A Survey to Determine the Extent of Retraining in the Printing Industry

Robert A. Timmons

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A SURVEY TO DETERMINE THE EXTENT OF
RETRAINING IN THE PRINTING
INDUSTRY

BY

ROBERT A. TIMMONS

A thesis submitted
in partial fulfillment of the requirements for the
degree Master of Science, Major in
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A SURVEY TO DETERMINE THE EXTENT OF RETRAINING IN THE PRINTING INDUSTRY

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

Thesis Advisor ___________________________ Date ____________

Head, Printing and Journalism Department ___________________________ Date ____________
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R.A.T.
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CHAPTER I

INTRODUCTION

No longer is the printing industry tied to the traditional concept of placing ink on paper; it is expanding to include electronic means for transmitting graphic information. Sophisticated electronic systems and tape operations are beginning to replace older systems.¹ Computers are becoming increasingly significant in the areas of typesetting, presswork and estimating. The introduction of electronics in the graphic arts has brought about new systems such as facsimile transmission of finished pages of copy from city to city. Devices such as electronic etching and color separating equipment and electronic controls for highly mechanized bindery equipment are now being used.²

Electronic scanners now produce full-sized newspaper pages in 4½ minutes. Density scanners are now being used for quality control in presswork. Electronic photocomposing machines, such as the Lexical Graphic Composer Printer System which produces high-quality line and halftone printouts at speeds of up to 1,000 characters per second are


now commercially available. These processes are only a few which have been introduced into the graphic arts industry.

This rapid influx of electronic and automated equipment has produced an increased need for skilled personnel. The United States Department of Labor says that "a knowledge of the basic principles of chemistry, electronics, and physics is becoming increasingly important because of the growing use of photomechanical and electronic processes in printing." Oliver R. Sperry, when discussing the need for different skills in the printing industry, says that "because the printing industry is moving toward the use of electronic and automated devices, it will demand more specialized highly trained people who know optics, physics, chemistry and electronics."

Purpose of Study. Because whole areas of the graphic arts industry may become automated or be totally changed by technology, the question arises, "What do we do with displaced workers whose particular skills no longer fulfill the skill requirements of the new jobs?" One answer would be to fire them. Perhaps a better answer would be to retrain them for the new jobs. Retraining is especially appropriate because there are not enough workers in the industry today with the necessary skills occasioned by technological change.

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3 Schwalb, p. 53.
Karen Ibrahim, in an article in *Graphic Arts Progress*, supports the need for retraining by saying that "complicating the labor picture is the rapid pace of graphic-arts technology, which continually necessitates employers' and employees' having new and different skills." 6

Paul Lyle, in an article written for *Printing Magazine*/National Lithographer, further supports the need for different skills by saying that:

The need for these skills will certainly continue, but the rapid change of technology will make today's skills obsolete tomorrow. This is being fully realized by our more intelligent employers, employees, and craft union leadership, but hasn't been dealt with in the manner it deserves as yet.7

The purpose of this study is to gather information on retraining in the printing industry as it applies to the production worker. The author believes that the problem of retraining will become increasingly apparent in the near future. The author will present the case for retraining from both the standpoint of management and of the printing unions. He will attempt to show the degree of awareness concerning the need for retraining in the industry. Suggestions will also be offered as to how unions and management can work together on retraining in order to meet the demand for new skills on the part of the production worker.


This study might be beneficial to those printing companies which are currently considering introducing new processes or automated equipment, by presenting the case for retraining current employees for the new jobs.

**Automation and Technological Change Defined.** The term "automation," when used in this study, will mean the mechanization of those processes which were originally done by hand. Examples of automated processes include direct-distance dialing, coin-operated vending machines, unattended toll booths on bridges or freeways, and coin-operated car washes. In the graphic arts industry there are automatic film processors, self-correcting register devices on web presses, automatic plate processors and phototypesetting machines as well as computers for composition. Each of these devices has eliminated hardwork.

"Technological change," when used in this study, will mean the introduction of entirely new processes producing either new products or old products by new means. Examples of technological change in the printing industry include electrostatic printing, 3-D printing, and laser photography.

Technological change also has an effect on workers. New processes require new skills and many workers find themselves displaced when their employers change over to the new processes.
Hypotheses. In this study several hypotheses will be stated in the forms of null hypotheses and working hypotheses. The following set of hypotheses will be used:

A₁ Null Hypothesis: Company size is not a significant factor with regard to presence of a personnel department.

A₂ Working Hypothesis: Larger companies are more likely to have personnel departments than smaller companies.

B₁ Null Hypothesis: Company size (in number of employees) is not a significant factor in retraining.

B₂ Working Hypothesis: Larger companies are more likely to have retrained workers than smaller companies.

C₁ Null Hypothesis: The presence of a personnel staff is not a significant factor in retraining.

C₂ Working Hypothesis: Companies with personnel staffs are more likely to have retrained workers than those companies without personnel staffs.

D₁ Null Hypothesis: Union presence is not a significant factor in retraining.

D₂ Working Hypothesis: Those companies without unions present are more likely to have retrained workers than those companies with unions present.

E₁ Null Hypothesis: Introduction of new equipment and processes in a company are not significant factors in retraining.

E₂ Working Hypothesis: Those companies having introduced new equipment and processes are more likely to have retrained workers than those companies not introducing such processes and equipment.

F₁ Null Hypothesis: Shortage of skilled workers at the present time is not a significant factor in retraining.

F₂ Working Hypothesis: Those companies experiencing a skilled labor shortage are more likely to have retrained workers than those companies not experiencing such a shortage.
$G_1$ Null Hypothesis: Retraining does not produce a favorable change in attitude on the part of the employee toward the retraining.

$G_2$ Working Hypothesis: Retraining does produce a perceived favorable change in attitude on the part of the employee toward the retraining.
CHAPTER II

LITERATURE REVIEW

Is Management Concerned? A review of pertinent literature on retraining in the graphic arts industry seemed to show only minimal concern by management about this problem. Many articles written by management personnel pointed to a skilled-labor shortage but said little about training or retraining. Lack of skilled labor seemed to be the major concern. An article entitled "Automation in Chicago," in Modern Lithography, showed management's concern by saying that "we will find ourselves with not enough skilled workers to fit new jobs caused by technological change and automation." Management tends to look toward institutions of higher learning, trade schools and unions to provide the needed skilled labor. These sources have not been able to meet this demand.

