going on inside of the door. They make a wild conjecture of what, in their opinion, should be happening and judge the product that marches from the shop of the school on that basis. Is it any wonder that the teacher and his product—the student, are frequently misjudged?

An investigation seemed necessary in order to discover:

(1) What are the potentialities of printing as a subject in the public schools? (2) Just how high does printing education rank in the opinion of the leaders in the printing field, among the workmen, and the public school administrators? (3) What can be done to clarify the situation and make the instruction in printing more effective?

In order to understand the study it must be remembered that, in the minds of most people not directly connected with the teaching of printing, the term "school printing" is all-inclusive. They do not, as a class, differentiate between vocational courses, pre-vocational courses, exploratory courses, general educational courses, industrial educational courses, etc. Yet each of the above mentioned courses is quite different from the others in aim, place of emphasis, equipment required, and teaching method; naturally a different type of modulation of the student's native endowment is to be expected. It is very important to remember that only one of the foregoing types of courses in printing can logically presume to train skilled employees for the industry. By far the majority of the over three
thousand public school printing shops in the country should describe their courses as belonging to one of the types other than vocational. If it were generally understood in the community that possibly the vocational aspect is not stressed, that the course is designed to attain other ends, and that a knowledge of the aims of the course is necessary before the value of the subject can be fairly judged, a much more wholesome relationship would exist in many situations.

In this study the work and activities of the school printing shop are looked at through the eyes of qualified representatives of each of the groups that is vitally and logically interested in the present and future programs of the schools.

The aims of this study are as follows:

1. To secure from the qualified representatives of the employing printers (commonly called Master Printers) their observations and suggestions concerning the present and future work of the school printing shops.

2. To secure from the school superintendents a statement of their attitude to printing as a subject in the public schools.

3. To secure from the directors of industrial education in the representative cities a statement of what is being done and what can be done with printing as a subject for instruction in the schools.

4. To secure from qualified representatives of the journey-
men printers their observations concerning the possible and actual contribution that instruction in printing in the public schools can provide.

5. To gather from current literature and previous studies relevant material that will add to the value of the study.
CHAPTER III

PREVIOUS STUDIES

Much has been written and printed concerning printing as a subject for instruction in the public schools. A considerable proportion of this material, unfortunately, is of only slight value when scanned with the critical eye of a student seeking factual data. Careful analysis discloses evidence that the authors, or at least the publishers, have been actuated by a variety of ulterior motives. The desire to sell printing equipment, the hope of curbing production work in the school shop so that it will be available to the commercial printers, the desire to promote some particular brand of instructional material or some particular technique of instruction, the desirability of a print shop in close proximity, the fear of too many workmen and the resulting decline in wage scale, the hope for cheap help trained at public expense, the desire for industrial education shops as show places in connection with abstract programs of education, etc. are a few of the elements that obscure the facts in much of the literature available.

There have been a few factual studies among the vast amount of promotional literature. The committee on education of the United Typothetae of America, previous to the thirty-second annual convention of that body made a study of "the problems arising out of the introduction of the teaching of printing into public schools". The report given the Typothetae in September of 1918 is comprehensive. Although
mention is made of the other types of printing instruction
the vocational training aspect is the one that is prominent.

The report covers the following:

Causes for the extensive growth of printing teaching in the
public schools

1. The general demand for industrial education
2. Printing is not a localized industry and, therefore, interests all communities of any size.
3. Printing is not laborious.
4. Printing is interesting to many boys.
5. The product of a printing department is useful and even salable.
6. The supply houses have seen in the public schools a great market for their goods.

Types of instruction in printing

1. Manual training
2. Prevocational training
3. Vocational training

General attitude of the committee

"The committee sees possible value in all three types of instruction. With the first it has little concern. Properly conceived and properly administered it has little or no relation to the industry, at least directly."

"The committee regards the second type as very useful if properly conceived and properly administered. It is a great help to boys facing the momentous choice of a life
work to have provided for them the basis of an intelligent choice and thus helped to avoid the waste of time and energy involved in unintelligent experiments which may after all, result in a wrong choice and a life of misspent exertion, unsatisfactory alike to the workman and to the industry."

"The committee regards the third type as potentially very useful if properly conceived and properly administered. There is no doubt that systematic training is better than the haphazard picking up of an industry."

Present defects

1. The lack of clear definition of aim and strict adherence to the aim as defined
2. Insufficient or ill chosen equipment
3. Incompetent instruction
4. Unbusiness-like methods
5. Low standard of product
6. A frequently used argument for a printing department is that it is self-supporting.
7. Lack of relation with the industry

Consequences

"Clearly, printing instruction vitiated by the defects enumerated is worse than useless. Boys who are subjected to it are not only not fitted but distinctly unfitted for the industry. It tends to recruit the ranks, already too full of poor workmen, to furnish a supply of cheap labor for cheap shops, to lower the standards of the industry, and to subject
good workmen to all the evils of cheap competition. The existing condition should be ended or mended before its evils, not yet seriously felt because of the newness of the enterprises, become intolerable."

**Remedies**

"The remedies will be considered from the standpoint of the employer."

1. Organization (of the employing printers)

2. Advisory committee (a committee of the printers to consult with the school authorities, to advise as to the conduct of the work, to keep the printers in vital contact with it, and to place graduates)

3. Visitation

4. Report

5. Organized effort

A careful reading of this report with the material in mind that is presented in the introduction to this study will reveal the reason that this admittedly very good study did not have the effect that it deserved.

Another study that is quite interesting and of some value to the printing teacher was published in booklet form after having originally appeared in the Industrial Education Magazine. The booklet entitled "School Printing in the United States" by F. C. Lampe, was printed as an advertising project by the Barnhart Brothers and Spindler Company who were at the time publication dealers and manufacturers of
printing equipment.

The article by Mr. Lampe was the result of considerable correspondence with practically all of the older directors of Industrial Education in the United States. A review of the chapter headings will give an idea of the scope of the book. A rather informal style characterizes the work. It is quite promotional. The chapter headings follow:

I. Preparing young people for the trade

II. Change in trade training

III. Public schools start vocational training.

IV. Printing as a manual arts subject

V. Conclusions

The booklet also included several pictures and quotations which would tend to encourage the introduction of printing as a subject for instruction in the public schools.

Mr. Fred J. Hartman, director of education for the United Typothetae of America made a "Survey of Printing Education" for the school year 1925-26. This report was issued in bulletin form by the Typothetae. Some excerpts follow:

"Who has not felt the need for a reliable 'Who's Who' of printing teachers, as well as an authoritative classified list of printing schools? This challenging question introduced a printing questionnaire distributed broadcast by the Department of Education of the United Typothetae of America. Information was received from two hundred and thirty-one
schools offering printing instruction in the United States and Canada. This number is probably only a tythe of the actual number of such schools. Sufficient data were received, however, to venture some general findings:

1. Printing is a subject for instruction in all types of schools from the elementary public school to the college and university.

2. There are thirteen distinct types of schools in which printing is taught: (1) Elementary School; (2) Junior High; (3) Technical High; (4) Academic High; (5) Trade or Vocational; (6) Continuation; (7) Part-time; (8) Evening; (9) Plant school; (10) Government; (11) Schools for the Deaf; (12) Charitable; (13) College and Normal Schools.

3. Over fifty per cent of the schools of printing and approximately sixty-five per cent of the total enrollment are within the high school range, including the Junior, the Technical, and the Academic High Schools.

4. The courses vary greatly in length within the same types of schools. For example, in the Junior High Schools, the courses range from nine weeks to three years; in Technical High Schools, from one semester to four years; in Academic High Schools, from eighteen weeks to four years.

5. There is a great diversity of hours per week actually
allotted to printing instruction. In Junior High Schools, for example, the weekly period ranges from one to thirty hours.

6. The shop subjects of instruction for all schools may be summarized approximately as hand composition in one hundred per cent of the schools, press work in seventy per cent of the schools, bindery in forty per cent of the schools, and machine composition in thirty per cent of the schools.

7. The total value of the equipment for instructional purposes for the two hundred thirty-one schools amounts to $2,475,100. This means if there are two thousand schools of printing in the United States and Canada, as claimed, about twenty million dollars are invested in this equipment.

8. The total enrollment for 1925-26 in the schools reporting is 17,497. This indicates that there were at least 150,000 young people enrolled in courses of printing of the varying types during the past year.

9. The survey shows three hundred sixty-two teachers for two hundred thirty-one schools. This leads to the conclusion that there are probably three thousand teachers of printing in the United States and Canada.

10. Over eighty per cent of the schools report that they have no direct contact with the industry by way of advisory or cooperative service.
"No other branch of industrial education has grown as rapidly as has printing. Less than twenty years ago there were but two schools of printing worthy of the name in North America. In 1912 it is said that there were fifty-seven school printing plants in this country. It is believed quite generally that there are now between 2,000 and 2,500 of such schools. The great increase during the past fourteen or fifteen years can be traced to the practical encouragement that has been given by the printing industry. As early as 1908 the United Typothetae of America, the international association of Master Printers, declared its policy as favoring technical schools of printing. Since 1912 this organization has promoted a definite program of education that has had a far-reaching effect through the preparation and distribution of instructional material, practical helps for teachers, information and advice for school administrative officers, and a printing magazine for teachers and students."

(Tables were included in the bulletin giving the above material in tabular form.)

David Gustafson, professor of printing, Carnegie Institute of Technology, in the November 1930 Printing Education Magazine, analyzes the answers to a questionnaire sent out by Mr. Hartman. The questionnaire was practically the same as the one used in the above mentioned 1926 survey. Under the heading, "A Survey of Printing Education in the United States", Mr. Gustafson gives the following information:
Five hundred and twenty-three schools answered the questionnaire, reporting fifty-two thousand three hundred and sixty-two pupils enrolled, and eight hundred and thirty-five teachers employed. While this does not cover more than one-fifth of the schools of printing in the United States, virtually all of the larger schools are represented in the survey, and the contributing schools constitute a fair sampling of the important types of schools offering printing in all sections of the country.

"The complexity of the situation in American printing education is shown in the many types of schools listed. On analysis, too, the answers regarding such items as length of course, hours per week, subjects taught, textbooks used, and value of equipment, reveal wide divergences of aims, programs of work, and teaching technique in each of the major classifications."

Mr. Gustafson elaborates his study with tables giving the number of schools of each type, their enrollments, and the number of teachers employed. A second table gives the number of schools offering more than one type of instruction in printing. A third gives the subjects taught in each school reporting. A fourth gives the estimated value of equipment.

"Encouraging facts gleaned from the answers were the increasing popularity of the job sheets, the curriculum studies being carried on in several cities, the frequent
mention of reference libraries, and the growing tendency to familiarize vocational students with the trade journals. Many instructors in printing have unquestionably raised the level of pupil effort from more practice to understanding and appreciation."

One section of the questionnaire dealt with the relation of the schools to the industry. Mr. Gustafson says: "One of the questions pertained to the relationship of the school to the printing industry in its community. Only sixty-eight schools indicated that an advisory committee representing the industry was cooperating with the school. Many of the instructors expressed the wish that such a relationship might be effected in the near future, an indication of the growing realization on the part of the teachers and educational supervisors of the necessity of actually fitting the vocational pupil for the industry in which he expects to find his life-work. Trade organizations have assisted a number of the vocational schools in organizing their curricula and obtaining instructional materials."

"To sum up, the 1930 survey of printing schools and departments of printing gives striking evidence of the growing importance of printing as a vocational, pre-vocational, industrial arts, and cultural subject in the public and private schools. Considerable progress has recently been made in harmonizing curricula and teaching methods with the expressed aim and objectives of the course offered. Individualism,
however, has run wild in the field, and there is need today of much cooperative effort in the definition of aims, the preparation of courses and instructional material, and in the training of teachers for the various types of schools giving instruction in printing."

Mr. Charles W. Sylvester, director of the division of vocational education, Baltimore, Maryland, gave a report at the meeting of the American Vocational Association in December, 1929, on "A Recent Survey of Printing Education". To quote Mr. Sylvester: "In order to get a broad picture of large city vocational education programs with supporting information, and in order to test the soundness and validity of our present and projected program, a committee of three persons was selected to make a study of the work in six cities. Those cities selected were Pittsburg, Cincinnatti, Milwaukee, Detroit, Cleveland, and Buffalo. As some data had been secured a few months before in Denver and Los Angeles, it was decided to include these two cities."

"The cities referred to have been very cooperative in making it possible for us to get the information which we desired. We were able to get a splendid picture of the educational work in printing in each city through observation of classes at work and from conferences with teachers, principals, and directors. In many cases we had the opportunity to talk with representatives of industry. Almost without exception, each city is thoroughly sold on the importance of printing
education as a general education subject as well as a means of preparing students for trade employment."

While the survey lacks objectivity, considerable valuable information is included. A brief review of the findings follow:

**Printing for General Education Purposes**

Printing is one of the most important industrial arts subjects everywhere. In Buffalo and Cincinnati education work in printing is carried on in some elementary schools. This is also true with respect to one of our schools in Baltimore. It seems to be a very popular and prominent subject in junior high schools and every city having junior high schools has included this subject in the curriculum. In Los Angeles there are 22 junior high school shops, Cleveland has 26 and in Denver and in our own city there are 9 each. In each city included in this survey there is Printing Education in the senior high schools. In Los Angeles there are 29 high schools giving educational work in this field. There are six such schools in Cleveland, five in Denver, four in Cincinnati and a smaller number in the other cities, with splendidly equipped shops and definitely organized programs of Printing Education.

Buffalo has one high school with an enrollment of 520. In Cincinnati there are 2400 students enrolled in senior high school printing courses. There are 2700 in Los Angeles and in Cleveland 3434, with other cities well represented. This certainly indicates to me that Printing Education is not only
worthwhile, but is exceedingly popular with the students, inasmuch as it is usually an elective subject. No city referred to employs less than four teachers for printing instruction outside the vocational schools, and in Los Angeles there are 62 teachers devoting their full time to this work. It is interesting to note that the average number of students per teacher varies from 44 to 227. This variation, of course, is largely due to the fact that more time for each pupil is being allotted to printing in some cities than in others. The general average for all cities is 95 pupils per teacher, which is considered quite enough for any one instructor to handle.

**Printing in Trade Schools**

With the exception of Cleveland, every city has at least one trade school in which printing is offered on a vocational basis. Milwaukee has two such schools, and in a few places, particularly Los Angeles, printing is offered as a trade subject in some of the high schools. This discussion, however, will not include the work that is carried on high schools, although in most instances, it is of equal importance and maintains the same standards of instruction and workmanship. In Cleveland we find that the Cleveland Typographic Union #53 owns and operates a trade school for their apprentices. The Cleveland Pressmen's Union also operates a trade school and gives instruction in various kinds of press work. As printing is one of the most important trades in each city,
it is quite natural that we found splendid programs of Vocational Printing Education. All cities seem to be alive to the situation and are doing everything they possibly can in various ways to meet the need for trained craftsmen in this field.

**Administrative Organization**

In every city, some person directly responsible to the Superintendent of Schools has charge of the administration and supervision of all vocational schools and courses. In some cities, the title of this position is "Director of Vocational Education", while another is "Associate Superintendent of Schools". Nearly every city has a plan all its own. In Milwaukee we found the day school courses in the Boys Technical High School are the full-time unit trade type. In Los Angeles, Pittsburgh and Buffalo, the all-day unit trade school predominates. Cincinnati is organized on a part-time cooperative feature in the latter part of the course. All cities are carrying on a splendid evening school program for the apprentices and journeymen from industry. The one great difficulty which exists but which is also encouraging, is the fact that all employed workers who register for evening school work cannot be accommodated in the day school plant.

