1975

Survey of Qualification of Employed Machine Trade Teachers in Illinois

Henry Graham

Eastern Illinois University

This research is a product of the graduate program in Technology at Eastern Illinois University. Find out more about the program.

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Date

Author

pdm
SURVEY OF QUALIFICATION OF EMPLOYED
MACHINE TRADE TEACHERS IN ILLINOIS

(TITLE)

BY

HENRY GRAHAM

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF

Master of Science in Education

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY
CHARLESTON, ILLINOIS

1975

YEAR

I HEREBY RECOMMEND THIS THESIS BE ACCEPTED AS FULFILLING
THIS PART OF THE GRADUATE DEGREE CITED ABOVE

DATE

ADVISER

29 July 1975

Dean - I.A. & T.
PREFACE

The impact of the growth of area vocational centers and junior colleges has resulted in increased employment opportunities for instructors of machine trades. Howard E. Brown, Superintendent of Macon County Schools, indicates there are no guidelines for basic qualifications. Bill Rosser, Director of Decatur Area Vocational Center, stated that the qualifications for hiring a machine trades teacher is up to the discretion of the school superintendent or area vocational center director.

This study is designed to specify what actually exists.
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List of Participants and Schools

Letter of Explanation

Copy of Instrument
Chapter I

INTRODUCTION

The purpose of this study was to discover the industrial experience and educational attainment of machine trades instructors in the area vocational centers and junior colleges in the state of Illinois. This information will be used to reveal the level of educational and work experience actually in existence at the time this study was written by presently employed instructors of machine trades. This information along with certifications regulations, set forth by local, state and federal offices should provide the specific information needed by persons desiring to enter this type of teaching position.

The research technique involved was a survey procedure involving the development of an appropriate questionnaire and the acquisition of a mailing list to whom the questionnaire was to be mailed. The mailing list was acquired from Mrs. Mary Lynn Hagebush, Decatur Area Vocational Center counselor, which supplied the names of forty various schools and junior colleges, which have machine trades programs.

The instructors who were selected to receive the questionnaire were queried regarding age, sex, marital status, educational and work experience as a machinist.
Also included in the questionnaire were questions regarding the types of machine trades programs offered at the school, the length of programs, the number of classroom hours taught each week, the number of students in the programs, the number of hours students are engaged in the shop and classroom each week. In training the students as a machinist, machine operator, or apprentice tool-and-die maker the instructors were asked the types of equipment available.

Before mailing the questionnaire to forty various area centers and junior colleges in the state, a trial run, was executed. The people involved in the trial run, were the director of the Decatur Area Center, assistant director and various instructors, who offered constructive comments which were incorporated to improve the questionnaire to insure consistency of response.

These questions were presented on one sheet of paper, along with a letter explaining the questionnaire.

Forty schools were sent questionnaires. Of the forty mailed, twenty-six (68%) were returned.
CHAPTER II

FINDINGS

The following data was compiled from the useable returns of the research instrument; actually, this sampling is representative of the total recorded teachers of machine trades in the entire state of Illinois.

Age.

The section of the questionnaire dealing with age is graphically illustrated by graph no. 1. Obviously, the bulk of the participants in this study are in the thirty-one-to forty age bracket. One notes the limited number in age groups twenty to thirty and a few in ages fifty-one to sixty-five. This apparently, reflects the fact that with the opening of new area centers and junior colleges in the state, there will be a future for the qualified machine trades instructors.

GRAPH 1

<table>
<thead>
<tr>
<th>Age</th>
<th>No. of Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-30</td>
<td></td>
</tr>
<tr>
<td>31-40</td>
<td></td>
</tr>
<tr>
<td>41-50</td>
<td></td>
</tr>
<tr>
<td>51-60</td>
<td></td>
</tr>
</tbody>
</table>
Sex.

Apparently there are no members of the feminine gender presently employed in the schools represented by the respondents. This is not to indicate that women have been eliminated from contention from employment, simply that of the respondents contacted were all male.

GRAPH 2

<table>
<thead>
<tr>
<th>25%</th>
<th>50%</th>
<th>75%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Marital Status.