One author, when discussing new computer technology, mentioned that there was "no evidence that top management has concerned itself with anticipating changed manpower requirements under computerization." Another article, in Graphic Arts Progress, recognized that


"effecting change is management's responsibility and cannot be avoided," and suggested that management should approach the problem of change by showing concern for the individual worker and his job. This article also suggested that in many instances management effected change and forced old employees into new job situations which they could not readily handle at the time. Management should plan for change, allow workers to discuss any proposed changes, and to contribute their ideas. By doing this, management could insure that change would occur smoothly.

Gerald A. Silver, discussing the need for younger people in the printing industry, said "modern printing technology demands trained, capable young people.....Printing methods have progressed from a hand crafted operation to a rapidly advancing technical science."

Management does seem to be concerned with the skilled labor shortage, but so far has not addressed itself to retraining as an answer to this problem.

Are Unions Concerned? Craft unions in the printing industry are greatly concerned about the demand for highly skilled workers and workers with the new skills required by automation and technological


11 Klemme.

change. In 1960, Kenneth J. Brown, president of the trade union then
known as the Amalgamated Lithographers of America (ALA), said that the
"largest concern of the unions is for the dislocated workers resulting
from introduction of new processes." Brown suggested that a company
should provide for the cost of retraining so that workers would not
lose their jobs. He also suggested that organized labor should estab­
lish a commission in cooperation with management to study manpower re­
quirements of the future. 13 This commission, however, never
materialized.

Since 1960, other unions have also expressed concern about
automation and technological change. The International Printing
Pressmen and Assistant's Union (IPP & AU) and the Lithographers and
Photoengravers International Union (LPIU was formed when the ALA
merged with the Photoengravers Union) have been considering a merger
which will help them deal with automation and technological change. 14

Brown, now president of this new union (LPIU), said of the
proposed merger: "Its biggest advantage will be the ability to pro­
vide retraining for our men so their skills will not be lost to the
industry because of the inflow of new technological equipment." 14a

13 Edward H. Owen and John Hemmelor, "PIA Week-Unions Con­
cerned About Flash Flood Of Technology," Printing Production,
Vol. 91, No. 3 (December 1960), pp. 50-51.

14 Anonymous, "LPIU--IPP Face Automation With 'Total Merger'
Plan," Printing Magazine/National Lithographer, Vol. 90, No. 3 (March
1966), p. 43.

14a "LPIU--IPP Face Automation . . ."
Other mergers have also been discussed. The LPIU initiated merger discussions with the IS & EU in 1966 which would create a new union under the name of the Graphic Arts International Union.\textsuperscript{15} Thus far, the proposed merger has not been completed. The IS & EU has also been negotiating a merger with the IPP & AU.\textsuperscript{16} The ITU is also active in merger discussions, having proposed mergers with the LPIU, the IPP & AU, and the IS & EU. Jurisdictional disputes and wage disagreements have so far prevented any agreements.\textsuperscript{17}

The IPP & AU held to the policy of maintaining training and retraining facilities at its Technical Trade School at Pressmen's Home, Tennessee, until mid-1967 when the IPP & AU moved its headquarters to Washington D. C. The IPP & AU closed the school because enrollment dropped to about \( \frac{1}{4} \) of its capacity, thus the union no longer operates a centrally located training and retraining school.\textsuperscript{18} The LPIU, on the other hand, attempts to establish local, jointly operated industry schools in various parts of the United States. Such schools are now operating in Philadelphia, Chicago, the Twin Cities, St. Louis, and San Francisco.\textsuperscript{19}


\textsuperscript{17} Walsh, p. 98.


\textsuperscript{19} Walsh.
The International Typographical Union (ITU) is also concerned with retraining. The ITU owns and maintains a school in Indianapolis, Indiana, for the purpose of retraining members and apprentices in current composition practices. That union also provides a training and retraining school at its headquarters in Colorado Springs, Colorado.

Unions recognize the need for retraining and hope to gain support from management in their efforts to establish new retraining schools. Management so far seems to be enthusiastic about union retraining programs, but is reluctant to actively support the unions, especially by way of contributions.

According to William E. Simkin, new methods of production have led to "rival work jurisdiction claims, especially where respective crafts have been faced with unemployment among their members and pressure to provide additional work opportunities."\(^{20}\) Mendel Segal suggests that "ways and means must be found to make it possible for the employees of traditional trade unions to introduce and experiment with innovations without a jurisdictional war within a plant."\(^{21}\) If the proposed mergers ever come about, these disputes will be held to a minimum. It would seem advantageous for labor and management to work together to insure that workers with the necessary skills will be available in the future.


Retraining and the Individual. Automation and technological change have different implications for different groups. For unions and for skilled workers changes in job requirements are a big problem because some people find themselves without work. Management, on the other hand, argues that human displacement resulting from change is temporary and that such change may expand the economy so much as to cause a shortage rather than a surplus of people. This argument, however, does not provide solace for the person actually out of a job, nor does it answer the central question of how to fill the new jobs. Unions are seeking job security for their workers and management wants an adequate supply of skilled workers. Both of these wants can be satisfied by sound programs of retraining.

The concept and problem of retraining is not new to American business and industry. The job of preparing an adequate supply of manpower has always confronted industry. This job includes the retraining of groups of individuals whose jobs are faced with obsolescence. Because of the rapid rate of change today, the job of retraining will continue to be important, and may indeed become more important to industry and to workers.