**Cooperative Relations with Industry**

Everywhere we find an attempt has been made to secure the cooperation and assistance of industry. In four cities
we find definitely organized trade advisory committees composed of representatives of employers, employees and Education. These advisory committees are meeting regularly and have much to do with the success of the Printing Department. While there are no trade advisory committees in some of the cities, almost without exception the work is unanimously approved by all groups, and assistance is being given by individual firms and labor organizations direct.

Cincinnati with its part-time cooperative work, has perhaps the closest tie-up with industry, inasmuch as all students are employed during the period of training, thus providing employment opportunities for all at the time they complete their course. No one, however, could desire better cooperation than we receive from the printers of Baltimore. They are an outstanding example of what can and should be done in each industry. In addition to providing employment for students, industry has given much assistance in the development of courses of instruction and in supplying equipment for the various schools. This feature, I believe, makes it possible for each school to operate on a most efficient basis. At least, this is our experience in Baltimore and as the years go on, cooperation seems to be even more valuable.

The advisory committees are ever ready to assist the schools with their many problems and, as a matter of fact, are a most valuable connecting link between industry and the school. Some of the functions of these committees include
the following:

Determining the need for training, formulating rules and regulations, reviewing student applications, approving and enforcing contracts, evaluating training and developing wage schedules, maintaining contact with cooperating organizations, assisting in securing the right type of equipment and materials, locating prospective instructors, reviewing and approving courses of study, assisting in establishing trade courses, enforcing part-time school attendance and regulations, adjusting complaints, inspecting apprentice training, reporting to employers, certifying training results, and circulating apprentice publicity.

**Building and Equipment**

In the majority of the cities, the printing trade school is a department within the Vocational School. In Baltimore, a separate building has been provided for this work, as a definite administrative unit. Cincinnati has made plans for a new building especially designed for printing trade work. The floor space devoted to printing varies from 3780 square feet in Denver to 12,000 in Cincinnati. Figuring this in accordance with the per pupil-floor-space area, we find that from 33 to 100 feet is being used for each pupil. I believe that at least 75 square feet should be provided for each student in planning new buildings. Splendid equipment has been provided everywhere. In Denver we find equipment valued
at $25,000, Cincinnati has a plant worth $85,000 and in Baltimore the equipment has meant an investment of approximately $100,000. With few exceptions, the equipment is modern in every respect. In many schools, manufacturers have been very cooperative in furnishing equipment on loan or at a great reduction in cost. In Cincinnati and in Baltimore, the majority of the equipment has been secured through the efforts of employing printers. The cost of equipment per pupil varies from $300 to nearly $1200 in the all day trade schools.

Instructors and Students

Qualifications of instructors in all cities are very much alike. Men of long trade experience and with considerable preparation in the art of teaching have been secured for the various positions. The number of instructors employed varies from 3 in the Milwaukee Technical High School to 10 in Cincinnati. The duties are not always the same. In some places we find that the instructors serve part-time as co-ordinators. In the all-day trade school, the average number of students per teacher varies from 10 to 25. In the part-time schools, the number varies from 25 to 50.

Students have been selected very largely from a standpoint of age and grade. In a few places Prognosis tests have been devised for the selection of students. In Baltimore this method of selection has worked out very satisfactorily. It is my feeling that such a procedure is well worth-
while. The number of students enrolled in printing trade courses varies from 43 in Detroit to 353 in Milwaukee. The largest all-day trade enrollment is found in the Boys Technical High Trade School in Milwaukee, with 152.

**Type of Instruction**

A great variety of instruction is offered in each school. Courses include Rand Composition, Machine Composition both Monotype and Linotype, Job, Automatic and Cylinder Press Work, Imposition, Typographic Layout, Bindery Work and Casting. There are also instances where engraving and lithography are carried on in connection with the printing school. Buffalo has just opened a department of lithography and in Baltimore we will open a department about January 1. Monotype, keyboard and castor instruction is offered in at least 4 cities and Linotype operation and mechanism is offered in most of the schools. Considerable attention is given to Bindery Work in many of the schools visited. Emphasis is being placed very largely on the type of work most needed in the community. The employed craftsmen are fortunate in having provided for their benefit a great variety of trade courses in the evening schools.

**Production**

The kind of printing work produced is very much alike in each school. As far as we were able to determine, little, if any, work is done for agencies outside of the school system. In some instances nearly all of the printing for
the school system is done in school print shops, the major part of it being done in the trade school shop. While we do not do all of the school printing in Baltimore, we do work valued from $10,000 to $15,000 each year. In this respect, printing instruction is superior to most other types of trade instruction. The printing schools have the most valuable types of jobs needed which conforms to Wright and Allen's evaluating factor "Effective training for work can best be given on a real job." As the matter of production is left in the hands of the administrative authorities of each school, the work is selected which fits in with the program of instruction. This is the feature which I cannot stress too strongly. It seems to me if the work is taken in as it ordinarily comes, without regard to the course of instruction, much harm can be done to the program of education. On the other hand, were it not possible to secure practical work, instruction given would be of very little value, and the students in most cases would show very little interest in their work.

Placement of Students

The true measure of success of any Vocational School or course is: first, the possibility of all students finding employment, and second, the ability of those students to carry on efficiently and successfully. We find in Baltimore that a school with an enrollment of 90 will provide about all the apprentices needed in our printing industry.
We were surprised to find larger numbers of students in other places, thinking, perhaps, they might be turning out an over-supply, but the answer to that is the fact that all students of the schools visited are being placed in the industry. In some instances, students have been placed in related kinds of work, but this, I believe, is to the credit of the school in each case. In the paper business, the ink business and the supply business of all kinds, there is a need for young men who have a knowledge of printing, and therefore, it seems to me this is an opportunity not to be overlooked.

The graduates from schools in these cities vary from 8 to 85 each year. There are many others, and this is particularly true in Baltimore, who leave the schools without graduating, for entrance into the industry. Many of these have met with unusual success, and have continued their training through evening school courses. More than 100 students in our city have entered employment after having spent from a few months to two years in the school. Those who make good are generally the ones who leave for economic reasons.

The Scientific Approach

Printing Education seems to be well established on a firm basis. Much attention has been given to the scientific study of the needs of this field of work. No one has attempted to turn out more apprentices than can be absorbed in the industry. As a matter of fact, safeguards have been set
up against such a possibility. I believe that all cities referred to in this report are proceeding with due caution in the right direction. It has been interesting to study the present situation from the standpoint of the number of journeymen and apprentices employed, and their relation to the number of students enrolled in our schools. These figures may not be wholly reliable, but it seems to me that they may well be taken into consideration by any city establishing or adjusting a program of Printing Education.

According to the census report of 1920, we find that the number of printers-compositors and pressmen varies from 892 in Denver to 2108 in Baltimore. I was surprised to learn that there are more printers in Baltimore than in any other city included in this group, but our local industry is not only diversified, but is one of our very important ones. The apprentices in this particular trade vary from 53 in Los Angeles to 191 in Baltimore. The percentage of apprentices to journeymen varies from 4 to 11%, the average being 9%. This seems to be one basis, therefore, on which we might determine the needs of the industry. Again, from another angle, I find that the percentage of students enrolled to employed printers in these cities, varies from 4 to 15%, or an average of 9%. Comparing the students enrolled with the apprentices given, I find that the figures vary from 50 to 200%, or an average of about 100%. It seems, therefore, that our school enrollment might well be about the size of the number of ap-
prentices employed in a particular city.

The Value of the Survey

The figures presented in the above paragraph may be very theoretical, but it has been my experience that they have been very helpful in the development of a program of Printing Education. The survey in every respect was worthwhile to us in many ways. We were able to check our program against programs in other cities and as a result were reassured of the soundness and validity of our own program. A study of work in other cities is always valuable in that it serves as an inspiration for us to do better work and also makes it possible for us to stimulate interest at home which means greater cooperation and consequently a more successful program. The only satisfactory way to get a real picture of work in other places and the information needed is through a personal visit, although much may be added later by correspondence. If this survey meant nothing else than a demonstration of real cooperation in the promotion of our vocational school movement, it was very much worthwhile."

The survey of the Cincinnati school's printing facilities by Mr. Fred Hartman in 1930 gives a good idea of the equipment and instructional aims of a printing education program in a large city.

Report on Printing Trade School, Cincinnati, Ohio

Vocational education, as carried on in Cincinnati, as a part of the public school program, under Dr. Edward D.
Roberts, Superintendent of Schools, is a credit to education and to industry. This statement is based on a two days' (April 8 and 9, 1930) intensive study of the Cincinnati plan, with particular reference to the work of the Printing Trades School of the Cincinnati public school system.

Cincinnati is one of the few cities in this country that makes a clear-cut distinction between industrial arts education and vocational education. Industrial arts education is a part of the regular high school program, primarily college preparatory in purpose. Vocational Education, also in the field of secondary education (i.e. above the eighth grade) trains specifically for the trades.

There are twelve junior and senior high schools in the city that teach printing as an industrial arts subject. A good example of this type of printing education may be found at the Highes High School, Mr. Raymond F. Fell, Instructor. The equipment is simple but adequate for teaching hand composition and the elements of presswork.

Printing from the standpoint of vocational education, is centralized in one school, The Printing Trades School, located at 412 E. Sixth Street. This is conducted strictly under the Smith-Hughes Vocational Education Act of the Federal Government and is a fine example of the cooperative plan of education, whereby the student spends two weeks in school and two weeks in the outside shop.

The two types of printing education are under separate
administrative heads. The industrial arts training is under the direction of Mr. Elmer W. Christy, Director of the Department of Industrial Arts, Cincinnati Public Schools, and the strictly vocational training is under the supervision of Mr. John F. Arundel, Director of the Department of Vocational Education, Cincinnati Public Schools.

The printing industry as represented by the Franklin Typothetae of Cincinnati, affiliated with the United Typothetae of America, is interested in this distinction in types of printing training as both come directly under the Typothetae plan of education. The industrial arts course, regular four year high school training, prepares for higher training in printing such as the college course in printing at the Carnegie Institute of Technology, sponsored by the United Typothetae of America. Sons of master printers and others who are interested in the college training should complete the high school courses where printing is offered as an industrial arts course, such as in the Hughes, Withrow, and Woodward High Schools. Any matters pertaining to such courses should be taken up with Director Christy. The vocational courses at the Printing Trade School are not college preparatory. The course is strictly a trade course, preparing directly for the industry. Matters having to do with this latter type of training should be referred to Director Arundel.

Before taking up in detail the work of the Printing Trades School which is the chief purpose of this report,
may we call attention to another feature of the Cincinnati School system that has a bearing on recruiting personnel for the printing industry. Vocational guidance is provided to those finishing the elementary schools through school counselors, and certainly ought to be in touch with this work.

Each eighth grade graduate is given a booklet—"Opportunities for Eighth Grade Graduates"—which sets forth the claims of high school education and vocational education, with complete information as to the opportunities and courses offered. Printing is listed in the industrial arts course of the high schools. The Printing Trades School course is explained in detail.

**Printing Trades School**

**Housing:** The Printing Trades School is housed in a factory building located at 412 East Sixth Street. It is in no sense a school building, but the printing school has utilized to advantage the complete floor space of the fifth floor of the building. The Electrical Trades School occupies this building also and class rooms and laboratories for the related subjects for both schools are to be found in other parts of the building. An excellent cafeteria system for faculty and students is operated as a part of the school system.

The location is a convenient down-town one. While those responsible for the present set-up have worked wonders as far as the school print shop is concerned, the general ap-
pearance of the building and the make-shift class rooms and laboratories are in marked contrast with the specifically designed new building which houses the automotive trade school at 2315 Iowa Street. We spent some time inspecting the latter building and equipment and were not backward in expressing the hope that in the near future the printing industry might point with pride to its school being provided for in such efficient and practical a manner. We were delighted to learn that it is the purpose of the Board of Education to house each of the trade schools in separate buildings. What was more interesting was the information that a building, already erected, is under consideration for the Printing Trades School. This is the Rudolph Sattler Building, McMillan and Essex Place, a handsome three-story stone front building, ideally located by reason of transportation facilities and just as adequately adapted for a printing trade school. In addition to the building proper there is a well-equipped power plant, large garage and storage facilities and ample open space for student activities. It was our privilege to inspect this building and property. We have no hesitation in stating that if this building and site could be secured for the Printing Trade School, Cincinnati would have the most outstanding school of printing as far as the physical building and location were concerned, in the United States and Canada. We understand that the building can be purchased at a trifle more than it cost the Board
of Education to build the Automotive Trade School, (which is but a short distance from the Sattler Building, but on a side street without an outlet). We were informed, too, that the Board of Education looks with favor upon acquiring this site, or building a suitable structure, provided the printing industry of the city is sufficiently interested. Our suggestion is that the local Typothetae should take the initiative in petitioning the Board of Education to purchase the Sattler Building for the specific use of the Printing Trades School. It might be advisable to get the cooperation of the photo-engravers, electrotypers, paper people, and other allied industries with the thought of developing a trade school for all of the graphic arts. This action on the part of the local master printers, if successful, will put printing on a par with the automotive trades from the standpoint of vocational education.

It was interesting to discover that the equipment of the latter school, amounting to about $140,000, was supplied, one third by the automobile industry, one third by the school board, and the other one third was made in the school shops. A visit to this school will give one all the urge necessary to get behind a suitable building for the printing trade school.

Administrative and Teaching Personnel: The Printing Trade School has a group of teachers somewhat above the average for a trade school. Mr. Henry Himmelman, the prin-
cipal and co-ordinator, has had 38 years of experience in the industry and about ten years in the teaching field. He taught printing formerly in the Woodward High School. Associated with him are five other shop teachers, all of whom have had experience out in the industry, two of whom are graduates of this school. Through a wise provision of the Board of Education, each of these men must pursue a course of study that will better fit him for his work as a teacher.

The related subjects of English, mathematics, science, history, etc., are taught by four very capable women teachers. These have evidently been selected with great care and bring to their work an enthusiasm and interest that was particularly noticeable.

The responsibility for the staff and the teaching methods rests with Director Arundel. Our contact with Mr. Arundel convinces us that printing as a vocational education subject is in good hands. He seems to take a special interest in promoting this form of printing education and is in close touch with what is going on. Our feeling is that a local committee on education, working with Mr. Arundel, and through him with Mr. Himmelman, will have little difficulty in meeting the training needs of the industry from the standpoint of craftsmanship.

**Subjects of Instruction:** The course as outlined at present is two years in length (49 weeks to the year) and six hours a day for five days each week. Instruction is given in
hand and machine (monotype) composition, imposition, hand and automatic presswork, binding, and in English, arithmetic, history, science, art and design as they pertain to the printing industry. The schedule per week is as follows:

Composition and presswork 15 hours
English 10 hours
Mathematics 1 hour
Civics and accident prevention 1 hour
Applied Art 1½ hours
Science ½ hour
History 1 hour

There are no textbooks for the shop courses. A plan of instruction has been worked out based on a series of elementary exercises in typesetting, and presswork, taken largely from the U.T.A. lesson material and on a series of graded practical problems that cover actual jobs of printing that are done for the public school system. Nowhere have we seen a better handling of so-called production work, without apparent loss of instructional value. The production jobs are handled by Director Arundel personally, who has worked out an efficient method of accounting. Some of the equipment has been purchased through income for the printing jobs done for the school system. There is no question but that the instruction could be improved if each student had a proper textbook. This is one of the needs that will be met in due time.
Various kinds of text material are used by the women teachers for the related subjects. As this is pioneer work for the most part, textbooks of necessity are a matter of evolution.