Since a number of young persons elect to follow the occupations of their parents an indication of potential future source can be tentatively suggested by marital status. Regretfully, no effort was extended to determine the number of children of the respondents.

GRAPH 3

<table>
<thead>
<tr>
<th>0</th>
<th>5</th>
<th>10</th>
<th>20</th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divorced</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Education.

The highest level of educational attainment was broken up into seven different classifications. These educational classifications were as follow:
no diploma, high school graduate, junior college graduate, master's degree, specialist degree and Ed.D. or Ph.D. of the participants surveyed there were none in the "no diploma" category, all were high school graduates. The survey indicated there were two junior college graduates, eight with college degree's, and there were none holding an Ed.D. or Ph.D. Graph no. 4 indicates 54% of the respondents surveyed holds a master's degree.

GRAPH 4

<table>
<thead>
<tr>
<th>Education</th>
<th>0</th>
<th>4</th>
<th>8</th>
<th>12</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Diploma</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior College Graduate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College Graduate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Master's Degree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialist Degree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ed.D. or Ph.D.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Experience as a Machinist.

In regards to graph no. 5, which asked for the experience of the respondents to the survey, 95% of the men surveyed had zero to over twenty years of experience as a machinist, machine operator or tool-and-die maker.
Years of Experience as a Machinist.

Graph no. 6 was more specific, which pertained to the years of experience as a machinist. The following results were 19% had worked from zero to two years, 19% had worked from three to five years, 19% had worked from six to ten years, 11% had worked from eleven to twenty years, and 8% had over twenty years experience as a machinist.

GRAPH 6

<table>
<thead>
<tr>
<th>Years of Experience as a Machinist</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-5 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-10 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-20 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>over 20 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Years of Experience as a Machine Operator.

The years of experience as a machine operator is described in graph no. 7. This graph indicated 25% of the respondents had worked from zero to two years, 3.8% had worked from three to five years, 7.6% had worked from six to ten years, 11.4% had worked
from eleven to twenty years, and 3.8% had over twenty years as a machine operator. These results indicated that 25% of the respondents surveyed had worked as a machine operator.

**GRAPH 7**

<table>
<thead>
<tr>
<th>Years of Experience as a Machine Operator</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-5 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-10 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-20 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>over 20 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Years of Experience as a Tool-and-Die Maker.**

The years of experience as a tool-and-die maker is revealed in graph no. 8. The results were that 23% had worked from zero to two years, 8% had worked from three to five years, 15% had worked from eleven to twenty years, and none in the over twenty year bracket.

The survey indicated, 95% of the respondents had work experience in one of three fields, machine operator, machinist, or tool-and-die maker. In the category of machine operator, the largest number of respondents had worked from eleven to twenty years which consist of 11.4% of the total respondents surveyed. In the category of machinist, there were two equally divided divisions of work experience, zero to two years, and six to ten years, which consisted of 19% of the respondents
surveyed. In the category of tool-and-die maker, the largest area of respondents, 23% had from zero to two years experience.

**GRAPH 8**

<table>
<thead>
<tr>
<th>Years of Experience as a tool-and-die Maker</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-5 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-10 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-20 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>over 20 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Program

In responding to the length of course, the respondents had three different types of machine trades programs. One year, two year and a thirty-six weeks diversified metals. The respondents surveyed, 8% had a one year program, 88% a two year, and the final 4% were in a diversified metals divisions.

**GRAPH 9**

<table>
<thead>
<tr>
<th>Program</th>
<th>0</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>one-year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>two-year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Students Enrolled in Machine Trades Program.

The participants indicated in the instrument the number of students as indicated in graph no. 10, enrolled in the machine trades programs. All the respondents had more than ten students in each class, 12% had ten to fifteen, 30% from sixteen to thirty, 45% had from thirty-one to fifty students. The final 4% had fifty to seventy-five students. In conclusion, the number of students enrolled in machine trades programs would indicate the respondents work load.

<table>
<thead>
<tr>
<th>Students</th>
<th>0-10 students</th>
<th>10-15 students</th>
<th>16-30 students</th>
<th>31-50 students</th>
<th>50-75 students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schools</td>
<td>0 3 6 9 12 15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hours.