Retraining implies that a person must learn a new skill. These new skills are often totally unrelated to any previous skills the person might have learned. The prospect of the new or the unknown often arouses uneasiness and anxiety in the person affected. When faced with the learning of new skills workers often do not believe that they have the ability to meet the new requirements. This is where
management can help the most. Management should provide learning opportunities for those who must acquire new skills, and state that nobody will be expected to perform effectively until he has had a reasonable chance to practice. Management should also stress that the worker's prior knowledge is not lost, but that it will help him in his conversion to the new job. The more confidence workers have in the integrity and reasonableness of management, the easier it is to control their anxiety.22

The human side of the problem also involves the employee's ability and desire to keep abreast of the changes in his job. It is difficult to retrain a person who does not want to be retrained or who has a general feeling of apathy toward the new training. There is also the difficulty of teaching new skills to employees whose age and educational background are not equal to the task. Older workers are often much less susceptible to retraining because they feel that it is too late for them to learn new skills. Older workers are often discriminated against in various ways. They may be told that no jobs are available or that they are too old for the jobs. They may be considered to have poor potential for retraining because their declining physical capacities may not permit them to perform satisfactorily.23


Older workers in craft unions tend to resist retraining because of the possibility of losing seniority privileges. Unions are trying to solve this problem by basing seniority on age and not on length of service.

Another major concern of workers faced with retraining is the possibility of having to relocate. Workers will accept transfer more readily if the new jobs are within the same geographical area as the old jobs. A study of ex-Ford workers in Highland Park, Michigan, showed that only three per cent of those workers chose to transfer to Louisville, Kentucky while the remainder chose to wait for job openings in the Detroit area. This problem should be of little concern in the printing industry because few printing companies are large enough to have two or more plants.

Retraining often requires the worker to accept more responsibility than he was previously accustomed to. It is possible that the worker might not want more responsibility.

Concerning the general concept of retraining, one author believes that it should be a continuous process whereby the entire labor force should be upgraded in small steps all along the line. The ordinary laborers should learn new techniques, and the skilled workers

24 Haber, Forman and Hudson, pp. 19-20.
should become acquainted with advanced technology and engineering. 27

Because retraining is necessary, the human problems involved will have to be worked out. Unions and management will have to work together in order to construct good programs of retraining.

**Successful Programs of Retraining in Printing and Other Industries.** Other industries have successfully initiated retraining programs. International Business Machines Corporation (IBM) spends over $45 million annually for the retraining of its current employees and boasts that they have not had to fire a single employee because of internal automation. 28

IBM also re-trains about 100,000 workers for other companies each year to operate the computers and other equipment it sells and leases. 29

Xerox Corporation in Rochester, New York trains workers for jobs which do not even exist yet. 30 Felician P. Foltman, when discussing Xerox Corporation and retraining, indicated that surveys were administered by staff members of the New York State School of Industrial and Labor Relations at Cornell University prior to and after a 1962 retraining program at Xerox. The 68 employees involved were surveyed to learn why they participated and how they felt about the program.

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29 *"The Hard Realities Of Retraining."

30 *"The Hard Realities Of Retraining."
immediately after the retraining. They were also surveyed later at a point in time after they were re-assigned to new jobs. The surveys found that the employees were concerned most about where they would be relocated. The second most important consideration for those employees participating was the resulting higher pay scale after retraining. Morale among these employees was considered high prior to the retraining, but there was a lessening of morale immediately before completion of the retraining. The morale returned to its original height after the workers were re-assigned. Xerox believed that their program was successful and continued like programs.31

Armour and Company initiated a retraining program in 1962 when one of its plants closed. The closing temporarily put 433 people out of jobs. One hundred and seventy of these applied for retraining. The company also shut down its main meat-packing plant in Fort Worth, Texas. One thousand workers were displaced by this action. Of these, 650 workers were eligible for retraining. People were retrained in auto repair, welding, retail meat cutting, food service, and warehouse and stock management. The retraining was successful to a certain degree. Those people retrained had better employment opportunities than those not participating in the program.32


When Ford closed its plant in Chester, Pennsylvania, its workers were given the opportunity to train for new jobs. They began learning new jobs in the community. Some of the new jobs included drafting, electrical construction, welding, auto mechanics and machine work. The main problem found in the retraining of these workers was that more than half of them did not have the aptitude for the particular skills taught or were otherwise incapable of retraining.  

The Eastman Kodak Company in Rochester, New York, in 1964 began an educational program for upgrading undereducated individuals for movement upward at all levels of the organization. Its employees receive, in addition to on-the-job training, special classroom instruction in mathematics, writing, reading and mechanical comprehension. The Kodak program has been successful. In 1967, 71 persons completed the training and showed improvement in all areas of the basic skills of reading and writing. Kodak plans to teach these persons vocational skills to match their basic abilities.

The graphic arts industry in Sweden stresses the craft aspects of the field. Changing job requirements are recognized and technical college training is provided which supplements workshop training. Apprentices attend technical colleges as part of their regular training.


An example of retraining in the printing industry in the United States occurred with the conversion from letterpress to offset-lithography by the Sacramento Union. The Union's employees were retrained in the offset processes over a period of 18 months. The major programs of retraining centered around the areas of production, including the composing room, pressroom, platemaking and mailroom. Employees were sent all over the United States to take special technical courses, attend seminars, and observe other offset newspapers in operation.

The Union took into consideration the employees' educational background and ability when trying to match the right men to the right jobs.

The major part of the retraining took place in the pressroom. Men attended meetings and classes in offset press operations and attended a 12-week training course conducted by the Pressman's Union. The program was successful and allowed the newspaper to convert to offset smoothly and with few major problems. 36

CHAPTER III

METHODOLOGY

Data were gathered for this study by sending personal letters to the six major printing unions and questionnaires to major commercial printing firms in the United States.

Letters to Unions. The letters to the six major printing unions were typed individually and were sent to the presidents of each union. The letter suggested that production workers in the printing industry were concerned about job security because of the rapid influx of automated equipment into the industry. It also suggested that one way to enhance job security would be to retrain workers for new jobs created by changing technology. The letter continued by saying that because a major number of printing production workers are unionized, it was important that union views on retraining be obtained. Information concerning retraining was requested. Letters were sent to the Lithographers and Photoengravers International Union, the International Printing Pressmen and Assistant's Union, the International Typographical Union, the International Mailers Union, the International Brotherhood of Bookbinders, and the International Stereotypers and Electrotypers Union. (A copy of the personal letter to unions can be found in Appendix A.) Responses were received from all of the unions contacted except the International Mailers Union.
The Questionnaire. Covering letters and questionnaires were mailed April 26, 1968, to 278 commercial printing firms. The author used the entire population of commercial printing firms found in Dun and Bradstreet's 1968 Million Dollar Directory. This listed business firms in the United States which had $1 million and over in gross sales for 1967. Commercial printing firms were listed separately in categories distinguishing letterpress printing from lithographic printing. Both categories were included in the mailing. The Million Dollar Directory was selected because it was felt that those printing firms with at least $1 million in gross sales would be large enough to be concerned with the problem of retraining.