Pupils work on the cooperative plan throughout the two years, alternating two weeks in a commercial shop and in school. They are placed in one of the printing establishments of the city as soon as they have learned how to set type. Graduation from the school gives two years of credit on apprenticeship time.

**Student Body:** As organized at the present time, the printing trade school can take care of an annual enrollment of 300 students. Some 200 or 250 are enrolled this year, which we understand is a decrease over last year. The reason given for the decrease is that last year's graduates found it difficult to find regular positions in the industry. It is evident that the law of supply and demand will take care of the question of enrollment.

With the present equipment, teaching staff, and classroom facilities, 300 regular two year students can be taken care of without any difficulty, one hundred of whom would be in outside shops, while 200 were in actual school attendance.

It is interesting to note that some forty of the leading Cincinnati printing establishments are now cooperating with the schools on the two weeks cooperative basis. This means that most of the boys enrolled are on the cooperative
basis. There are a number of the students who work in the industry who also take courses, not, however, as cooperative students. In the year's enrollment there is a group of boys who are taking an extra year of training. Boys from outside of Cincinnati are also admitted who show the proper qualifications. Such students must pay a tuition fee of $100 per year.

No boy is admitted who has not completed the eighth grade of the elementary school. The student body in general appearance and in intelligence for their chosen work compare most favorably with the boys in the automotive trade school and the electrical trade school of the city and with boys in trade schools in other parts of the country.

Equipment: It is evident to the observer that the equipment of the school followed the line of actual need. The hand composition equipment consisting of cases, imposing stones, type faces, etc., can hardly be duplicated by any other school, and certainly by few of the commercial shops. Of course, when new equipment is to be secured, the wooden type cases should be replaced by the metal cases. An excellent system of keeping an inventory of type and filing and storing cuts has been worked out by Mr. Himmelman.

The press equipment is complete for the purpose with the exception that there ought to be in addition at least one Kelly Press and one Babcock Optimus.

The most serious defect in the equipment is that there
are no linotypes available for instructional purposes. This is particularly noticeable due to the complete monotype equipment. It is our opinion that an up-to-date trade school ought to have all of the equipment that is ordinarily used in the high class print shop. A boy should receive fundamental training on all the varied equipments before he actually takes a job in the industry. Under present industrial conditions if a boy does not get such training in the trade school, the chances are against his getting it in the outside printing plant. We need boys in the industry who have had an all-around training in the fundamentals of printing, however much he may have to specialize when he enters the industry.

The Real Need: The real crux of the success or failure of a printing trade school is the quality of cooperation it actually gets from the local printing industry. From the standpoint of Typothetae Education, it is easy to account for the outstanding schools of printing in the various Typothetae areas. The success of printing education in New York is largely due to I. H. Blanchard; in Philadelphia, to Wm. Innes; in Buffalo to R. J. Hausauer; in Montreal to Wm. Southam; in Pittsburgh to Robert Forsythe, Sr.; in Baltimore, to George Horn, Simon Dalsheimer, E. B. Passano; and in Cincinnati, to the late Mr. Thomssen and the members of the local Committee on Education, associated with him. In other words, one man in each Typothetae area, with a real vision of what organized
education means for the industry, with a desire of serving the industry through education, is the key to the training problem. Such a key man need not know much about education. His main job is the interpretation in a friendly cooperative spirit of the needs of the industry to the key man in charge of printing education in the city school systems. He should know something of the educational program of the United Typothetae of America as outlined by the Committee on Education, and should keep in close touch with the U.T.A. Department of Education on all matters of educational policy. He should have the full confidence of the local association of printers so that he can secure the mass action and opinion of his fellow printers when these become necessary. He should be approachable, so that the key man of the school system can bring to him in frank and open manner any problem that confronts the school people in trying to carry out the will of the industry. He must not be a dictator, rather an interpreter and a co-worker.

The selection of such a leader is the immediate problem confronting the local association.

Summary of Recommendations:

Our study of local printing education situation prompts us to offer the following recommendations:

1. Appoint a chairman of the local Committee on Education to carry on the work done so capably by the late Mr.
Thomssen and his fellow committeemen.

2. Start a movement towards having the Board of Education secure a suitable building to house the Printing Trade Schools; the Rudolph Sattler Building, McMillan and Essex Place, would answer the purpose very satisfactorily. If necessary, or advisable, get the cooperation of the allied industries towards this end.

3. Assist the school authorities in obtaining the necessary machines to round out the equipment for a Printing Trade School, specifically linotype machines, a Kelly Press and a Babcock Optimus.

4. Develop a plan of cooperation with the proper school authorities to secure the full benefit of local public school educational effort, viz:

a. In matters pertaining to the Printing Trade School and its further development, cooperate with Mr. John F. Arundel, Director of Vocational Education, Cincinnati Public Schools.

b. In matters pertaining to the printing courses offered in the high schools, so-called industrial arts courses which prepare for the executive positions in printing such as offered at the U.T.A. College of Printing at the Carnegie Institute of Technology, cooperate with Mr. Elmer W. Christy, Director of Industrial Arts, Cincinnati Public Schools. (These courses are worthwhile keeping in close touch with also because they affect potential buyers of printing).
c. In order that eighth grade graduates may have the real facts concerning the printing industry, get acquainted with and cooperate with the various school counsellors of the Cincinnati Public Schools.

Respectfully submitted,

Fred J. Hartman
CHAPTER IV

TECHNIQUES EMPLOYED

The study demanded accurate observation by the leaders in the printing and education field reported without the bias that sometimes comes when the information is given to an investigator whose primary interest is in some other field of work. The information desired was such as one friendly worker would give to a fellow worker interested in the same sort of problem.

In order to secure this kind of information, the Wichita representative of each of the groups that it was desired to contact was asked to cooperate. Thus the letters to the secretaries of the employing printers associations were signed by Mrs. Gladys Hammon, secretary of the Printing Industry of Wichita, the local organization of Master Printers. Mrs. Hammon is favorably known throughout a large section of the country as the friendly and candid letters that were received in reply clearly showed.1

Mr. L. W. Brooks, director of secondary education for the Wichita Public Schools, past president of the N. E. A., and widely known for his constructive work in the promotion of international good will through the inclusion of the proper attitudes in the school room, signed the letters that were sent to the superintendents of public schools in the thirty-five cities studied.2

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1 For a copy of the letter used see Appendix A
2 For a copy of the letter used see Appendix B
Mr. J. B. Yingling, director of industrial and vocational education in the Wichita Public Schools and an active worker in vocational education activities throughout the State, signed the letters that were sent to the directors of industrial education in the cities included in the study. The responses to these letters were generous. 3

In order to secure the reaction of the International Typographic Union and its members to the present program of printing education and the potentialities of instruction in printing in the future, three things were done. A letter requesting information was sent to Mr. John H. Chambers, director of the Bureau of Education of the International Typographical Union. His friendly and favorable letter is reproduced in full in the chapter on the viewpoint of the union.

An interest-arousing letter from Mr. Joe E. Trickey, secretary of the Wichita Typographical Union §148, with a questionnaire enclosed was send to the secretaries of the printing unions in the same thirty-five cities. There is considerable evidence that the union secretaries spent some time and thought in answering these questionnaires. 4

The Typographical Journal, the official organ of the international typographical union, was scanned carefully for

3 For a copy of the letter used see Appendix C
4 For a copy of the letter and questionnaire see appendix D. and E.
material on the problem. The essence of several articles is given in the chapter on the viewpoint of the union.

The thirty-five cities used in this study had been used for several other studies by the Wichita Public Schools system. They represent cities of widely varying size, location, and industrial background. It is the conviction of the writer that they represent a fair cross-section of the cities of the United States. Some additional cities were included in the mailings when the person signing the letters was personally known to the recipient. It was thought that in this way some additional criticism of an especially friendly and candid nature could be secured.

Graphs and tables were purposely omitted in this study because they tend to mechanize a study that was not at all mechanical in its inception or execution. It was believed that the mental attitude of the different groups could be more readily grasped by the reader through the aid of quotations than could possibly be done by means of graphs. The "nose counting" attitude that is automatically assumed when confronted with a table is thus eliminated.
CHAPTER V

THE VIEWPOINT OF THE PRINTING TEACHERS

Printing teachers, as a class, are enthusiastic about their work. They are confident that printing has great value as a subject in the schools. This chapter is included to give the reader a view of printing through the eyes of a teacher of printing.

The majority of writers on printing seem unable to differentiate between the importance of printing as a means of spreading and preserving knowledge and printing as a subject for study that possesses practical and cultural values for the individual. Possibly this is true of printing teachers.

Printing--indispensable--glorious--romantic. The first term, when used to describe printing, is generally accepted as true; the other two are ever on the lips of those who have delved into the lore and art of the craft.

What can printing, as a subject in the schools, contribute to the development of good citizenship? It seems logical to suppose that the study of an art that has been so inseparably connected with the development of civilization should yield wonderful results when used as instructional material. Here should be both stimulus and food for educational growth. The development of printing has played such an important part in the climb of man from the level of the barbarian to the present relatively high state of civilization that the knowledge of its history, men, related arts, possibilities and production methods should, it seems, be
part of the mental equipment of every educated person.

An advertisement widely used by the American Typefounders Company, expresses very well the idea in the printing instructors mind. It is published under the caption, "Associating with Great Minds" and reads as follows:

"The boy at the type case today is the man of knowledge tomorrow. Master minds are his teachers. The copy he is setting today may have been written by Shakespeare more than three hundred years ago; his lesson tomorrow may have been written by Victor Hugo; the next day will, perhaps, bring copy from a modern writer, or from the editor of the school paper. Each project he undertakes is different, and each brings its new thoughts and inspirations.

The boy at the type case soon realizes the importance of correct spelling, paragraphing, punctuation, capitalization, and work arrangement. To him language rules are tools which he must use, and use properly, to build his finished product. The building of a beautiful piece of printing requires the application of thought, skill, and artistry, governed by the rules of grammar, English, and arithmetic. Surely such a combination makes printing one of the master tools of education."¹

¹The Printing Instructor, Volume III, January, 1927
comes the inheritor of the funded capital of civilization."\(^2\)

The percept that the art of printing is rich in educational and inspirational possibilities is well stated in the myriad of references that fills our literature. Horace Mann who was responsible for many of the ideas that form the background of our present school system has aptly said:

"Every school boy or girl who has arrived at the age of reflection ought to know something about the art of printing."\(^3\)

Another quotation from a more recent pen: "Printing, the mother of arts; puts us in communion with the great minds of the past and present, preserves the philosophy of the ancients for the future generations. The loftiest spires of mental attainment may be reached through the musical click of the type and the roar of the marvelous presses. Printing heralds news of the dying dynasties and broadcasts the upspringing of new and hopeful empires. It flies to seek every soul born into the world."\(^4\)

An unknown author breaks forth in this vein through the columns of a trade magazine. "Printing is the great constructive force in the modern civilized world. It plays the indispensable part in the dissemination of news, in the expression and progression of political ideals, in the records

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\(^2\) John Dewey. *My Pedagogue Creed*

\(^3\) Elbert Hubbard's Scrapbook

\(^4\) Inland Printer, Volume 85, March 1930
and exchange of commerce and industry. It democratizes education, science, art, music, and broadens the scope of everything it touches. Its service is vital in upbuilding and sustaining business through advertising.\textsuperscript{5}

This quotation, taken from an advertisement of a paper merchant carries the same refrain. "Just an ironed out sheet of pulp, with a forest giant or a bundle of rags as its forebears. But, without it no empire could endure, no faith could survive, no civilization could thrive. Just an ironed out sheet of pulp-paper."\textsuperscript{6}

The pen of Henry P. Porter gives us this paragraph on printing as a business: "Printing is a good business. It is clean, honorable, respectable. It is celebrated as a trainer of men for the higher stations in life. It has many inspiring traditions and legends. It combines the need for knowledge of everything under the sun: mathematics, language, mechanics, spelling, grammar, color, composition, salesmanship. There is no limit to the accomplishments that are required of the printer. The printer is brought into contact with all other vocations and professions. No vocation or profession can really exist without the printing press. From text-books to novels, from pamphlets to newspapers, from tickets to tax-bills; no man can evade the printed word."\textsuperscript{7}

\textsuperscript{5}American Printer, Volume 84, March, 1930
\textsuperscript{6}Taken from an advertisement of Champion Coated Paper Co.
\textsuperscript{7}Elbert Hubbard's Scrapbook
The Reading Paper Mills of Reading, Pennsylvania, distributed a folder with the following eulogy to the printer:

"Through countless centuries of old time, from pyramid building to cathedral building, civilization limped along dragging one foot wearily after the other, unmindful of passing years, ignorant of the thought world, and not suspecting the possibilities of the common man. Then came the printer, heaven-appointed prophet of the new ages to come, opening the doors to worlds unknown. Civilization leaped forward, alive and eager, romping through the years, scattering new ideas with a prodigal hand as seeds into the fertile soil of human possibilities. Today, thanks to the printed word, the common man, conscious of his powers, may look upon a broader horizon than did the wisest men of old. Tomorrow, perchance, the sky will brighten into an unclouded day in the march of human progress—a day infinitely more worthy of the cumulative effort of the ages."

This then is the glory of printing. Does it not have something to offer to the majority of the young people in our schools? Is there not art, romance, and human interest that should serve as a motivating and coordinating element for other courses? Or are all of these beautiful sentiments about printing merely empty platitudes that have been passed out as truths by applause-seeking after-dinner speakers who would like to believe what they say, but cannot?

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Reproduced in the Inland Printer
The knowledge of how to assemble type and materials into a "form", lock them in a chase, and print them on a press with the proper makeready, while obviously important, is only a small part of the "master" printer's work. True, there are many purely mechanical jobs in a printing office, but if the printers were only mechanics, most of the printed pieces that now form such an important part of our industrial and commercial life would lose their effectiveness.

In an effort to sell this idea to the consumers of printing, the Warwick Typographers of St. Louis, issued a series of advertising leaflets which were reproduced in the "Inland Printer". They ask: "Who edits the copy last? Your advertisement has been thoughtfully planned, aluringly worded and illustrated, and it will be in proof form the next time that you see it--but who edits it last? You can correct the proof, of course, but can you alter the style of type, the general arrangement and the layout? Can you unscramble the eggs? Not without a worse job than you had to start with. Can you? Good wine may need no brush, but good copy needs good typography--for the compositor is really the last editor."

A public speaker creates an impression as soon as he walks on the platform; this impression is created, to some extent, before he utters a word. Later, his speaking voice and stage presence add to or detract from the effectiveness of the message that he is attempting to convey to his hearers. In like manner the selection of type, paper, color, arrange-
ment, etc., lend a distinctive atmosphere to every piece of printing. It takes intelligence and training to make this first impression add to, and harmonize with the thought or idea that is presented in the copy. This atmosphere that is built up by the typographer can assist or retard the transfer of the idea from the printed piece to the reader. Many times—usually in fact—this first reaction determines whether the piece of printing is read or not. A short quotation taken from the house organ of M. P. Basso and Company of New York emphasizes the idea that the caliber of the men who produce the printing is an important factor in its success. "Your printing can be properly expressive, distinctive, and resultful only through the skill, training, and resourcefulness of the men who produce it."