Graph no. 11 indicates the number of hours students are engaged in shop and classroom activities in one week. The participants indicated 4% had from one to three hours, 15% answered four to seven hours, 53% eight to eleven hours, 19% twelve to fifteen hours an 8% had other time schedules.
Equipment.

All the men surveyed indicated their equipment was adequate to perform the task of instructing the students in becoming a machine operators, machinists, or apprentice tool-and-die makers. Their equipment consisted of lathes, mills, drills, and grinders in their shops, 30% of the participants had some form of tape controlled equipment and 8% had some EDM equipment.
CHAPTER III

RESULTS

The results of the survey indicate that the average machine shop instructor is from thirty to forty years of age, male, married and holds a Master's degree. He has work experience in one of three fields, machinist, machine operator, tool-and-die maker, or a combination of all three.

The classroom instruction is eight to eleven hours per week. The length of the program is two years with an average of thirty students in the class. The equipment used is adequate to produce a machine operator, machinist, or tool-and-die maker.
300 East Eldorado Street
Decatur, Illinois 62523
November 20, 1974

Dear Sir:

This questionnaire is being sent to all machine trades instructors in the area vocational centers and junior colleges in the state of Illinois.

From this questionnaire the writer will compile all the information for a thesis. In this survey, there is a place for name and school. This is only for a record of instructors who have sent in the questionnaire, and there will be no names and schools mentioned in the thesis.

I will be very grateful for your input into this survey.

Yours truly,

[Signature]

Henry Graham
Machine Shop Instructor

gm
A SURVEY
The Industrial and Educational Qualifications, Machine Trades Program of Area Vocational Centers, Jr. College Instructors in the State of Illinois.

QUESTIONNAIRE USED IN SURVEY

Name of Instructor ___________________________ School ___________________________

Permission to use data entered on this form for thesis YES ______ NO ______
1. AGE 20-30 ______ 31-40 ______ 41-50 ______ 51-65 ______

2. SEX Male ______ Female ______
3. Marital Status Single ______ Married ______ Divorced ______ other ______

5. Work Experience
   A. Experience as a machinist, machine operator, or tool and die maker YES ______ NO ______
   B. Years of experience as a machinist
      0-2 ______ 3-5 ______ 6-10 ______ 11-20 ______ OVER 20 years ______
   C. Experience as a machine operator
      0-2 ______ 3-5 ______ 6-10 ______ 11-20 ______ OVER 20 years ______
   D. Experience as a tool and die maker
      0-2 ______ 3-5 ______ 6-10 ______ 11-20 ______ OVER 20 years ______

6. What type of machine trades program at your school?
   A. Training students for entry level positions YES ______ NO ______
   B. Training students for machinist positions YES ______ NO ______
   C. Training students for apprentice tool and die YES ______ NO ______

7. What is the length of the program 1 year ______ 2 years ______ other ______

8. How many classroom hours a week 1 hour ______ 3 hrs. ______ 5 hrs. ______ other ______

9. How many students are enrolled in the machine trades program Less than 10 ______
   10-15 ______ 16-30 ______ 31-50 ______

10. How many total hours a week are the students engaged in the shop and classroom?
    1-3 ______ 4-7 ______ 8-11 ______ 12-15 ______ other ______

11. How many hours a week are the students in the shop?
    1-3 ______ 4-7 ______ 8-11 ______ 12-15 ______ other ______

12. What types of equipment does the school presently have at its disposal; lathes ______
    mills ______ drills ______ grinders ______ tape controlled ______ machinery ______

13. Is this machinery adequate to do the task of developing a machinist, machine operator,
    or tool and die apprentice? YES ______ NO ______

14. Would you participate in a professional association of machine shop instructors, 
    where information and topics pertaining to the machine trades can be discussed 
    freely and traded back and forth between instructors? YES ______ NO ______
John H. Moore  
Whiteside AVC  
1508 Fourth Ave.  
Sterling, IL 61081

Charles R. Stallings  
Mt. Vernon AVC  
Seventh and Casey Ave.  
Mt. Vernon, IL 62864