A cutoff date of May 30, 1968, was established and at this time the respondent percentage of return was 50.00. Nine replies were eliminated which left a usable return of 46.76 per cent. A copy of the questionnaire and covering letter can be found in Appendices C and B respectively.

During construction of the questionnaire, the sentence structure and the question order were changed many times to make the questionnaire clearer and to insure that pertinent information would be obtained. The questionnaire was pretested by other graduate students and many of their suggestions and criticisms were followed.

The covering letter for the questionnaire stated that the purpose of the study was to determine the extent of retraining in the printing industry. The letters were addressed to the president of each firm, who was asked to fill out the questionnaire and return it in an enclosed self-addressed stampted envelope as soon as possible. It was
further stressed that no company's name would be used in any manner in this study.

Question 1 asked the firms to categorize themselves into types of organizations. This question was included because it was found that Dun and Bradstreet listed any organization which produced some sort of commercial printing. This included companies operating in-plant printing facilities, publishing houses, and specialty printing companies. It was felt that different types of printing firms might consider retraining in different lights.

Question 2 asked the firm to indicate how many people it employed. This question was included to determine whether company size, as measured in number of employees, had any bearing on how the companies viewed the problem of retraining. It was felt that the larger firms might be more concerned about retraining because more employees would be affected by new processes and equipment.

Question 3 asked the firm to indicate whether it had a full-time personnel staff. It was felt that the ultimate responsibility for carrying out a retraining program would rest with the personnel department or staff. It was also felt that those firms not having a personnel staff would not be as concerned about retraining as would those with such a staff.

Because major printing craft unions have expressed concern about retraining, question 4 asked whether any production workers in the firm were unionized and if so, which unions they belonged to. This question was also included to determine if union presence or absence had any bearing on how the firms viewed retraining, and to show relative union
strength within the industry.

Question 5 asked the companies to indicate how their production workers were trained. The companies were asked to indicate by percentage the extent to which the production workers were trained by the company, by unions, by technical and trade schools other than union schools, and by other companies. Because it was felt that some other method of training might be used, a category designated "other" was included. It was felt that this question was necessary in order to determine how much companies rely on unions, schools, and other companies for training of their workers. The question also was necessary to determine how many companies train their own workers.

Question 6 asked if the companies had ever introduced new processes and equipment into their plants. It was felt that those companies which had introduced such new processes and equipment would be those most concerned with retraining.

Question 7 asked if the companies had ever retrained their workers for new jobs within their plants. This question was included to determine how many companies had ever engaged in retraining.

Question 8 was divided into two parts, A and B. The respondents were asked to complete both parts if they answered YES to question 7. Part A asked respondents to characterize the attitudes of their employees toward the retraining before they were retrained. Foils ranging from highly receptive to highly hostile toward the retraining were included. The same foils were used on part B of the question which asked respondents to characterize employee attitudes toward the retraining after they had completed the retraining. This part was
included in an attempt to discover any perceived employee attitude change occurring as a result of the retraining.

Question 9 asked the firm if it were experiencing a skilled labor shortage at the present time. It was felt that companies experiencing such a shortage would be more concerned with retraining than would companies not experiencing a shortage.

Question 10 asked the respondent if he thought that there would be a need for more skilled workers in his plant in the future. This question was included to show the perceived need for more skilled labor in the printing industry in the future.

Space was included at the end of the questionnaire for comments.

Statistical Method Used. Chi-square was the statistical method used for analysis of the responses to selected questions of the questionnaire. Chi-square combines information on the deviation of all the observed frequencies (responses to the questions) from their corresponding expected frequencies. On the basis of chi-square computation, if probability is large, the author is forced to accept the null hypothesis and reject the working hypothesis. If the probability is low the null hypothesis will be rejected and the working hypothesis will be accepted.37

CHAPTER IV

RESULTS AND FINDINGS

Letters to Unions. Five of the six major printing unions replied to the personal letters sent to their presidents. Of the five replies, only two sent information other than that included in the return letter itself.

The International Brotherhood of Bookbinders said that the issue of retraining had not affected them as it had other unions in the graphic arts. Charles J. Facey, research director for the IBB, said:

"We are successful in having, during negotiations, clauses incorporated that workers will be retrained if new processes, new machinery or equipment are the cause of reduction in force. Due to automation and the placing of equipment in a tandem operation in the Edition Book branch of our trade, we have been successful in having manning or complement of crew incorporated into the contracts which has taken care of any proposed layoffs."

The International Stereotypers' and Electrotypers' Union indicated that they had no nationwide retraining program. James H. Sampson, president of the IS & EU, said "we do, however, offer to all of our local unions funds for the purpose of entering into a training program through technical trade schools or any other means they may find to learn more of the new offset process."

38 Charles J. Facey (letter to author—see Appendix D)

39 James H. Sampson (letter to author—see Appendix D)
Anthony J. De Andrade, president of the International Printing Pressmen and Assistants' Union, replied by letter that the author's request for information was forwarded to the proper department for attention. The author failed to receive any further information from the IPP & AU.

The LPIU replied by sending copies of the Graphic Arts Unionist, an LPIU publication, which contained pertinent articles on retraining. In 1967 the LPIU began annual educational seminars specifically for the purpose of training craft instructors who in turn train members in new processes and on new equipment. Training and retraining schools owned by the LPIU are now in operation in Philadelphia, Minneapolis-St. Paul, St. Louis and Washington D. C. In addition to these, the LPIU is using plant facilities of contract employers in Ottawa, Syracuse, Kansas City, Hamilton and Montreal. A school in Los Angeles will soon open which will be jointly operated by the LPIU and contract employers. Similar programs of joint operation are now in progress in New York, Milwaukee and San Francisco.