Another from an advertising piece of the W. F. Hall Printing Company of Chicago expresses the same sentiment. "Printing depends upon brains for its delineation and interpretation. No other factors can be substituted. Unless the men who plan and direct its production possess true printing brains, the most expensive and efficient equipment in the world not produce satisfactory printing."

If intelligence and training are requisites for effective printing; if the printing industry needs the boys and girls who can achieve; if a knowledge of how to plan and use printing can help the printer and publisher as well as the buyer, how can the POTENTIAL value of a course in printing be nil?
The present tangible contribution may be small, but with adequately trained teachers, properly directed courses of study, thoroughly understood aims, and with the development of close mutually sympathetic contact between the school and the industry, much should be possible.

In a previous article on "Street Urchin or Printing Student", the writer pointed out that the printing industry needs and will continue to need brains. The logical place to find boys and girls who possess brains and ability is in the schools, not on the streets. It should be unnecessary to say: recruit your force from those who are succeeding in the schools; not from those who, because of lack of ability, have dropped from the school. And after the force is selected, continue to use the schools for the additional training that may be needed.

Much of the success, or lack of it, that is attained by a school of printing is dependent upon the teacher. There is a difference of opinion concerning the manner of training. This is in evidence at almost every large gathering of printers or printing teachers. Many think that a tradesman makes the better teacher. Others think that the teacher should have college training and know how to teach whether he has the experience in the commercial shops or not. Undoubtedly the best teacher would be one who was commercially efficient as proved by actual employment in the industry, and college
trained as proved by at least an A. B. degree. Unfortunately, the salaries paid to teachers in most school systems do not compare with the stipends which an individual with this double training could command in some administrative position in the industry.

Even if we forget, for the moment, the purely vocational phase of the school training in printing, are there not many other values that can be derived from such a course? What can a study of printing contribute to the development of the cultural background that is so desirable to insure the proper and profitable spending of our ever-increasing leisure time? What definite information can be provided that can serve as a background or basis for more advanced training in the college or university? Of what service can the study of printing be in the development of desirable attitudes and ideals? Can an understanding of the various graphic activities make it easier for the student, after he has entered the business world, to adapt himself to the rapid and radical changes in materials and methods that are sure to confront him in the next ten or twenty years? And, for the sake of the employing printers, what can printing in the public schools do to promote the use and confidence in the printed word, to develop intelligent buyers and users of printing who will know quality when they see it and who will appreciate that quality printing cannot be produced on a price-cutting basis. All this is in addition to the attracting to and selecting for the industry
the intelligent man-power that the industry needs and the training, with the aid of the commercial shops, this man-power to its highest peak of efficiency and artistic workmanship.
CHAPTER VI

THE VIEWPOINT OF THE EMPLOYING PRINTERS

As was indicated in chapter IV the method used to look at the public school printing department through the eyes of the employing printers was to send letters signed by Mrs. Gladys Hammon, secretary of the Printing Industry of Wichita, to the secretaries of the employing printers' associations in the thirty-five representative cities. A letter rather than a questionnaire was used in order to permit the representative of the employing printers to view the school situation from any angle that he saw fit. This made it much more difficult to tabulate the results but gave a much clearer idea of what the printing industry thought of the schools.

Very candid responses from the following cities were received: Cincinnati, Ohio, Boston, Mass., Washington, D. C., Omaha, Nebraska, St. Louis, Mo., Dallas, Texas, Kansas City, Mo., Los Angeles, Calif., Indianapolis, Ind., Houston, Texas, Reading, Pa., Philadelphia, Pa., Newark, N. J., Minneapolis, Minnesota, New Orleans, La., Nashville, Tenn., West Virginia Publishers and Employing Printers Association of Elkin, West Virginia, Chicago, Ill., Pittsburgh, Pa., Grand Rapids, Mich., Buffalo, N. Y., and the North Carolina Typothetae of Greensboro, N. C.

This very good response seems to be a very clear indication of the interest that the employing printers have in the question.
Of the twenty-two cities mentioned above, thirteen employing printer associations reported that, to the best of their knowledge, no actual benefit had been derived from having printing as a subject in their public schools. From the statements in the letters, it was clear that they were thinking of printing courses of the so-called industrial arts or manual arts type. It was clear also that they were disappointed because no outstanding journeyman printers were forthcoming. In this type of course the student works from thirty minutes to one hour per day for five days per week, depending upon the organization of the school in which the course is offered. Courses covering this limited amount of time are essentially non-vocational.

Some of the secretaries were confident enough to state that, in their opinion, there was not even a potential contribution. Such statements as the following clearly indicate the general tone of their letters; "The potential contribution—can be but very limited." "—they don't rate high." "I am forced to say that they (the contributions) are NIL." "—in fact, in this city, it has been a hindrance and is hurtful, by the teaching of a smattering of the mechanics, which often is wrong in the fundamentals." "I do not regard the investment in the teachers and the expense involved as a good one so far as it affects the commercial printing industry." "I cannot see that there is any direct contribution." "—we have too durn many printers now and it
would be sweet if some of the students would learn brick laying instead of our trade." "No noticeable contributions have come to our industry." "The potential contribution of the public school printing departments to the printing industry is negligible." "In many cases the teaching of printing in the public schools does more harm than good, as the course is not practical or complete enough to turn out 'finished' printers." "There is no actual contribution as far as we know." "My personal notion is that the more people learn the trade, the lower becomes the wage scale and more small cheap shops are opened." "We do not think that the printing departments in the public schools are worth a darn."

In direct contrast to these statements are the ones from the letters of the other seven secretaries. A few quotations will give an idea of the general trend of their letters: "A valuable asset to the student as well as to the industry." "results in a more wholesome respect for the printing industry and the people engaged therein." "Should result in a much broader view of the importance of the printed word--". "It prevents students from entering the industry who have neither the desire nor the qualifications for being successful in it." "In my opinion the value that the employers can receive from the printing instruction in the schools varies directly with their knowledge of what is being attempted and their willingness to cooperate with the teachers."
"It (printing in the schools) has saved the industry many hundreds of thousands of dollars by imparting to the students a fundamental knowledge that the industry would have had to pay for if this training were given in the plants." "It provides for the industry a reservoir of home talent ready to step up when needed." "If a printers' association cooperates with the board of education in any city, better results should be obtained; we hope to arrive at this stage in the future." "The apprenticeship problem, from the standpoint of source of supply, has certainly been solved through public school printing."

Any psychologist would expect the employers, practical business men as they are, to be interested primarily in immediate results rather than ultimate effects which might have to be taken, to some extent, on faith. It is not surprising, therefore, to find paragraphs in almost every letter that either looked hopefully for results in a public vocational school or actually expressed their confidence and cited evidence of the success of this type of specialized printing education.

The statements concerning vocational training, when taken together, constitute quite a eulogy for the vocational schools. The following are typical: "At__school, where the student gets three hours per day at the case, on the presses, or in the bindery, he is actually learning something, and this school graduates about twenty students per year into the
printing field." "Most of our good comes from the trades school, where a good three year course in printing is to be had and a number of good boys have already graduated from this school." "On the other hand, there exists in this city a vocational school--being directed by a council of manufacturers, which is impressive in its potentialities, and also in the proven value it has given to some, if not all, of the trades taught in this school, I speak of the Trade School, which in its printing department is giving the trade in this city, a steady output of apprentices, which, in the most part, are sound in their fundamental learning and are eagerly absorbed by the trade because of their concrete knowledge of the vital elements of the beginnings of printing."

"Printing, from the vocational standpoint, is centralized in one school -- -. This is conducted strictly under the Smith-Hughes Vocational Education Act of the Federal government and is a fine example of the cooperative plan of education, whereby the student spends two weeks in school and two weeks in the shop." "We have the Vocational school. This school contributes considerable to the industry in the way of apprentices. The calibre of the young men coming out of this school is of a high type and I would say that approximately eighty per cent of these boys remain in the industry." "Our printers nearly always secure their apprentices from this (vocational) school. Not only do we furnish apprentices but we take mediocre workmen and turn out first class workmen.
In this case the board of education furnishes the building and the employing printers the equipment. We would not think of doing without this school, in fact, we expect to enlarge it considerably within the next year or two." "The properly conducted vocational school is a real asset. In fact, a great number of our apprentices come from this school as we are taking few boys with no previous knowledge of the business." "Vocational training for printers is an absolute necessity from the point of view of the boy as well as the employer; for the boy that he may have a training in a trade that will give him a wage earning ability to insure his becoming a useful member of society, and for the employer that the printing industry may have an adequate supply of printing employees in presswork, composition, and some of the fundamentals of the design and layout. Our experience has shown us that the supply of well trained compositors and pressmen has never equalled the demand, although, on the other hand, there is always a generous supply of mediocre and incompetent men." "Heretofore, until recent years, the employer was forced to train his own printers, which was frequently improperly done as the average printing concern has neither the time, teaching experience, nor personnel equipped to teach anybody properly." "--there is little question but that the printing industry is getting a better type of apprentice today than it did before vocational education was adopted by the public schools." Several pertinent articles are to be found in the
The current literature of the industry.

The October issue of the Inland Printer carried an article on apprentice training by that dean of American printers, Charles Francis. Printed in a box in connection with this article under the head, "Printers' Comments on Training of Apprentices", were the following statements:

New York City.--"We take advantage of these schools by sending every boy who is entitled to go." Chicago.--"Our school graduates average much higher than our employees who have not come from the school." Washington.--"Apprentice boys who have had training in apprentice schools are proving to be more satisfactory workmen and more proficient workmen, on the average, than most boys who had not had training before they came to us." Buffalo.--"We know that the men trained under such conditions make highly desirable employes." Hartford.--"I am quite satisfied that a school is the only means through which apprentices can be fitted for the requirements of modern industry." Philadelphia.--"We are earnest believers in the value of the trade schools." Nashville.--"Results have been entirely gratifying to us."

Arthur J. Mansfield in the preface to his book, "Composition and Presswork", makes the following remarks: "The tendency to specialize in the large shops and the conditions that exist in most shops, due to production requirements, prevent the apprentice from getting the proper training. There is great need for carefully trained men and boys in
the printing industry and employers are constantly seeking good printers. There is an abundance of good material such as printing presses, type, linotype and monotype machines, etc., and yet without well-trained craftsmen inferior work is bound to result. It is only by skillful manipulation of the tools of the trade that good work is possible."

"It is to be expected that in a year of depression the attempts of the public schools to train printers would find rougher sledding than in a more prosperous year yet Mr. Hartman rallies to the rescue of the schools. "Printing education has been a dominant influence in keeping down the low percentage of unemployment which characterizes printing as compared with other manufacturing industries." There are two reasons for this favorable situation as far as education is concerned. With the printing school of the secondary or high school grade as the accepted avenue of entrance to the industry, the boy must continue in school after finishing the eighth grade from two to eight years in order to take the various types of training offered in printing. This defers his going into the industry and prevents the overcrowding such as is common when an effective educational program has not been worked out. A student who has had a thorough grounding in the fundamental printing processes, even though he must specialize when he enters the industry, can adapt himself readily to new conditions that might result from the

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1 Mansfield, Arthur J. Composition and Presswork, page iii
introduction of new machinery or new processes. By reason of his academic and broad practical training, he is not so likely to become the victim of technological unemployment." \(^2\)

The paper read by Ferdinand Voiland, Jr., one of the leading employing printers of Topeka, Kansas, and a typographer of note, was so timely and to the point that it should be included in this study.

**WHAT THE TRADE EXPECTS FROM THE HIGH SCHOOL PRINTING DEPARTMENTS.** \(^3\)

Delivered by Ferdinand Voiland, Jr., Superior Printing Company, Topeka, Kansas, to the Annual Convention of the Kansas State Printing Teachers Association held in Topeka, November 6th, 7th.

In the first place the word "TRADE" does not belong in the category of printing. Today printing is not what is used to be. Several years ago, perhaps—twenty or thirty—the lad of twelve or fifteen years was counselled by his advisers to learn a trade. If he had natural inclinations for being among the vast multitudes of working people he heeded the advice and learned a trade. He worked along with his fellow workers for a number of years until he realized


that if he intended to get some place in this funny old world he would have to do a darn sight more than master a trade. The pure mechanics of printing are simple. And that is just about what the largest percentage of our so-called printers learn when they take upon themselves the task of mastering the printers trade. They know that today a nonpareil is expressed by six points. They know what a Linotype machine is used for and how it works. They know what a galley is used for and its indispensable use in a composing room. They are familiar with the general operation of platen and cylinder presses. They know a little about improved processes in lithography. Beyond these rather broad classifications their knowledge is limited. I know this from experience and association with so-called full-fledged printers.

Now what has this to do with the high school printing instructors and what they are expected to develop in the way of printers for the coming decade. Just this: The high school student who studies printing has some definite objective in mind aside from receiving a few hours credit in the high school principal's office, which entitle him to graduate. He is taking printing for a very important reason and if you instructors have your industry at heart you will make it a point to find out what that reason is. If a student takes printing as an elective course from a list of a dozen or two other courses, he must have some definite pur-
pose in mind for printing to help him somewhere in his preparation for his future. If you find in your classes a boy who says he likes printing well enough to follow it after he leaves high school, don't let the day go by until you make a mental record of it so that during the laboratory periods that follow you can show just a little more interest in that boy in order to inform him further and perhaps faster that he is on the right track for his life's work. We expect you fellows to teach in the four semesters allotted to the average courses in high schools, a summarized knowledge of what the average printer working at the case has acquired in his lifetime. You say it can't be done? I say: That you are the only ones in the world that can do it. Don't misunderstand me when I say that the high school boy should learn in two years what the average printer has acquired in a lifetime. The average printer today knows absolutely nothing about appropriateness of type faces; absolutely nothing about shape and tone harmony; nothing about readability in typography; nothing about balance and correct display. What he knows is purely mechanical and that is just what you can teach in your two years of contact with interested boys. Teach them only the mechanics of printing and you have done all that can be expected. This is the first thing that the printing industry expects of you.