Gerald M. Boyles  
Springfield AVC  
1101 South 15th St.  
Springfield, IL 62704

Eugene R. Robards  
United Two AVC  
1420-18th Ave.  
East Moline, IL 61244

Steve Gureutz  
Waukegan AVC  
1711 W. Washington Ave.  
Waukegan, IL 60085

Machine Shop Instructor  
Ambrav Valley AVC  
Eight and Charles Sts.  
Lawrenceville, IL 62439

Machine Shop Instructor  
Marion AVC  
1410 W. Hendrickson St.  
Marion, IL 62956

Machine Shop Instructor  
Lincolnland AVC  
1000 Prim Road  
Lincoln, IL 62656

R. Bossert  
Mid-Valley AVC  
R. R. #2  
Maple Park, IL 60151

Earl A. Stewart  
Okaw AVC  
North Eighth St.  
Vandalia, IL 62471

Warren R. Dodds  
West Central Ill. AVC  
S. Johnson Rd.  
Acorn, IL 61455

Machine Shop Instructor  
Rockford AVC  
621 Samuelson St.  
Rockford, IL 61101

Neal E. Pedro  
Vermilion Occ. Tech. Ed. Center  
Catlin Road  
Danville, IL 61832

Machine Shop Instructor  
Livingston AVC  
1100 Indiana Ave.  
Pontiac, IL 61764

Wm. Creekmur  
Galesburg AVC  
1135 W. Fremont St.  
Galesburg, IL 61401

Royal Wilson  
Pekin AVC  
Capitol Street  
Pekin, IL 61554

Machine Shop Instructor  
Collinsville AVC  
201 W. Clay  
Collinsville, IL 62234

George Lehrling  
Kankakee AVC  
R. R. #2  
Bourbonnais, IL 60914

Machine Shop Instructor  
Grundy County AVC  
1000 Union St.  
Morris, IL 60450  
No course

Leonarde Broz  
DuPage Area Voc. Ed. Authority  
P. O. Box 509  
Wheaton, IL 60187

Machine Shop Instructor  
Quincy AVC  
219 Baldwin Dr.  
Quincy, IL 62301

Machine Shop Instructor  
Beck AVC  
R. R. #2  
Red Bud, IL 62278  
No course

Machine Shop Instructor  
J. B. Johnson Career Center  
2514 W. Merchant St.  
Alton, IL 62002
Jerry Atkinson  
Black Hawk College  
6600 34th Ave.  
Moline, IL  61265

Machine Shop Instructor  
College of DuPage  
22nd Street & Lambert Road  
Glen Ellyn, IL  60137

Maurice E. March  
Elgin Community College  
1750 Spartan Drive  
Elgin, IL  60120

Machine Shop Instructor  
Illinois Central College  
Rt. 24 East  
East Peoria, IL  61611

Machine Shop Instructor  
Lincoln Trail College  
R. R. #1  
Robinson, IL  62554

Stanley G. Hagen  
Kishwaukee College  
Rt. 38 & Malta Road  
Malta, IL  60156

Thomas L. Kidd  
Lakeland College  
South Route #45  
Mattoon, IL  61938

Harold Alsip  
Shawnee Community College  
Shawnee College Road  
Ullin, IL  62992

Thorton Community College  
50 West 162nd St.  
South Holland, IL  60473

Machine Shop Instructor  
Triton College  
2000 Fifth Ave.  
River Grove, IL  60171

Machine Shop Instructor  
Carl Sandburg College  
South Lake Storey Road  
Galesburg, IL  61401

Lee Scheidenhelm  
Waubonsee Community College  
Rt. #47 at Harter Road  
Sugar Grove, IL  60554

R. Bishop  
Bloomington AVC  
504 E. Jefferson  
Bloomington, IL  61701

Barry G. Rogers  
Jo Daviess-Carroll Co.  
Elizabeth, IL  61028

W. A. Harbert  
LaSalle-Peru AVC  
Sixth and Creve Coeur  
LaSalle, IL  61301

R. W. Fink  
Danville Jr. College  
2000 East Main St.  
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