The ITU replied by sending copies of articles on its training center at Colorado Springs, Colorado. The training center, according to the ITU, has:

... Provided the means by which its members can retrain, and retrain again, so that their skills are competent to meet the demands of industry. It is continually up-grading the curriculum of its school to include new equipment and new methods when these are found to be practical. It has also a tradition

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of helping its fair employers plan for any desired change to new methods of printing so that any change will be orderly and efficient.\textsuperscript{41}

Courses available at the training center include computer programming, phototypesetting, and advanced color separation.\textsuperscript{42} The training center is open to members of the ITU free of charge and is supported solely by ITU funds and member contributions.

The IMU failed to respond to the author's letter.

The information received from those printing unions showed that the LPIU holds to the policy of decentralized training and retraining. Although the LPIU participates in joint management-union training programs, it hopes eventually to gain complete control of training and retraining facilities.\textsuperscript{43} The ITU, on the other hand, operates one major centrally located training school. The others apparently attempt to negotiate contracts which place the burden of retraining on the employers.

**Questionnaire Results.** Of the 130 usable responses, 86 were from commercial printing companies, 14 were from manufacturing companies, nine were from publishing companies, five were from in-plant printing facilities, and five were from packaging companies. Eleven companies considered themselves in the "other" category, (Most of these considered themselves specialty houses and will be called such in this


\textsuperscript{43} "LPIU's Unionwide Training Seminar . . . .", p. 36.
chapter.) There were no responses from printing brokers. One company had only two employees, but considered itself as a publisher.

Table 1 shows the responses to questions 2 and 3. It was found that most of the responses as to size of company measured by number of employees were rounded into 50-employee categories between 50 and 800. Seventeen companies indicated that they employed more than 800 workers. The specific number of employees for each of these 17 were:

| Commercial Printing Companies: | 1,000 |
|                               | 1,200 |
|                               | 1,300 |
|                               | 2,300 |
|                               | 6,000 |
|                               | 6,000 |
|                               | 11,000 |
| Manufacturing:                | 1,000 |
|                               | 1,150 |
|                               | 1,800 |
| Specialty:                    | 1,000 |
|                               | 3,500 |
|                               | 4,100 |
|                               | 6,000 |
| Publishing:                   | 1,542 |
|                               | 2,000 |
|                               | 4,300 |

Two companies did not answer question 2 but did answer question 3.

Of those answering, 77, or 59.2 per cent, indicated that they did have a full-time personnel staff. Fifty-three, or 40.8 per cent, indicated that they did not have such a staff.
### Table 1

**Size (in number of employees) of Respondent Companies with and without Personnel Staffs**

<table>
<thead>
<tr>
<th>Number of employees</th>
<th>Companies with personnel staffs</th>
<th>Companies without personnel staffs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 50</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>51-100</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>101-150</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>151-200</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>201-250</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>251-300</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>301-350</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>351-400</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>401-450</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>451-500</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>501-550</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>551-600</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>601-650</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>651-700</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>701-750</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>751-800</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Over 800</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>No answer</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>77</td>
<td>53</td>
</tr>
</tbody>
</table>

Responses to question 4 showed that 103 or 79.2 per cent of the companies had workers who were unionized. Twenty-seven companies, or 20.8 per cent, indicated that no union was present. Table 2 shows the relative strength of the various unions.
### TABLE 2

**UNIONS PRESENT IN RESPONDENT COMPANIES**

<table>
<thead>
<tr>
<th>Union</th>
<th>Number of companies indicating this union</th>
<th>Per cent of total respondents (130)</th>
<th>Per cent of companies having unions (103)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPIU</td>
<td>59</td>
<td>45.4</td>
<td>57.3</td>
</tr>
<tr>
<td>IPP &amp; AU</td>
<td>64</td>
<td>49.2</td>
<td>62.1</td>
</tr>
<tr>
<td>ITU</td>
<td>46</td>
<td>35.4</td>
<td>44.7</td>
</tr>
<tr>
<td>IBB</td>
<td>45</td>
<td>34.6</td>
<td>43.7</td>
</tr>
<tr>
<td>Teamsters</td>
<td>26</td>
<td>20.0</td>
<td>25.2</td>
</tr>
<tr>
<td>ISEU</td>
<td>15</td>
<td>11.5</td>
<td>14.6</td>
</tr>
<tr>
<td>IMU</td>
<td>7</td>
<td>5.4</td>
<td>6.8</td>
</tr>
<tr>
<td>Other</td>
<td>23</td>
<td>17.6</td>
<td>22.3</td>
</tr>
<tr>
<td>No Unions</td>
<td>27</td>
<td>20.8</td>
<td>-</td>
</tr>
</tbody>
</table>

**Note.** Total percentages do not equal 100 when added because many companies indicated more than one union being present.

Those companies indicating "other" noted the following unions being present:

<table>
<thead>
<tr>
<th>Union</th>
<th>Number indicating this union</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Association of Machinists (IAM)</td>
<td>8</td>
</tr>
<tr>
<td>Amalgamated Lithographers of America (ALA Locals)</td>
<td>7</td>
</tr>
<tr>
<td>Building Service Employees' International Union (BSEU)</td>
<td>2</td>
</tr>
</tbody>
</table>
All of those companies indicating that the ALA was present in their plants said that the unions were local unions. Apparently some of the local unions of the ALA did not merge with the Photoengravers when the LPIU was formed.

Nearly 94 per cent (122) of the respondent companies trained their workers to some extent. Eight, or 6.2 per cent, of the respondents indicated that they did not train any of their workers. Thirty-nine, or 30 per cent, of the companies indicated that their workers were trained to some extent by unions. Thirty-seven, or 28.5 per cent, of the respondents said that their workers were trained to some extent by technical and trade schools other than union schools. Forty-five, or 34.6 per cent, of the respondents said that some of their workers were trained by other companies. Three respondents indicated "other." These three respondents said that their workers were trained by jointly operated management-union training programs. (See Table 3.)
TABLE 3
NUMBER OF COMPANIES INDICATING WHAT PER CENT OF WORKERS RECEIVED TRAINING BY VARIOUS SOURCES

<table>
<thead>
<tr>
<th>Sources of training</th>
<th>Number of companies indicating per cent of total workers trained</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>Company training programs</td>
<td>16</td>
</tr>
<tr>
<td>Union training</td>
<td>24</td>
</tr>
<tr>
<td>Technical and trade schools other than union schools</td>
<td>31</td>
</tr>
<tr>
<td>Other companies</td>
<td>31</td>
</tr>
</tbody>
</table>

Note. Total percentages do not equal 100 when added because many companies indicated percentages totaling over 100.