Second: We expect you, when you find interested boys, to let us know about them. Executives in the printing in-
dustry are looking for bright young men who can handle subordinate executive positions that are prospective of higher positions. Naturally they cannot come right out of school and jump into a nice soft job and the boy that has the proper conception of a future has nothing of the sort in his head. If taught properly, he should regard employment in any of the leading printing plants during his intermediate schooling as an opportunity for additional laboratory experience that will strengthen his present knowledge and lead to new ideas. The industry does not want on its full time payroll boys who have stopped their education with the completion of high school. We are willing to help the boys during spare time and in the summer vacation months only with the thought in mind that their association with us will aid them along with their program of education and that at the conclusion in an institution of higher learning where printing is not merely a course to be taken along with other courses, but that the other courses will fit into their program of training for a printing executive of tomorrow. Unfortunately, in our own state institutions, a liberal education in printing has been overlooked. Some of you will act surprised at this statement, but the truth lies in the fact that neither of our state institutions teach printing in its modern sense. They both offer courses in printing but they are only elemental and the student who studies them should have learned what they teach before coming to college.
Third: You will do the printing industry a great service by encouraging interested boys in continuing their education in printing. You ask: Where shall they go to college for this specialized training? Thanks to some forward thinking men of the graphic arts interested in printing education to the extent that money has been placed at the disposal of two of our leading colleges to provide for just such a school of advance learning for those who are ambitious in the business and art of printing. They have made it possible for a man to receive a degree of bachelor of arts or science in printing from two great institutions: Carnegie Institute of Technology and New York University. These are the only two schools I know of that offer a college degree in printing. And when a young man has earned the honor of a degree from either of these institutions, his work has been proficient enough to enter into a position of control in any of the best printing organizations in the country. And men, the future of the printing industry rests in the next fifty years with what we do with our boys today and ten years from now. You fellows who are carrying the load of trying to teach our boys the art and practice of printing will have to work with us fellows actively engaged in the printing business so that when we get too old to hold a stick in our hands there will be men to take our place that know a darn sight more than we ever did by virtue of their training with the highest type of instructors available, who have attained their rank as an
instructor by expertness in practical every day printing as it is carried on by the world's leading typographers and printers.
CHAPTER VII

THE VIEWPOINT OF THE SCHOOL SUPERINTENDENTS

Working on the same theory that had been applied to the employing printers, the co-operation of Dr. L. W. Brooks, director of secondary education in the Wichita (Kansas) Public Schools was secured. A letter, asking the same questions that were asked the employing printers, was signed by him and sent to the superintendent of schools in each of the thirty-five cities. In some cases the superintendent referred the letter to some of his subordinates for attention, but in the majority of cases a direct reply was received. Letters from the following fifteen cities were received: Seattle, Wash., Newark, N. J., Kansas City, Kans., Oakland, Calif., Houston, Texas, Philadelphia, Pa., Albany, N. Y., St. Paul, Minn., St. Louis, Mo., Atlanta, Ga., Cambridge, Mass., Boston, Mass., Omaha, Neb., Denver, Colo., Kansas City, Mo.

Without exception the superintendents who responded to the letter were in favor of printing instruction in the public schools. One, however, was of the opinion that the instruction in the subject should be confined to vocational school classes. The others saw great possibilities for printing instruction in both junior and senior high schools. A few excerpts from their letters may be of interest: "I count printing one of the most valuable subjects offered in our vocational department. It not only gives training of the hand and the eye, but also combines an educational
program of such subjects as English, spelling, etc." "The course in printing has been of real value to the students enrolled in it; the printing plant has been of help to the school in very many ways. Many of the students on completion of the course have found very good positions in the industry. The work has been recognized and accredited as apprenticeship requirements." "The teaching of printing in the junior high school gives the student the opportunity to explore so that he may have some basis on which to make a selection of his life's work and adds greatly to the student's knowledge of the English language. Printing is not a localized industry; therefore this opportunity of exploration may serve him, not only in his own community, but wherever he goes." "Printing as a cultural subject in high schools entitles it to academic education. Its intelligent application of English will qualify it as an equivalent to a college course in its usage, in clear forceful expression, and in orderly thinking." "We find that printing contributes excellent training for the boy who desires to go into advertising or art work, beside those boys who expect to become printers." "The school profits by having a truly democratic organization of students preparing for college and for various kinds of pursuits--commercial and industrial,--a printing department is very useful in connection with the product in printed materials. The industry profits by being relieved of what it is almost impossible for the industry to give--a thorough
all-round apprentice training." "It is a fine method of
getting the work of the schools before the people." "This
subject is not a trade with us, but a training in education."

Many of the letters from the superintendents mentioned
the fact that a school printing department helped in the
organization of the school by providing printed forms,
records, and promotional material for the school office and
the various school activities. This actual use of the pro-
duct of the printing student's mind and hand by the students
in the school undoubtedly adds interest to the printing
course, that is, if the opportunity is not abused. In some
cases the school shop has become a production shop rather
than a room for instruction. The "live" work should be some-
thing for the teacher to use or send out to some commercial
printer, as the needs of his pupils dictate. One thing that
should not be overlooked by the commercial printers who are
looking to the future of their business is the habits that
the student leaders in the schools are forming. These lead-
ers in the public school activities frequently become leaders
in the business world after their school days are over. When
the school has a print shop, printed material becomes an im-
portant part of almost every student activity and the print-
er, in this case the printing teacher, usually has a hand
in the deliberations incident to the planning. In short,
it seems that the eyes of the future buyers of printing are
opened to the possibilities of printed literature and sup-
plies and thus he (in this way) gets into the habit of using it, them.

In order to secure the cooperation of this group, the cooperation of Mr. J. E. Tingley, Director of the Industrial Education Department of the Winnipeg Public Schools was secured. A letter was prepared asking substantially the same questions of the directors that had been asked the employing printers and the superintendents of public instruction. These were sent over Mr. Tingley's signature, to thirty-eight cities including the ones that had been included in the other lists. Eighteen replies were received.

The directors of Industrial Education, with one exception, were completely "sold" on the possibilities of printing as an instructional method in the public schools. Statements such as the following appeared repeatedly in the letters: "Personally, I believe printing to be one of our most valuable practical arts subjects in our public schools. It is a happy combination of mental activity and manual work and a stimulus to both boys and girls." "It is a subject that requires thought and consideration and close application on the part of the pupils. It develops a certain amount of desirable technique and affords innumerable opportunities for direct correlation between shop and academic work."
CHAPTER VIII

THE VIEWPOINT OF THE DIRECTORS

OF INDUSTRIAL EDUCATION

Even more closely in touch with the school side of the industrial arts and vocational aspects of printing instruction, are the directors of the industrial departments. In order to obtain the viewpoints of this group, the cooperation of Mr. J. B. Yingling, director of the Industrial Education Department of the Wichita Public Schools was secured. A letter was prepared asking substantially the same questions of the directors that had been asked the employing printers and the superintendents of public instruction. These were sent over Mr. Yingling's signature, to thirty-eight cities including the ones that had been included in the other lists. Eighteen replies were received.

The directors of Industrial Education, with one exception, were completely "sold" on the possibilities of printing as an instructional medium in the public schools. Statements such as the following appeared repeatedly in the letters: "Personally, I believe printing to be one of our most valuable practical arts subjects in our public schools. It is a happy combination of mental activity and manual work and a stimulus to both boys and girls." "It is a subject that requires thought and consideration and close application on the part of the pupil. It develops a certain amount of desirable technique and affords innumerable opportunities for direct correlation between shop and academic work. It
actively teaches the fundamentals of the English language without any effort toward that end of which the pupil is conscious. It has an obviously practical value and it furnishes a pre-vocational experience in one of the oldest and most widely distributed occupations of the civilized people."

"From the educational point of view, the department of printing affords the only outlet for academic subjects which makes the work of the students in English, the art department, etc., much more purposeful and practical." "Printing as an activity, designed to correlate with the general education of the child, fits admirably well into any program. Several of our school principals are very enthusiastic over its disciplinary values." "It has been our experience that printing has really strengthened the school curriculum. In schools where it has been taught the academic subjects have undoubtedly been made more interesting and correlation has proven practical. The contribution to the school itself is unquestionably a large one. The school paper or magazine has increased the spirit of loyalty and enthusiasm, and teachers and principals are unanimous in their desire to have a print shop available."

"I know that a good many boys have found their first real interest in our print shops and have eventually found their way into the industry."

Many of the directors were generous enough to include in their letters a fairly thorough description of the types of courses that they were offering. Printing is being offered
in the elementary schools as a practical arts or manual activity subject; it is found in the junior high or intermediate schools as an occupational finding or exploratory subject; it is found in the senior high schools as an industrial arts, graphic appreciation, or cultural subject; and it is to be found in the vocational schools and in some vocational courses in the high schools as a vocational subject where the aim is occupational efficiency.

One of the directors of industrial education enclosed in his letter the folder issued by the Federal Board for Vocational Education. The pamphlet was prepared by Mr. C. E. Rakestraw, federal agent for trade and industrial education, under the direction of Frank Cushman, chief of the trade and industrial education service of the Federal Board for Vocational Education. Since the folder was "intended to supply, in non-technical language, information concerning the principles which should be observed in the promotion and development of trade and industrial education as a part of the work of vocational education in the United States," some of the material is reproduced here.

**What is Vocational Education?** Vocational education, as contemplated in the national act, includes education and training of less than college grade, the specific purpose of which is to equip boys, girls, men, and women for the effective pursuit of occupations. Such training prepares those of school age for advantageous entrance into skilled trades
and occupations. It enables those who have left school for employment to receive further training which will fit them to do better work, command higher wages, and take advantage of opportunities for promotion. For this type of education to be successful, it is necessary to have the fullest cooperation of employers and employees. Without the counsel and help of management and workers in industry, the school can not operate an efficient program of training which will (1) meet the needs of industry and (2) equip those receiving the training to fit into employment with a minimum of difficulty.

What is the Responsibility of a State for the Program of Vocational Education? The State, in cooperation with local communities, is responsible for the establishment, maintenance, and supervision of vocational education.

Does the Federal Board Require the Same Standards for All the States, Regardless of Their Individual Needs? No; the Federal board recognizes that conditions vary in the different States. It recognizes that programs of vocational education in order to be effective must be adapted to the local needs.

How are Classes Organized Under the National Act? Under the provisions of the act, State boards for vocational education are established. Each State board, with the help and cooperation of the organized groups affected, prepares its own plan setting forth the types of classes, the standards
that are to be maintained, and the qualifications of instructors. State plans are drawn to conform to the requirements of the national vocational education act; and, if found to be acceptable, they are approved by the Federal Board for Vocational Education. In many cases a local board of education, in cooperation with the State board, conducts a survey or study for the purpose of determining the types of classes and the training which is needed in a particular city. It is felt by many that such surveys and studies are successful in proportion as those conducting them work in cooperation with the organizations which are interested in equality of opportunity in public education and advancement of those employed in industry.

In local communities where active cooperation between the school, employers, and workers has been secured, a large number of trade extension classes have been organized for apprentices and journeyman workers in the trades. The training offered includes such subjects as plan reading and estimating for carpenters, courses in blue-print reading for specific crafts, shop mathematics, building-code specifications for electricians and plumbers, layout for sheet-metal workers, and various other classes offering instruction in the technical and scientific phases of numerous trades.

In organizing and supervising vocational classes in a local community, the official representatives of the State board are the State director of vocational education and the
State supervisor of trade and industrial education, who deal directly with the local community's school board. Where Federal funds are used in part payment of instructors' salaries, the classes must meet the standards of the State plan.

How Many of the States are Cooperating with the Federal Government in Carrying Forward this Program of Vocational Education? All 48 of the States entered into cooperative relationships with the Federal board before December 31 following the passage of the national vocational education act by Congress in 1917. In 1924 the benefits of the act were extended to the Territory of Hawaii. At the present time, therefore, 48 States and the Territory of Hawaii are cooperating with the Federal board in operating programs of vocational education.

What are Some of the More Important Standards Set Up by the States? For a local community to receive reimbursement from Federal funds for a school or class under the national act it must be organized to meet the standards set forth in the State plan, some of which are--

1. The school or class must be under public supervisions and control.

2. Federal funds must be matched either by funds from the State, the local community, or both.

3. Federal funds can not be used for buildings and equipment. They can only be used for
salaries of the instructors.

4. Instructors must be qualified. (Most States require an instructor to have had 3 years of practical experience beyond apprenticeship in the trade he is to teach.) In practice, most shop teachers have had 10 or more years of trade experience.

5. In evening classes the enrollment is confined to persons over 16 years of age who are employed in the trade or occupation for which they are to receive instruction.

6. The instruction in each school or class receiving Federal aid under the national act must be of less than college grade.

7. At least one-third of the sum appropriated from Federal funds must, if expended, be applied to part-time schools or classes.

How Does the Federal Board Discharge Its Responsibilities Relative to These Standards? Each State submits a plan covering the different types of work to be carried on. This plan contains detailed specifications as to the types of vocational education for which Federal aid will be used. The Federal board is responsible for approving such plans in accordance with the provisions of the national act. In addition, a field staff is maintained to assist the States and carry on research for the improvement of the program.

How are the Needs for Training in a Local Community
Determined? In some localities a general advisory committee, composed of representatives from central labor bodies, employers' associations, and the public schools, is organized. From this group various craft committees are organized. The local school system, working with the committees, can determine the needs for training and the kinds of training to be offered. Where communities fail to utilize these advisory committees, the best results are seldom obtained. Where any group fails to cooperate with the schools in studying the local situation and in determining what ought to be taught, an unbalanced program will, in most cases, be the result.

How are Instructors Selected? The success of any class depends largely upon the instructor. Therefore, instructors are chosen who possess wide experience in the trade, and who also possess the ability to impart their knowledge to others. The national act provides for the training of instructors. Outstanding craftsmen are selected and given courses in methods of teaching trades, job analysis, and other subjects that equip them for teaching their trades.

What Types of Schools or Classes are Offered for Journeymen and Apprentices? There are many different types of classes. Some of the more important are as follows:

1. Evening schools or classes.
2. Part-time trade extension schools or classes.
3. Cooperative part-time schools.
4. Day trade schools.
5. Continuation schools.

**How are These Schools or Classes Conducted? What is Their Objective?**

1. Evening schools or classes.--Instruction in evening schools or classes must supplement the daily employment of the students. Enrollment is restricted to those who are 16 years of age or over. They must be employed in the trade or occupation for which training is given.

   **Purpose:** Evening classes are designed to give instruction which will enable those already employed to become more proficient on their jobs and to prepare for promotion. Many journeymen and apprentices attend evening classes offering technical instruction that is not practicable for them to secure on the job.

2. Part-time trade extension schools or classes.--Part-time schools or classes are organized to give instruction of less than college grade to persons over 14 years of age who are already employed in a trade or industrial pursuit. Under the provisions of the national act, courses conducted on this basis must be designed to give not less than 144 hours of instruction per year; and these classes must meet during the working hours of those enrolled.

   **Purpose:** The aim of this type of school or class
is to give instruction and training to supplement the job experience of learners employed in trade and industrial occupations; for example, groups of apprentices may attend these classes for four hours each week in order to receive instruction related to their trades. In a number of cities apprentices in the various crafts attend classes Saturday mornings.

3. Cooperative part-time schools.--Cooperative part-time schools or classes are operated on a plan of half time in school and half time in industrial employment—for example, two groups of boys, alternating between employment and school, are placed on jobs in pairs, as learners or apprentices, on a week-about basis, or on any other periods of time best suited to local conditions. The enrollment in this type of class is restricted to those who have reached the age of legalized employment. In some States boys under 18 years of age can not be employed in hazardous industrial jobs.

Purpose: The cooperative part-time class, using a method thought by many to be very efficient, has for its objective the training of boys for a trade. It should not displace any workers in industry, as these students should be considered as apprentices to be placed only in existing vacancies. While each
job gives half-time training to two boys, it virtually takes twice as long to train each boy. Therefore, the ratio of apprentices to journeymen remains unchanged. The apprentice is given an opportunity, in certain cities, to graduate from a high school course and to secure advanced standing on his apprenticeship at the same time. The length of time spent in high school, under this plan, is usually five years.