One hundred twenty-two, or 93.8 per cent, of the respondent companies said that they had introduced new processes or machinery in their plants. Six companies indicated that they had not introduced new processes or machinery in their plants. Two respondents did not answer this question.

More than 90 per cent (118), of the respondent companies indicated that they had retrained workers for new jobs within their plants. Eleven, or 8.5 per cent, indicated that they had not retrained. One respondent failed to answer this question.
Table 4 shows how the 118 respondents who had retrained characterized the attitudes of their employees before and after the retraining.

TABLE 4
PERCEIVED EMPLOYEE ATTITUDES BEFORE AND AFTER RETRAINING

<table>
<thead>
<tr>
<th>Attitudes</th>
<th>Before retraining</th>
<th>After retraining</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly Receptive</td>
<td>47</td>
<td>78</td>
</tr>
<tr>
<td>Moderately Receptive</td>
<td>56</td>
<td>36</td>
</tr>
<tr>
<td>Neutral</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>Moderately Hostile</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Highly Hostile</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Of the 118 responses, 74 responses showed no change on parts A and B. Forty-seven of these were highly receptive on part A as well as on part B. Forty-two responses indicated a favorable change in attitude and only two indicated an unfavorable change.

Ninety, or 69.2 per cent, of the respondent companies indicated that they were experiencing a skilled labor shortage at the present time. Forty, or 30.8 per cent, of the respondents indicated no shortage at the present time.

Responses to question 10 revealed that 119, or 91.5 per cent, of the respondents felt that there would be a need for more skilled
workers in their plants in the near future. Eight respondents indicated that there would be no increase in need. Three respondents failed to answer this question.

Decisions to Accept or Reject Null Hypotheses. In all of the decisions to accept or reject the null hypotheses, except null hypothesis $G_1$, chi-square tables were $2 \times 2$ tables. In order for the author to reject the null hypotheses with 99 per cent confidence, a chi-square value of at least $6.635$ was needed.

In determining whether to accept or reject null hypothesis $A_1$, data from questions 2 and 3 were used. The computed chi-square value was $18.816$, well over that needed. Based on the chi-square value obtained, null hypothesis $A_1$ was rejected and working hypothesis $A_2$ was accepted.

In deciding to accept or reject null hypothesis $B_1$, company size in number of employees was set at over 200 and under 200 employees. Forty-five of the 51 companies with 200 or fewer employees had retrained. Seventy-two of the 77 companies with more than 200 employees had retrained. From this data, the computed chi-square value was $.501$. Because this value was smaller than the $6.635$ needed, null hypothesis $B_1$ was accepted and working hypothesis $B_2$ was rejected.

The data used for computing chi-square for null hypothesis $C_1$ were compiled from questions 3 and 7. Of those companies having personnel staffs, 72 had retrained, four had not. Of the 53 companies not having personnel staffs, 46 had retrained and 7 had not. From these data a chi-square value of $.961$ was obtained. Because this value was
smaller than the value needed, null hypothesis \( C_1 \) was accepted and working hypothesis \( C_2 \) was rejected.

The decision to accept or reject null hypothesis \( D_1 \) was based on the following data: 92 of the 103 companies with unions present had retrained and 26 of the 27 companies without unions had retrained. One company with unions failed to answer question 7. The chi-square value obtained from the data was .385. Because this value was below that needed, null hypothesis \( D_1 \) was accepted and working hypothesis \( D_2 \) was rejected.

The decision to accept or reject null hypothesis \( E_1 \) was based on chi-square computations using the following information. One hundred and fifteen of the 122 companies introducing new processes and equipment had retrained. Only two of the six companies not introducing new processes and equipment had retrained. Of the two companies failing to answer question 6, one also failed to answer question 7, and one had retrained. The chi-square value obtained from using these data was .228, less than the 6.635 needed. Based on this obtained value, null hypothesis \( E_1 \) was accepted and working hypothesis \( E_2 \) was rejected.

In deciding to accept or reject null hypothesis \( F_1 \), the following data were used: 82 of the 89 companies indicating a shortage of skilled workers had retrained; 36 of the 40 not experiencing such a shortage had also retrained. The computed chi-square value was .005. Because this value was lower than the 6.635 needed, null hypothesis \( F_1 \) was accepted and working hypothesis \( F_2 \) was rejected.
The chi-square computation for null hypothesis $G_1$ involved a $2 \times 5$ table. A $2 \times 5$ table allows 4 degrees of freedom. With 4 degrees of freedom, the chi-square value required for rejection of the null hypothesis at the 99 per cent confidence level was 13.277. Using the data collected from question 8 of the questionnaire, the chi-square value obtained from computation was 18.408. Because this value is greater than that needed, null hypothesis $G_1$ was rejected and working hypothesis $G_2$ was accepted.
CHAPTER V

CONCLUSIONS, RECOMMENDATIONS FOR FURTHER STUDY AND SUMMARY

Conclusions. From the information collected from craft unions, it appears that there is no agreement as to how retraining programs should be conducted. There is agreement, however, that retraining is necessary because of the impact of automation and technological change. The answer to the problem of retraining for unions may come as a result of mergers. Thus far, however, merger discussions have not been fruitful in bringing about any agreement. The smaller unions, such as the IS & EU, the IMU and the IBB, tend to overcome the problem of job displacement and retraining by negotiating contracts whereby employers are held responsible for retraining. The larger unions, IPP & AU, ITU and the LPIU, attempt to retrain their members when necessary, sometimes with the help of contract employers. These larger unions favor complete union control over the retraining programs.

Based on the findings of this study, the author concludes that the majority of printing firms have retrained in the past. The wording of the questionnaire, however, did not elicit responses concerning the present status of retraining in the industry. It is, of course, possible that only those companies which were concerned with retraining responded to the questionnaire. One hundred and eighteen of the 130 respondent companies indicated that they had retrained workers.
Chi-square computations showed, at the .01 level, significantly more companies with more than 200 employees have personnel staffs than do those firms with fewer than 200 employees. However, the presence of a personnel staff did not have a significant effect on the use of retraining. Those companies without personnel staffs had retrained as much as had those with personnel staffs. This implies that the responsibility for retraining may not lie with the personnel staff.

Union presence in the plant seemed to have no effect on retraining. Respondent companies which were unionized had retrained as much as had those companies which were not unionized. This would suggest either that the presence of unions was not a deterrent to retraining, as had been suspected, or that the need for retraining was so great that any union objections were overcome.

Number of employees did not have an effect on retraining as expected. Only 11 of the respondent companies had not retrained and chi-square computations did not show that size was a factor.

Skilled labor shortage did not have an effect on retraining, although it would seem that such a shortage would prompt retraining. One cause of skilled labor shortages is the introduction of new processes and equipment which call for worker skills not present in the plant.

The results of this study do not indicate the extent of worker displacement in the printing industry. It could be hypothesized that the industry is expanding at such a fast rate that there is little worker displacement and retraining is not necessary. This reasoning,
however, is not borne out by government and private estimates of the growth of the printing industry. Nor does this explain the finding that those companies introducing new equipment and processes had also retrained. From this finding the author concludes that those companies introducing new processes had retrained because of the lack of skilled labor to operate the new equipment and processes. The finding that skilled labor shortage did not affect retraining may then be invalid.

According to their employers, the majority of those workers who had retrained had favorable attitudes toward the retraining both before and after the retraining. It is possible that respondents answered this question on the basis of what they would have liked attitudes to have been rather than on what those attitudes actually were. The findings did not indicate the cause of the favorable attitude change which was reported. It could have been a result of increased pay upon completion of the retraining, the increased job security or the perceived improvement of working conditions. (Many of the industry's technological changes have led to easier, cleaner jobs.)

Because it was found that a high majority of the respondent companies trained their own workers, there is some question as to the validity of the responses categorizing employee attitudes as highly receptive before the retraining. The author suspects that those companies deciding to retrain would incur some hostility from the workers simply on the basis of general resistance to change.
The findings also indicate that the majority of the companies which said they trained their own workers also had unions present. These companies indicated that their workers received little union training. This could be accounted for if only a few of the company's employees were unionized. However, many of these companies said that there were several unions present. Because most unions have apprentice training programs, the amount of training by unions may be understated. This might indicate that the companies overstated the amount of company training the workers receive, or that the companies answered the question as to how much they would like to train their workers, or they may view apprentice training as essentially a company function as negotiated with unions.

The lack of training facilities in technical and trade schools other than union schools is evident from the results. Most of those companies indicating that they had used such schools said that only 20 per cent of their workers received such training.

Forty-five of the companies indicated that their workers received training from other companies. This is not surprising, because workers in the printing industry are at least as mobile as the general labor force and often hold more than one job in their careers. It was not determined, however, if the training was the result of experience with other companies or if other companies actually trained workers for the respondent companies.

Because more than 90 per cent of the companies indicated that there would be a need for more skilled labor in the near future, and
Census Bureau surveys say that there will be no significant increase in the number of people employed in the graphic arts industry in the next ten years, retraining should play an increasingly important role in providing the skilled labor needed. 

There seems to be a general awareness of the problem of retraining in the printing industry. Most of the printing companies indicated that they had retrained, and craft unions are advocating the establishment of training and retraining programs for their members. Several unions already have such retraining programs.

Both unions and management are concerned with retraining, but seem to lack the initiative or the desire to work together in retraining. This could stem from there being too many unions for management to negotiate with. The ideal situation would probably be for unions to merge into one large union and to work with management in setting up a joint union-management training and retraining program not only for providing job security for the worker, but for insuring that there is an adequate supply of trained manpower for the industry.

Retraining should be a continuous process of upgrading the individual and his job, and should be the joint responsibility of unions and management.

Recommendations for Further Study. Further study should be conducted on types of retraining programs in the printing industry. Because it was found that a favorable attitude change occurred after

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retraining, studies should be conducted to determine the cause of the favorable change.

Also, studies to determine the feasibility of joint union-management retraining programs should be done.

Studies should be conducted to determine what the variables are in a company's decision to retrain.

Summary. This study attempted to show a degree of awareness concerning the need for retraining in the printing industry. The author suspected that companies which had retrained would be concerned with the following variables: company size in number of employees, presence of a personnel staff, presence of unions, introduction of new processes and equipment into the plant, and a present shortage of skilled labor. The study also attempted to discover any perceived attitude change toward the retraining among workers who had retrained.

The study found that there was a high degree of awareness of the problem of retraining in the industry. More than 90 per cent of the respondent companies had retrained workers and the major craft unions expressed concern over job security and retraining. Company size, union presence, and a skilled labor shortage apparently did not affect a company's decision to retrain. Introduction of new equipment and processes also did not seem to affect this decision. Those companies introducing such changes were no more likely to have retrained than those not introducing new equipment and processes.
The study found that there was a perceived favorable attitude change in workers after they completed their retraining. The study does not explain why this occurred.

It was also found that larger craft unions attempted to retrain their members when necessary, whereas smaller unions tended to place the burden of retraining on contract employers.
APPENDIX A

LETTER TO UNIONS
LETTER TO UNIONS

April 30, 1968

Dear Sir:

Because of the rapid influx of automated equipment and entirely new processes into the printing industry, there is much concern on the part of production employees concerning job security. This is a valid concern. No employee wants to have his job automated or eliminated by technological change. One way which has been suggested to enhance job security would be to retrain those employees whose current jobs are threatened with automation and technological change.

As a graduate student in printing at South Dakota State University, I have chosen a thesis topic concerning this problem of retraining in the printing industry. Because a major number of printing production employees are unionized, it is important that I obtain the views of all the printing unions on the subject of retraining.

I believe that a study of this nature will be beneficial to the printing industry. I am interested in learning of the views of the (name of union) on retraining.

Any information of literature you could send me on this subject would be greatly appreciated. Your reply is important and is needed to make this study possible.