One advantage which the cooperative part-time class offers for trade preparation is that a boy receives a much more thorough training than he would if all of his time were spent in a school shop at work on exercise or pseudo jobs. In like manner the training is superior to that offered by certain types of industrial employment where learners are expected to "pick up" their training without any organized instruction. Where cooperative part-time classes are properly organized, utilizing advisory committees, the trades to be taught are analyzed for the purpose of determining the instructional content. Agreements are made with employers, the public schools, and the students. The apprentice training committee of the craft is also an active party to the agreement.

A coordinator is employed by the schools in order to see to it that the students receive adequate and properly organized instruction in every step of their progression through
each class of work in the trade and in school. The danger of exploitation of the learners is reduced to a minimum through this arrangement. Apprentices are moved from one class of work to another as was intended under the old apprenticeship system. The cooperative plan enrolls the number of apprentices actually needed into two groups, each attending school half time. Consequently, it does not develop twice the number of apprentices which the trade can absorb, as has been feared by some individuals.

4. Day trade schools.--Day trade schools are conducted on the following basis: 50 per cent of the student's time each school day must be spent in the school shop and 25 to 35 per cent in related technical subjects. The remainder of the day is devoted to general studies. The enrollment in day schools includes only qualified students 14 years of age or over. As a prerequisite in some local schools, the boy must have graduated from grade school; in others, enrollment is restricted to those having one or two years of high-school work.

Purpose: The objective of the day trade school is to give practical training which will enable boys and girls to enter into profitable employment in industrial occupations with some advanced standing as learners. In the early stages of development of the public trade school it was be-
lieved that such a school could function com-
pletely as a substitute for apprenticeship in
the skilled trades. Due to a great variety of
reasons, very few schools nowadays make any
claim to being able to turn out full-fledged
journeyman workers. A sensible objective for
the preemployment type of trade school is to
train pupils for advantageous entrance into
industry at definite levels of employment; for
example, as an apprentice with three to six
months of advanced standing or as a second-
year apprentice.

5. Continuation schools.--Continuation schools are
organized to give instruction designed for the vast number of
boys and girls between the ages of 14 and 18 years who have
left school and gone to work. Classes meet during the work-
ing time of the employee between the hours of 8 a.m. and
5 p.m., for at least 144 hours per year. In 28 of the States
there are laws providing for the establishment of such schools
at local communities, thus providing opportunity for boys and
girls who left school at the age of 14 years to return for a
certain amount of time, 4 to 8 hours each week.

Purpose: In these schools the principal
objectives are employment adjustment and vo-
cational and educational advisement. Some of
these schools provide opportunities for social
and economic adjustment of the young workers, individual employment guidance from juvenile jobs to adult jobs, interpretation of working experiences, specific types of job training, and coordination of instruction with actual working conditions.

How Will Trade Schools Avoid Training More Workers Than are Needed for a Trade? Under the provisions of the national act the enrollment in part-time trade extension and evening classes is restricted to those already employed. In the cooperative part-time class it is necessary for students to be employed in the trade in which they are receiving instruction. The Federal board strongly advises local communities against training more new workers than can be absorbed by a trade. It does not believe that a day-trade course should be established unless there are opportunities for employment in that trade. The number of apprentices needed in any one trade in any community is a question that should be determined by the local schools in cooperation with local organizations of craftsmen and employers.

How Can Local Organizations Cooperate with Public School Officials in Organizing and Operating the Classes? Every local director of vocational education should have a general advisory committee composed of representatives of organized groups. The membership should include outstanding craftsmen, employers, and business men. There should also
be a committee on apprentice training from each craft to advise with the local director as to the needs of the trade, the subject matter of the courses, and the selection of prospective apprentices. Labor should recognize its responsibilities and safeguard its own interests by assisting the local schools to meet the needs of the community and by cooperating with the director of vocational education in the organization of advisory committees.

**Are Trade Classes Provided for Women and Girls?** Yes; the need for offering training courses for women and girls in women's trades is recognized as being equal in importance to offering such opportunities for boys and men, and such classes should be organized wherever needed. Where trade and industrial occupations employ both men and women, training may be offered wholly irrespective of sex.

**Can Federal Funds be Used for Private Schools or Training Departments in Factories?** No; it is definitely stated in section 17 of the national vocational education act that—

No portion of any moneys appropriated under this act for the benefit of the States shall be applied, directly or indirectly, to the purchase, organization, preservation, or repair of any building or buildings or equipment, or for the purchase or rental of lands, or for the support of any religious or privately owned or conducted school or college.

**Must Classes Meet in Public-School Buildings?** No; classes may meet on the job, in plants or factories, where
machinery and equipment are available for instructional purposes. In other words, classes may meet at any place that is convenient; but it is mandatory, if Federal funds are used, that they be under public supervision and control regardless of where they may be conducted.

What Steps Should be Taken in Organizing Vocational Schools or Classes in a Community for Any Given Trade?

Wherever it is desired to organize a program of trade and industrial education the local board of education should request the assistance of the State supervisor of trade and industrial education. A survey for the purpose of determining the need for training in the community can be made with his help. The cooperation of employers and employees is necessary to the securing of accurate and reliable data. A person who is properly qualified to discharge the functions of a local director of vocational education is fundamentally necessary to the success of the program and should be secured by the board of education if not already employed. The local director, in cooperation with representative advisory committees, should have the immediate responsibility for organizing, administering, and supervising the program to best meet the needs of particular groups and at the same time safeguard the interests of the community as a whole.
CHAPTER IX

THE VIEWPOINT OF

THE UNION WORKERS

It was believed that a better response could be secured from the representatives of the printing unions by using a questionnaire, rather than a letter asking the desired questions. One was therefore prepared and enclosed with a personal letter designed to offer the incentive necessary to secure an answer. The letter was signed by Mr. Joe E. Trickey, secretary of the Wichita typographical union, number 148.

Most of the secretaries who answered not only checked the questionnaire but also wrote additional remarks in the space provided at the end of the sheet. Replies were received from the following cities: Independence, Kansas, Kansas City, Missouri, Louisville, Ky., Reading, Pa., Topeka, Kansas, Omaha, Neb., Pittsburg, Pa., New Orleans, La., Cleveland, Ohio, Des Moines, Iowa, Milwaukee, Wis., Detroit, Mich., Jersey City, N. J., Oklahoma City, Okla., Chicago, Ill., Buffalo, N. Y., Washington, D. C., Cincinnati, Ohio, New York City, Boston, Mass., Minneapolis, Minn., Newark, N. J., Indianapolis, Ind., and the international allied printing trades council of Boston, Mass.

The first question asked the union secretaries, one that was really basic in its importance, was: "Do you think it possible to train a sufficient number of printers for the future needs of the industry by means of the apprenticeship
There has been much talk about the breaking down of the apprenticeship system. Evidently the union secretaries do not agree that this is true for the twenty-four of them, without exception, answered yes to the question. One of them added the note: "and entirely feasible and satisfactory."

The question: "Do you think printing taught in the public schools tends to make better printers," brought a little division of opinion. Seventeen secretaries felt that it made no contribution. Five were sure that better printers were produced because of printing in the schools. Two qualified their statements as follows: "Possibly, it would depend upon the length of the course." "It is my belief that the benefits are rather meager." In the third question the secretaries were asked to check suggested answers to the question: "Judging from your experience and observation, what are the possible contributions that a public school printing department can make if the student studies printing for one hour per day for five days per week." Not one of the men felt that this type of course trained printers for the trade. Ten felt that the one hour per day course could give the preliminary basic training to apprentices. Two felt that it gave the broad general training that should precede specialization in one branch of the industry. Five were sure that the one hour course gave the information and contact with typographic procedure that would result in more intelligent buyers of printing. Five said that the fundamentals of design and layout
that every printer and buyer of printing needs were the possible contributions. Nine answers indicated that this type of printing course served as a manual course to help the student in English, history, spelling, etc. Five considered it a cultural course for the development of favorable attitudes and ideals. Twelve secretaries checked the item: "It has no value; therefore should not be in the schools." Six of these twelve, however, checked other items indicating contributions that could be made.

The fourth question concerned the contributions that could be made if the student were enrolled in the vocational printing course in which he studied printing or related subjects for three or four hours per day for five or six days per week. Three men said that this type of course could train printers, or at least advanced apprentices, for the trade. Sixteen indicated that the vocational course could give the preliminary basic training to apprentices. Eight listed the broad general training that should precede specialization in one branch of the industry. Eight felt that it could give the information and contact with typographic procedure that would result in more intelligent buyers of printing. Ten secretaries stated that the vocational course could teach the fundamentals of design and layout that every printer and buyer of printing needs. Seven thought that even the vocational course could serve only as a manual course to help the student in English, history, spelling, mathematics,
and punctuation. Five saw value in the cultural aspects of the subject. Ten secretaries felt that the course did not have sufficient potential value to justify its being included in the schools.

Several of the statements written in by the secretaries show how some of the union men are thinking.

"Under the present system here no good can be accomplished because of the selection of students not adapted to printing. It gives incentive to sub-normal boys to come into the trade, who are to prove incapable in later years."

"Our vocational committee has gone into conditions very thoroughly and in my judgment the vocational schools are very good when young men who intend to follow the trade and are capable are given instruction. But when instruction is given to sub-normal boys to give them incentive to come into a trade for which they are not equipped and when instruction is subordinated to production as it is locally, in my judgment the time is opportune to discontinue such vocational schools."

"While I have never been opposed to the teaching of printing in schools, I may say that many of the members now look upon it with disfavor. It has been taught in  for about seventeen years. Few of the pupils follow the work after leaving school. Three who took the work at school obtained placed in downtown offices after leaving school, completed the I. T. U. course and the apprenticeship term, and are now journeymen members. Five others who attended
classes in school are now apprentices in commercial offices and are taking the I. T. U. lessons. In time they will become competent printers, but most of their knowledge will be gained in work after their school experience."

"One objection frequently heard about the school is that it does printing which should go to the commercial offices employing our members. Ever since the printing department was established here, union men have been employed as instructors, so we have no complaint to make on that score. But the general opinion seems to be that the boys only learn enough about the trade at the school to make them a menace in case of strikes or lockouts. If they expect to become competent printers, they must complete their apprenticeship term after leaving school."

"But few students seem to have gained any material benefit from a study of printing in schools. Our examinations show nearly all of them to be poor in spelling. But one boy is making outstanding progress as an apprentice and he had four or more hours per day for four years. There are about a dozen or fifteen openings for apprentices each year and nine or ten men are engaged in teaching boys for these apprenticeships."

"We have had a number of applications to the union from boys who have taken the course. We do not allow them any time on the five-year term as apprentices. They are required, of course, to complete the I. T. U. course in printing. Many
of the boys who have learned the trade in the old way, excel
those coming from the school. However, much depends on the
lad himself. Printing is taught in three of our high schools,
but only a general idea of the trade is gathered. They do
not have the equipment or the instructors to take them very
far."

"Vocational schools can assist apprentices and journey-
men working at the trade. The school has proven satisfactory
in Milwaukee."

"Printing in the public schools tends to make not better
printers but journeymen better informed in the history and
fundamentals of the trade."

"Very probably a cooperative working agreement between
employers, schools, and trade unions would produce a much
higher grade of printer, with deeper and broader conceptions
of not only printing, but liberal arts and economics in
general. Composing room credit for sincere school training
in printing seems desirable and practical to me."

"After an experience of thirteen years as a teacher of
printing in our senior high school, I can say that the ap-
prentices secured from the schools make better progress and
have a more general knowledge than those entering the trade
without any preliminary training." (This writer was not only
the instructor in vocational printing but also the president
of the typographical union.)

"Buffalo is one of the first cities in the training of
apprentices for the trades. We have many in our high and vocational schools and the printing department in the school is one of the finest to be found anywhere. All of the teachers are members of #9 and, of course, that is a big item in the boys' training. However, I personally feel that we are losing out on the whole. Non-union shops get the boys as soon as they can do any work and once so placed with a fair wage they are hard to handle. We try to keep in touch with them and have every assistance from the teachers. At the present time we cannot place the boys who have been regularly graduated from the shops. They too have been let out."

"Ninety per cent of the boys entering the printing trade as compositors are deficient in English. I believe that if more attention were paid to teaching the above economics in the schools, the trade could take care of its apprentices in the shops and trade schools."

"The answers are based on the observations of the apprentice committee of #584 on several students from the high school who were recommended by the printing instructor as being capable as two-thirds when tried out fail to show the ability of ordinary one-year men who had served the time in the shop. If practical printers were employed as instructors in the schools, it would be much different, but too many schools hire for instructors men who are wholly incompetent and whose whole knowledge of the printing game has been gained from books."
Boston has had vocational schools on a large scale, for a number of years. Up to date they have been of no assistance to the pupil other than to get a job after graduation in a bedroom printing office, where he serves as long as the employer wants to keep him for an errand boy's pay. He must apprenticeship himself before he is of any value to the trade.

In typesetting is being taught by a bookbinder who, before entering the vocational school, never had anything to do with typesetting. Presswork is being taught by compositors who never had anything to do with presswork before being appointed as teachers in a vocational school. Labor organizations in the printing trades had a protest meeting before the State Board of Education, protesting the methods used in the vocational schools, by teaching a boy a smattering of the business and graduating him, unfit to do anything in the printing trades, with the possible exception of feeding a job press and setting up two sticks of type matter a day, in some small printing office where he can do this work in connection with running errands, the job for which he was probably employed. I don't say this because of any antagonism, but it has been our experience, and is what has been happening for the last fifteen years in our vocational training schools, and we feel unless the boy is apprenticed out after graduation to some printing office, in cooperation with the printers union in this city, where he will serve the necessary time, and be given the necessary
instruction so when his apprenticeship is up, he can compete with the other journeymen printers throughout the country, that the vocational training is wasted."

"In ___ we find that so-called printing apprentices that have come from the public schools of very little practical use in the commercial printing offices of the city that do work in the competitive business field. These so-called apprentices invariably have to start all over again in their apprenticeship when they get out of school. This fact is demonstrated by the fact that the proprietors will not recognize their ability by giving them the wages that their vouched-for experience would entitle them to. And, in the last analysis, the wages paid apprentices, whether they be shop-taught or school-taught is the crucial test of their ability. To the lay mind, but a mind that is vitally interested in the program of teaching trades in schools, it appears that the boy in school does not, and cannot be brought to the point to seriously try to grasp the elementary rudiments of the trade. A boy who has earnestly and actually started his career of working for a living seems to grasp these points in a more practical manner."

"Boys should learn the trade in established printing offices and not in public schools. Printing is all right when used as an educational factor, but is exceedingly harmful when used for teaching the trade to boys."

"These questions are too delicate to answer in a pre-
empty manner. The situation in the printing industry is undergoing a change which seems to be undermining the economic welfare of the trade. The continuous mergers of newspapers and job plants throughout the country is having a tendency to flood the industry with competent workmen and the necessity for training new material is futile."

"At a meeting held recently with the Department of Education, we registered an objection to the practice of teaching printing in the public schools, because in this section no notice has been taken of the needs of the industry. We have one school in _____ that has 200 pupils. Last year the union shops graduated 56 apprentices, which is more than the industry can absorb."

"It is my opinion that public schools are going entirely outside their province in attempting to teach trades of any kind. My observation has been that the percentage of near illiteracy among the so-called graduates is appalling. Schools would be better serving the purpose for which they were instituted if they devoted their entire energy to the teaching of the three R's and some spelling and grammar."

"Our experience is that the schools graduate more apprentices than the business can absorb and in many cases if it is impossible to place them, they acquire an outfit in some way and become competitors for the small work, this being unfair to both employers and journeymen."

"I am opposed to teaching of printing in the public
schools because students get just enough knowledge of the trade to be a handicap to the organization of shops, as they are not competent enough to become members of the union, and if they follow the trade it is in the low wage, long hour shops.

"I am basing my opposition to printing trades taught in public schools on the system in vogue in New Orleans whereby one manual training instructor is allotted a number of schools and is required to teach unrelated trades: vis., in New Orleans, instructors in public schools teach printing, woodworking, metal working, etc., that is, one instructor teaches a class in all three of these trades. I know it is impossible for one man to be proficient in such opposite trades and do justice to a pupil."

"In my opinion, much depends on the teacher. We have maintained an apprentice class for a number of years in our vocational school, taught by a union instructor. Our union is opposed to the attitude of the Bureau of Education in supplying the I. T. U. course to school children and not permitting an apprentice to start the course until two years at the trade. I have found the apprentice class of great assistance to boys employed in newspaper and large job shops."

The International Typographical Union maintains a bureau of education under the direction of Mr. John H. Chambers. Apprentice printers must complete a set of lessons issued by this bureau before they can secure their working card as
journeymen printers. By special arrangements many vocational schools use these lessons.

In order to secure the reaction of the union to the printing instruction in the public schools, a letter was sent to Mr. Chambers in addition to the letters sent to the secretaries of the local unions. While Mr. Chambers did not list the complaints that frequently come from the union, these are amply covered in some of the responses from the secretaries. His letter follows in full:
March 4, 1930

Mr. Carl G. Bruner,
Department of Industrial Education,
Wichita Public Schools,
Wichita, Kans.

Dear Mr. Bruner:

Replying to your cordial letter of February 28 I am happy to submit the following comments based on the experience of this organization in promoting a constructive program of education and cooperation between school printing departments and the industry.

We find that public school printing instruction has:

Developed appreciation of art in printing.
Created and fostered a wholesome respect for books.
Developed a justifiable pride in personal achievement.
Broadened the educational and social outlook.
Broadened the field of vocational choice.
Prepared for effective entrance into the printing trade.
Given mastery of many of the principles of design.
Helped in forming habits of accuracy, thoroughness, neatness, and industry.
Given opportunity to turn out a product of use, beauty, and value.
Cultivated appreciation of the value of cooperation and service.
Aided in the mastery of other school subjects, particularly English.
Provided an appropriate instructional medium for pupils whose constructive instincts desired this method of expression.
Provided experiences which show the practical application and value of academic subjects.

Our experience has further shown that the ideal relation of the public school printing department to industry is one of a clearing-house character. A well-organized school printing department is in position to select, train and place prospective apprentices in the industry much more effectively than can be done by industry itself. Assuming that the instructor is cognizant of the needs of industry and is working in close harmony with it, the school printing department is in position:

To increase the breadth of service rendered by the public
schools by providing an outlet for its product into one of the most respected and progressive trades.

To insure valuable preapprentice training for certain industrially-minded students.

To provide the opportunity to assist in a very substantial way toward the elevation of standards in an important industry.

To eliminate once and for all the destructive antagonisms between the schools and industry, which invariably operate to the detriment of constructive efforts.

To assure increased mutual respect on the part of industry and the schools by reason of the constructive contacts existing between the two agencies.

To go far toward overcoming the feeling on the part of industrial representatives that the schools are impractical, out of touch with life and its insistent demands, and given to purely academic endeavors.

To evidence fairness, sympathetic regard for industrial problems, a desire to serve all rather than a fortunate few of the populace, and as a result win admiration not only from employers and employees but from parents as well.

To effectively provide against destructive criticism of your procedure and at the same time assure the thing you have long wanted—constructive criticism from those most interested.

If the school printing department has been accredited by the I. T. U. for training apprentices it may claim the following additional contributions to industry:

Competent instruction is assured every student.

The work done by pupils when in school will be recognized upon entrance to the trade.

Availability is provided of the I. T. U. Lessons in Printing, instructional material that has proven satisfactory wherever used.

Possibility of trouble with state officials changed with the responsibility of seeing that Smith-Hughes funds are being used properly is eliminated.

Preparation for sympathetic and effective entrance into the trade is assured.

Criticism of schools and school methods is avoided. The number of apprentices entering the trade is automatically regulated by raising the standards, thus eliminating danger of "flooding the market" with applicants for whom
Mr. Bruner,
Wichita, Kans.

there are no opportunities for employment.

I trust that you will find the above sketchy answer usable. I have not stressed the nature of the criticism usually held against school instruction but will do so if it will help you in any way.

Fraternally yours,

BUREAU OF EDUCATION

signed John H. Chambers
Director

JHC : W
The Typographical Journal, the official paper of the international typographical union, while very fair and broad-minded in its general editorial policy, will print contributions from the membership on practically any subject that they wish to write. It is quite natural that some of the members should think harshly of the schools. This is the more to be expected during a rather poor business year when there are many unemployed members of the union. The following quotations are typical:

"The Dallas Chamber of Commerce maintains a vocational school. Among other instruction, great emphasis is laid on the printing industry. They have turned out 'expert' printers, operators, and handmen by the hundreds. The city never in its history has housed so many 'bed-room' printers. A shirttail full of type, a stick, and a broken-down press, two-bits worth of ink and away they go. Never such a plethora of price-cutting, and it is now common practice to call for competitive bids on visiting cards and all lines of commercial stationery. No wonder they 'bust'. Ask the country printers who have inadvertently hired these 'barn-stormers' from the chamber of commerce school only to have their type-setting machines put on the 'bum', their presses all out of adjustment, and the issues of their papers delayed. The individual who has suffered in this regard has learned to protect himself. He demands to know whether they are 'graduates' of the Dallas Chamber of Commerce Vocational School."
That is all he needs to know in order to end the quest for the best by refusing to hire the worst. Several printing firms in Dallas have stood out against the coercive demands and the 'hi-jacking' methods of the open-shoppers. In the last ten years they have run union shops, paid the union scale, and observed the conditions that give men a chance to maintain their manhood.***The best showing of any one shop in the city—a showing that far overtops all others in the lowest 'hour' cost—is a full-sized and full-timed union shop.1

"Experience has shown that the teaching of printing in the schools cannot be stopped by the typographical union or any of its locals.***Intensive research has proven that only three out of every hundred students ever become printers. I believe that we could profitably ascertain how many of our boys' union printers are teaching in the schools. There are good reasons why union printers should dominate this field."2

"It has come to our attention that a number of vocational and manual training schools teaching printing are entering the competitive field and bidding for work against printing concerns privately owned. Such a system is indefensible. Employers who pay a living wage should be protected by law

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from such competition. Students attend such schools to learn the fundamentals of the trade. In most cases the school is supported by public funds raised by taxation. No salaries are paid to students and it is a violation of the laws of decency that the services of these students should be used to produce printing in competition with those who pay the taxes to support the schools. 3

"The printshop of the Thomas Jefferson High School is opened two nights a week for apprentices and journeyman. An opportunity to learn the linotype was grasped by a number of compositors and makeup men. Number 150's president, M. Howard Williams, was successful in passing a state examination and is now instructor for these classes. 4

"Because of the schools (the trade schools) it may be conservatively estimated that 4000 or more graduates chisel their way into the International Typographical Union each year. A 'rat' shop does not want them; they are incompetent. If they were unsuccessful in getting membership in the union they would be forced to return to what they had been working at prior to becoming 'students'. Let's get back of a law and close the books on the school graduate at least. I've


been across the continent several times and 99 per cent of the offices I worked in had two or more school graduates employed. Quit supporting trade schools.\(^5\)

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CHAPTER X

SOME COMPARISONS OF OBSERVATIONS IN PARTICULAR TOWNS

When the observations of the representatives of the different groups in this study are analyzed it must be remembered that the school situation with which any one observer is familiar is possibly quite different from the arrangement for instruction in printing in some other community. This is true because of the wide variety of aims and methods discussed in the statement of the problem.

In this chapter typical cities were selected and each particular school situation viewed through the eyes of the different groups in that city. In city A the following is the viewpoint of the superintendent of schools:

"We feel that the high school printing departments make a very fine contribution to the work of the school system for the following reasons:

1. The pupils are assisted in becoming good spellers, and in improving their work in English and art. They are afforded an opportunity to get a basis whereby they may take up the work of printing quite rapidly after completing the course in our schools.

2. In one of our high schools we prepare a daily paper. This gives wonderful opportunity to the students to train themselves as reporters, in organizing ability, in promptness with their work, and in other points as indicated above."
3. It is a fine method of getting the work of the schools before the people.

The people in the industry have received our students very kindly, and many of them have had remarkable success after going into the regular work of printing. This subject is not a trade with us, but a training in education."

In the same city, looking at the same school instruction in printing, the representative of the printers' union had the following to say:

"The outlook, in my opinion, does not justify the wasting of the student's time in the hope of directly benefiting the industry."

This writer in his answers on the questionnaire indicated that: (1) It is possible to train a sufficient number of printers by means of the apprenticeship system. (2) Printing in the schools tends to make better printers. (3) Printing can serve as a manual course to help the students in English, history, spelling, etc. (4) That these contributions were being made in his community to a degree.

In spite of the above admitted contributions this union writer also checked as true the item: "The course is of no value and should not be included in the schools."

The representative of the employing printers in city A had the following to say: "What are the potential contributions of the public school printing departments to the printing industry? If I am to frankly answer this question
as you request I am forced to say that they are NIL.

We conduct, as I presume you do, a free employment bureau for the printing industry and I am frank to say that it is always difficult to get either the proprietor or the superintendent of the plants in _____ to give employment to a boy who comes from the vocational departments of the public schools. I am frequently told that they would sooner start an apprentice in the industry who knows nothing of the business, in preference to trying out the boy from the school.

Personally, I believe that this attitude is wrong, but it is a condition and not a theory with which I am confronted. At the end of almost every semester we have several boys looking for work in the printing business and it is very seldom that I can find anyone to give them a chance.

City B brought the following observations from the superintendent of schools: "The course in printing has been of real value to the students enrolled in it. The printing plant has been of help to the school in very many ways—printing the school paper, all announcements and posters, and handling all printed matter relative to the programs and the promotion of the activities of the school.

Many of the students on completion of the course have found very good positions in industry. The work has been recognized and accredited as apprenticeship requirements."

The secretary of the employing printers' association in City B wrote: "We are particularly gratified because of the
co-operation which we are receiving from these schools, and because of the good work that they are doing in training young men for our industry. We have reached the conclusion that school training is the solution of the apprenticeship problem from the basic standpoint of the printing industry."

City B's director of industrial education had the following to say: "We are offering instruction in printing in our junior, senior, and trade schools. In junior high schools the objective is vocational exploration and experiment. In these schools very little production work is done and the amount of time devoted to the subject is quite short.

In the senior high schools, printing is elective. These shops are equipped to do a rather broad line of production work, including the school paper. The work here is rather a combination of cultural activity and vocational knowledge and preparation. A good many from our high school printing departments find their way into the printing industry after leaving school. The work of this department is closely related with the English department and furnishes a means of checking the instruction in spelling, grammar, etc.

In the trade schools, printing is taught solely from the trade viewpoint. Boys are prepared for entrance into the printing industry, and most of those thus prepared enter it as a life work. In this connection we are not able to meet the demands made upon this department for young printers.

Personally, I believe printing to be one of our most
valuable practical arts subjects in our public schools. It is a happy combination of mental activity and manual work and a stimulus for boys and girls."

The representative of the printing union in city B felt differently than the representatives of the other three groups. He wrote as follows:

"While it is my wish that all instructors of printing be members of our organization I am doubtful as to the value to the student and the craft of such instruction. But few students seem to have gained any material benefit from a study of printing in the schools. Our examinations show nearly all to be poor in spelling. But one boy is making outstanding progress as an apprentice and he had four hours or more a day for four years. There are about a dozen or fifteen openings for apprentices each year and nine or ten men are engaged in teaching boys for these apprenticeships."

In city C a close working relationship must have existed between the hypothetae and the schools. In reply to the letter sent to the employing printers' association, a copy of a letter written by the director of industrial and vocational education was received. This close contact is, of course, to be commended. The letter which evidently gained the approval of the hypothetae contained the following statements:

"If we are to provide equal educational opportunity for all children in this republic, we must remember that the same kind of education will not be of value to all people. On the
theory that we should provide a varied training program, in-
so-far as it is possible to do so, vocational training for
trades and industry has been provided. Printing being one
of these trades the school city provides for vocational
training for those who desire it.

In the early stages of training for this trade the pupil
or apprentice is of little value to the employer. If this
part of the training is offered by the school city, the boy
when he applies for a job should be, if properly trained, an
economic asset rather than a liability.

In another way the school can be of service. Not all
boys who enter the trade are fitted for it nor are they
satisfied with the work. If the school city can eliminate
through training courses the unfit and recommend to the in-
dustry only those who do like the work and are capable, the
industry will be saved considerable expense.

In the third place, it provides for the industry a
reservoir of home talent ready to step up when needed.—the
closer we can keep in touch with the needs of the industry,
the better we can help the student and the industry.

The preceding statements are in direct contrast with
the statements from the president of the union in city C.
After checking as true the statement on the questionnaire
"Printing instruction has no value; therefore should not be
in the schools," he wrote the following comment: "It is my
opinion that the schools are going entirely outside their
province in attempting to teach trades of any kind. My ob-
servation has been that the percentage of near illiteracy
among so-called graduates is appalling. Schools would be
better serving the purpose for which they were instituted if
they devoted their entire energy to teaching the three "R's"
and some spelling and grammar."

Additional comparisons could be given. However, the
ones cited clearly illustrate the fact that the piece of
instructional work being done in a particular city may ap-
pear very good or very bad depending upon the viewpoint, in-
formation, and interests of the individual doing the evalu-
ating. Obviously a contact committee composed of members
from all interested groups would have some interesting argu-
ments but the outcome would be valuable information for each
member to carry back to his group and some definite knowledge
of needs and conditions for the printing instructor to use
as a basis for future revisions of the content, aim, and
technique of his course of instruction in printing.
CONCLUSIONS AND RECOMMENDATIONS

In order to provide a favorable answer to any of the questions that are dealt with in this study it is obviously necessary that the students in the printing classrooms and shops must do a great deal more than "play" with the type and tools of a printer. Definite aims must be set up and published so that the students as well as anyone else interested can learn the exact purpose of the course. Standards must be established for each type of course both for entrance and graduation. Definite dividing lines should be drawn between the different types of courses in printing so that the student and the public can know whether the course purports to train for entry into the industry or whether it has other equally important though not so generally understood goals.

The work in the public schools must be divided into at least three fields. In the writer's opinion the three kinds of work cannot be accomplished in the same room at the same time and with the same teacher. This is exactly what is being attempted in many school situations at the present time. It is obviously not necessary for all types of courses to be offered in any one school or in any one city so long as the courses that are offered are properly understood by those who live in the community.

FIRST there should be the exploratory course in which the student should be allowed to work with the printer's tools with the idea of finding out, by trial, whether he can find satisfaction in their use and whether his gifts and interests
fit him for success in the printing field. This work should be so organized that the student will find a definite value in the subject matter covered even if he is convinced that the graphic arts offer no inducements for him. This course should not last for more than one school year, should be for one hour per day, and should come in the junior high school or in the first year of the senior high school. The employing printer who employs a boy with only this type of school printing and who expects any amount of ability as a printer will be disappointed. The aim of the course was to find ability that might be developed; the development of skill must come later. No elaborate equipment is necessary for this kind of a printing course. Plenty of type, cases, work banks, a good proof press, and one or more good platen presses with the necessary small equipment is about all that is necessary. No production work should be attempted.