Very truly yours,

Robert Ames Timmons
APPENDIX B

LETTER TO PRINTING COMPANIES
Dear Sir:

I need your help. As a graduate student at South Dakota State University, I have chosen a thesis topic concerning retraining in the printing industry. By canvassing the nation's larger printing firms, it is my wish to determine how much retraining is occurring in the industry.

Enclosed is a questionnaire which will give me part of the necessary information to make this study. Would you please fill out the questionnaire and return it in the enclosed self-addressed stamped envelope as soon as possible? The questionnaire is anonymous and no company's name will be used explicitly or implicitly in this study.

It is my belief that much value for the printing industry can come from a survey of this kind. I would appreciate the time and effort you take in making this study possible.

If you would rather have another person in your organization handle this matter, please feel free to do so.

Very truly yours,

Robert Ames Timmons

enc (2)
APPENDIX C

QUESTIONNAIRE
1. Which of the following categories best describes your printing organization?

___ Commercial Printing (work done on jobbing basis)
___ In-plant printing facility or captive plant (plant owned by non-printing parent organization)
___ Printing broker
___ Manufacturing
___ Publishing (newspapers, magazines, books)
___ Packaging
___ Other, please describe __________________________

2. Approximately how many people does your printing organization employ?

________________________

3. Do you have a full-time personnel staff?

___ Yes
___ No

4. If any of your production workers are unionized, please indicate which union or unions your workers belong to.

___ LPIU  ___ IMU
___ IPP & AU  ___ IBB
___ ITU  ___ Teamsters
___ ISEU  ___ Other, please indicate __________________________

5. What percentage of your production workers are trained in the following ways?

A. by company training programs (in-plant or on-the-job training)

___ 20%  ___ 60%  ___ 100%
___ 40%  ___ 80%
B. by unions

<table>
<thead>
<tr>
<th></th>
<th>20%</th>
<th>60%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40%</td>
<td>80%</td>
<td></td>
</tr>
</tbody>
</table>

C. by technical and trade schools other than union schools

<table>
<thead>
<tr>
<th></th>
<th>20%</th>
<th>60%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40%</td>
<td>80%</td>
<td></td>
</tr>
</tbody>
</table>

D. by other companies

<table>
<thead>
<tr>
<th></th>
<th>20%</th>
<th>60%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40%</td>
<td>80%</td>
<td></td>
</tr>
</tbody>
</table>

E. Other. Please indicate what percentage.

6. Have you ever introduced new processes or machinery in your plant?

   - Yes
   - No

7. Have you ever engaged in retraining employees for new jobs within your plant?

   - Yes
   - No

8. If you answered YES to question 7, please complete question 8, parts A and B.

   A. How would you characterize the attitudes of your employees toward the new training before they were retrained?

      - highly receptive
      - moderately receptive
      - neutral
      - moderately hostile
      - highly hostile toward the new training
B. How would you characterize your employees' attitudes toward the retraining after they completed their training?

- highly receptive
- moderately receptive
- neutral
- moderately hostile
- highly hostile

9. Is there a shortage of skilled workers in your plant at the present time?

- Yes
- No

10. Do you think there will be a need for more skilled workers in your plant in the near future?

- Yes
- No

11. Any comments you might have will be greatly appreciated.
APPENDIX D

LETTERS FROM

THE INTERNATIONAL BROTHERHOOD OF BOOKBINDERS

AND

THE INTERNATIONAL STEREOTYPERS AND ELECTROTYPE UNIONS
May 6, 1968

Mr. Robert A. Timmons
Journalism Department
South Dakota State University
Brookings, South Dakota 57006

Dear Mr. Timmons:

In reference to your letter of April 30 in which you seek information on the views of the International Brotherhood of Bookbinders on retraining, may I say, briefly, that this issue has not affected us as it has the International Typographical Union and other branches of the Graphic Arts Unions.

We are successful in having, during negotiations, clauses incorporated that workers will be retrained if new processes, new machinery or equipment are the cause of reduction in force. Due to automation and the placing of equipment in a tandem operation in the Edition Book branch of our trade, we have been successful in having manning or complement of crew incorporated into the contracts which has taken care of any proposed layoffs. This is true, to some extent, in the publication or magazine section section of our trade.

Should you need further information to assist you in your work, please do not hesitate to drop a line.

Very truly yours,

Research Director

CIF:kd
opei #2 AFL-CIO
May 2, 1968

Mr. Robert A. Timmons
South Dakota State University
Journalism Department
Brookings, South Dakota 57006

Dear Mr. Timmons:

Under date of April 30, 1968, you write stating that you have chosen a thesis topic concerning the problem of retraining in the printing industry, and because a major number of printing production employees are unionized, you feel you must obtain the views of all the printing trades unions on this subject of retraining.

Our organization has been the one whose jurisdiction includes the plate-making segment of the printing industry. You may or may not be aware that for many, many years there were little or no changes in this type of operation as the letterpress method was the one generally used, except for a few instances where offset was installed. Consequently, we never made any effort to secure the jurisdiction over offset in our agreements. However, in the last ten years offset has come into the picture with a rather tremendous impact and we find that the latest figures from the American Newspaper Publishers Association show that within the next two years, between 350 and 500 newspapers alone (and this of course does not include the catalog or magazine field) will be in general use, particularly on smaller and small town newspapers.

As for retraining, this International Union does not have a nationwide retraining program. We do, however, offer to all of our local unions funds for the purpose of entering into a training program through technical trade schools or any other means they may find to learn more of the new offset process. The problem is then one of securing this jurisdiction in contracts, which as I indicated before, were more or less bypassed in years gone by. The International Printing Pressmen and Assistants' Union, the Lithographers' and Photoengravers' International Union, and the International Typographical Union all have their own schools for the purpose of not only retraining their members in the offset process, but in many of the newer innovations coming into the printing industry, which to say the least, have been revolutionary.

I trust that the above information will be of some value to you and that in contacting these other unions who have a much broader program, you will secure sufficient data to aid you in the preparation of your thesis.
May 2, 1968

With every good wish for your success, I remain,

Sincerely yours,

James H. Sampson, President
INTERNATIONAL STEREOTYPERS AND
ELECTROTYPEERS UNION OF NORTH AMERICA

JHS:ABK
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