SECOND, there should be a vocational course if there is sufficient opportunity in the shops of the community to justify such training. This course should provide definite training for entry into the printing industry. The term printing industry should not be construed in this case to mean only the shop but should include the office and sales force as well. If the student plans to depend on some branch of the graphic arts to earn his living, regardless of whether he plans to enter the shop directly upon completion of the course or to attend an institution of higher learning with
the idea of becoming an administrator or salesman, the vocational course is the logical and most profitable place for him during the high school career. Since this type of course should allow the student to spend three or more hours per day on printing or related subjects, should run for three or four years, and should be supplemented by actual employment in the commercial shops during the summer months and possibly after school and on Saturdays, the employers can expect and should be willing to pay for a considerable degree of ability and specialized skill. The student, who, after finishing his high school vocational course, goes to such an institution as Carnegie Institute of Technology to secure the training for an administrative position in the industry will find that he has the background and basic information which will materially aid him in his work.

The vocational course in the public schools should also include an evening school for apprentices in the shops of the community and also for mediocre workmen who wish an opportunity to improve their technique. This evening school should be considered an important part of the school vocational program for it not only provides training for the boys not recruited from the schools, but offers an opportunity for those boys to continue their training who were forced out of the schools for economic reasons. Obviously neither the day vocational school nor the evening school can function unless the teacher has the confidence and the cooperation of the
employing printers and the workmen in the shops. If the teacher's work and typographic ability are spoken of in a slighting or depreciating manner by the men in the shops there will be no incentive for the workmen to go to the school for improvement.

If the employing printers of the community desire the arrangement there should also be a part time cooperative agreement so that the boys could attend the vocational school part-days or alternate weeks. This arrangement offers, in all probability, the best possible arrangement for boys to learn the printing trade rapidly and well.

As has been previously said, most employers judge the public school printing departments on the basis of their ability to turn out finished printers. In my opinion, the schools alone, cannot adequately train a printer, much less a master typographer. The vocational schools, however, can turn out advanced apprentices who know and appreciate good printing. These boys, if the school and the shops work together, can be developed into craftsmen who will include outstanding typographers in their number.

The vocational classes are the only classes in the public school printing department that should even attempt to train printers. Much of the criticism that now withers the school printer and his teacher is the result of the employer expecting a skilled workman from a general education course in printing. A course accurately would be called a course in
printing information and appreciation. There is a place in
the educational program for the cultural course in printing
but neither the training of apprentices nor the production of
a large amount of school printing comes within its scope.

Since many of the vocational students will go directly
from the vocational shop to a commercial shop and since high-
ly specialized skills are considered an important part of his
training, the school vocational shop should be provided with
as much modern equipment and machinery as the supporting
agencies can find it possible to afford. Production work
should have a larger part in activities of the vocational
students than in the courses outlined for those students less
interested in the development of skill. Good up-to-date
equipment, a competent instructor with his college degree
backed by actual trade training in a commercial shop, and ar-
rangements for contact with industry to keep the methods and
information taught correct, are essential for successful vo-
cational instruction. These vocational schools may be sup-
ported entirely by one plant, for example, one Chicago firm
has a school entirely its own. Others are run by a body of
employers who band together to support and control the school.
A working men's union may establish and support a school for
their apprentices and workmen. The very excellent school for
pressmen at Nashville, Tennessee, belonging to the Inter-
national Pressmen and Assistants Union is an outstanding ex-
ample of this arrangement. The New York School of Printers'
Apprentices is an example of another of the various arrangements that are possible. In this school the employing printers and the typographical union assume two-thirds of the support and the apprentices themselves furnish the other third. Still others are operated by public school boards of education cooperating with an advisory committee made up of manufacturers and workmen.

Let it be remembered that the vocational course must give, not only practical skills, but a broad general knowledge of the industry. The training available in the commercial and newspaper shops is highly specialized. The worker learns only one department; many times only one operation in that department. The specialization that has characterized the automobile industry has crept into many other industries including printing. Frequently the worker knows very little of the work that precedes or follows the comparatively small operation that is his contribution to the construction of the whole. Real interest, pride in accomplishment, and we might say craftsmanship demands that the worker in every department understands and appreciates the work necessary, in addition to his, to produce the finished product. It is becoming increasingly difficult to get this background of information "on the job", which obviously points to the vocational school as the logical contributor. This understanding of the whole field is even more important from the standpoint of adaptability to a new job in case
future changes in production methods should remove the particular specialized operation.

**THIRD,** there should be printing as an industrial arts subject. This type of course has been variously classified as "regular high school printing", "general educational course in printing", "information course", "manual training course", "academic course in printing", the printing art course", etc.

It is the purpose of this type of course to satisfy the needs of those students who will be the users and buyers of printing rather than the producers. There should logically be many more students enrolled in courses of this kind than in the vocational courses. The printing courses in the majority of the high schools of the country would be in this classification and should thus be classed as industrial educational rather than vocational.

These industrial arts printing students are the future business and professional men and women, the journalists, the advertising specialists, the commercial artists, the historians, the authors, the technical men, the engineers, etc. The industrial printing course provides the type of contact with the graphic arts that can be made of value to at least fifty per cent of the boys and girls now enrolled in the schools. It can and has in many cases served as motivation for other subjects. It is a common interest that can permeate the study of history, biography, arithmetic, English,
art, and journalism as well as many others. It is the type of printing course for those communities where a vocational course that requires the student to spend four hours per day on printing and related subjects would be highly impractical. It is the type of printing course that would be offered in every high school building in the larger cities while the vocational classes would be concentrated in one centrally located building.

This industrial arts course in printing should probably occupy one school period per day, preferably not less than one hour long. At least one-fifth of the time should be spent in classroom discussions and demonstrations. Each student should be required to completely develop a number of projects, i.e., select, plan, design, draw necessary layouts, set into type, makeup, lookup, print, bind, figure costs, etc. The student will thus contact quite a number of techniques but will not develop a great amount of skill in any of them. There should be frequent field trips if there are commercial shops within a reasonable distance. In short, this course will partake somewhat of the "sightseeing" course described earlier in this paper. But let no one think, because the range of material covered is wide, that the course is designed for the entertainment of the student, or that it is to be the resting place for those students of doubtful mental endowment who cannot or will not make satisfactory progress in the regular academic subjects. If it is to be
successful it must be a serious attempt to capitalize on the potential values of printing as a subject in the public schools.

Unfortunately, this is also the type of course which will be mis-understood and depreciated by the employers, the workmen, and some of the general public unless they thoroughly understand the aims of the course. There is no attempt made to train printers. If this is thoroughly understood the other values can be seen.

These then are the potential contributions of printing as a subject in the public schools. Certain conditions are necessary before these results are possible. May I list a few of them.

1. Educators will have to forget that the printing classes have been used as a dumping ground for students who could not achieve in other courses. For success, the academic printing course will have to be on exactly the same basis as other academic courses.

2. The printing teacher will have to have the right to refuse parts or all of jobs that do not fit into his educational program. A certain amount of production is highly desirable but it must fit into the course of study or be rejected. Since skill is an aim in the vocational courses, considerable production can be handled but still the progress of the student is the first consideration.

3. Contact must be established and maintained with the com-
mmercial printers in the community. It is virtually impossi-
ble for the printing instructor to keep informed on modern
methods unless he has this contact and constructive criticism.

4. The information taught must be equally accurate regardless
of whether the course be the academic course, the vocational
course, or the exploratory course. To insure this accuracy
and the approval of the printers in the community, some manual
of information and technique should be prepared and adopted
as standard in all of the printing courses of the community.
This manual should be available to the printers and workmen
so that they can check up at any time on what fact or tech-
nique is being taught.

5. An avenue for transfer of boys to and from the commercial
plants should be established by means of an agreement,
preferably a written signed instrument. This agreement
should set up standards, specify follow-up methods and means,
define terms, provide for information of vacancies, and
probably specify that vocational students be given preference
and that the instructor be given the reasons in case of dis-
missal of the worker.

6. That the industry and the school cooperate in building up
the material available for instruction including a library of
the outstanding books on the subject. This library to be
available to both worker in the trade and the student in the
school.
April 28, 1930

Mr. Hyram R. Smith,
Executive Secretary,
Atlanta Graphic Arts Club,
Atlanta, Ga.

Dear Mr. Smith:

We are cooperating with Mr. Carl G. Bruner, who is in charge of the vocational printing classes in our city, in a study of the potential and actual contributions of the public school printing departments to the industry.

Your frank opinion on the subject, and we ask you to be very frank, will be much appreciated. Likewise any literature that you may have at hand concerning this would be gratefully received.

We would consider it a favor if you would answer these two questions:

1. What are the POTENTIAL contributions of the public school printing departments to the printing industry?

2. To what extent are these potential contributions actual contributions in your community?

If you will address your replies to Mr. Carl G. Bruner, Wichita High School East, Wichita, Kansas, we will be grateful to you. If you desire a copy of the results of the study we will be glad to supply you.

Very cordially yours,

Gladys R. Hammon,
Executive Secretary
Superintendent Arthur G. Deaver
7925 Kingston Avenue
Chicago, Illinois

My dear Mr. Deaver:

I am cooperating with Mr. Carl G. Bruner, teacher of vocational and high school printing in our schools, in a study of the relations of the public school printing department with the school system and with the printing industry.

We are receiving responses from the employing printers, the union working men, the directors of vocational and industrial education, and school officials in each community. We are very anxious, therefore, to have a reply from you to represent the viewpoint of the school men who are in the positions of higher administrative responsibility.

We are interested in the possible industrial educational and academic values of the printing course as well as the vocational contributions. I should appreciate a statement from you in answer to the two following questions:

1. What are the potential contributions of a public school printing department; to the student, to the school, and to the industry?

2. To what extent are these contributions being made in your community?

The reverse side of this letter may be used for your response which should be sent direct to Mr. Bruner, Wichita High School East, Wichita, Kansas.

Cordially yours,

L. W. Brooks,
Supervisor of Secondary Education
The Director of Industrial and Vocational Education
Salt Lake City Public Schools
Salt Lake City, Utah

Dear Sir:

I am cooperating with Mr. Carl G. Bruner, teacher of Vocational and high school printing in my department, in a study of the relations of the public school printing departments with the school system and with the printing industry.

We are receiving responses from the employing printers, and I. T. U. officials, as well as school officials in your community. We are very anxious therefore to have a reply from you to represent the point of view of the industrial education and vocational men.

We are interested in the possible industrial educational and academic values of the printing course as well as the vocational contributions. I should certainly appreciate a frank and full statement from you in answer to the following two questions:

1. What are the potential contributions of a public school printing department, to the student, to the school, and to the industry?

2. To what extent are these contributions being made in your community?

Please send your response direct to Mr. Bruner, Wichita High School East, Wichita, Kansas.

Cordially yours,

signed J. B. Yingling,
Supervisor of Industrial and Vocational Education
Mr. John T. Garrick,
94 Thorne Street,
Jersey City, New Jersey.

Dear Mr. Garrick:

I am cooperating with Mr. Carl G. Bruner of the Wichita Public Schools in a study of the possible and achieved values of printing instruction in the public schools. He has already secured the cooperation of Mr. John H. Chambers, director of the bureau of education of the I. T. U.

The results of this study will be available to instructors of printing in all parts of the United States and will probably have considerable bearing on the direction that their work will take. Material has already been gathered from the employing printers, the superintendents of schools, the directors of industrial and vocational education, and others. The study can not be complete or entirely worthwhile without the reactions and observations of the union workmen being included.

I will consider it a personal favor if you will take the few minutes necessary to answer the enclosed few questions and mail them to Mr. Bruner. A stamped addressed envelope is enclosed.

Fraternally yours,

Joe Trickey, Secretary,
Number 148.

P. S. Mr. Bruner is a member in good standing of Wichita local number 148.
PLEASE ANSWER THE FOLLOWING QUESTIONS:

Note—Please fill free to answer as frankly as you wish. Your honest opinion is needed to make this study of value.

1. Do you think it is possible to train a sufficient number of printers for the future needs of the industry by means of the apprenticeship system, without the aid of printing courses in the public schools? Yes____ No____

2. Do you think printing taught in the public schools tends to make better printers? Yes ____ No ____

3. Judging from your experience and observation, what are the possible contributions that a public school printing department can make if the student studies printing for one hour per day for five days per week? (Check the ones that you think can be made)

____ Train printers for the trade.
____ Give the preliminary basic training to apprentices.
____ Give the broad general training that should precede specialization in one branch of the industry.
____ Give the information and contact with typographic procedure that will result in more intelligent buyers of printing.
____ Teach the fundamentals of design and layout that every printer and buyer of printing needs.
____ Serve only as a manual course to help the student in English, history, spelling, etc.
____ Serve as a cultural course for the development of favorable attitudes and ideals.
____ It has no value; therefore should not be in the schools.

4. If the student is enrolled in the vocational printing course in which he studies printing or related subjects for three or four hours per day for five or six days per week, what are the possible contributions that a public printing department can make. (Check the ones that you think can be made)

____ Train printers for the trade.
____ Give the preliminary basic training to apprentices.
____ Give the broad general training that should precede specialization in one branch of the industry.
____ Give the information and contact with typographic procedure that will result in more intelligent buyers of printing.
____ Teach the fundamentals of design and layout that every printer and buyer of printing needs.
____ Serve only as a manual course to help the student in English, history, spelling, etc.
____ Serve as a cultural course for the development of favorable attitudes and ideals.
____ It has no value; therefore should not be in the schools.
5. To what extent are the above mentioned contributions being made in your community?

Not at all ______ To a considerable degree _____

REMARKS:

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BIBLIOGRAPHY


Frazier, J. L. Modern Type Display. Chicago: Published by the Author, 1920.


Articles


Frick, E. W. "Approval and Advice," The Typographical Journal, LXXVII (December, 1930), 593.


Harris, Emory D. "Printing in the Schools," The Inland Printer, 83 (May, 1928), 69.


Hartman, Fred J. "Does the Printing Industry Want the High School Boy?" Printing Education, IV (January, 1928), 54.

Hayes, H. R. "Printing as a Cultural Subject in an Academic High School," The Printing Instructor, III (January, 1927), 6.

Haynes, Merritt W. "Qualifications of an Apprentice Printer," The Printing Instructor, II (September, 1925), 1.

Haynes, Merritt W. "Value of Industrial Arts as Part of a Junior High School Curriculum," Printing Education, VII (March, 1931), 86.


Heir, Marin. "Are Printing Schools Useful or Not?" The Graphic Arts Monthly, II (August, 1930), 32.


Ingraham, E. G. "Education or Exploitation," Printing Education, VI (March, 1930), 82.


Stuart, Edwin H. "To Give People Something for Nothing is Never Appreciated," The Graphic Arts Monthly, III (February, 1931), 34.


Wiseman, J. C. "Doesn't Approve Trade Schools," The Typographical Journal, LXXVIII (April, 1931), 398.

Wulling, Emerson G. "What Are the Tested Standards for Permanently Good Printing?" The Inland Printer, 86 (January, 1931), 76.