THE UNIVERSITY OF ALBERTA

PERSONAL QUALIFICATIONS

FOR

EMPLOYABILITY

by

David Uttaro

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF EDUCATION

DEPARTMENT OF INDUSTRIAL AND VOCATIONAL EDUCATION

EDMONTON, ALBERTA

FALL, 1972

ABSTRACT

This study was conducted to compare the relative importance assigned to each of six personal qualifications considered important factors of employability.

Data were collected by means of a survey instrument employing Thurstone's Matched Pairs technique. The participating groups consisted of 286 Grade XI and 130 Grade XII vocational high school students, 34 vocational high school instructors and 101 employers. The student and instructor groups were drawn from the composite high schools under the jurisdiction of the Edmonton Public School Board and constituted exhaustive samples of those groups. The group of employers constituted an exhaustive sample of employers located within the City of Edmonton and registered with the Apprenticeship Board as having employed vocational high school graduates.

Analysis of the results indicated close agreement among the major groups. Further analysis which compared all employers with students sub-classified according to grade level showed general agreement on the relative importance assigned to personal qualifications for employability. Broad agreement was found between students and employers when compared on the basis of trade speciality.

Inter-trade comparisons of employer rankings on each of the personal qualifications showed that the two most important qualifications were efficiency and pride in work. The three least important were pleasing personality, neatness and conversation - in that order.

This study found a consensus on the relative importance assigned to each of six personal qualifications for employability by vocational high school students, vocational high school instructors and employers.

It was recommended that further research be conducted to determine the extent to which vocational high school
graduates actually met the expectations of employers. Since
it was noted that personal qualifications seemed to be grouped
in pairs on the basis of job-relatedness, it was also recommended that a study be conducted to determine whether this
had any basis in fact.

Further studies to determine the rate of change of attitudes toward personal qualifications for employability by employers was also recommended.

ACKNOWLEDGEMENTS

The writer wishes to express his gratitude and appreciation to the many participants who contributed to this study.

To my supervisor, Assistant Professor M.W. Petruk for his continual encouragement, constructive criticisms, and balanced advice.

To the members of my committee, Dr. R.A. Bigsby of The Department of Industrial and Vocational Education; Dr. H. Mosychuk, of The Edmonton Public School Board; Dr. L.D. Stewart, of The Department of Secondary Education whose constructive criticisms and encouragement played a significant role in the development and completion of this study.

To my children, Bethany, Andrew, Sharon and, Marie whose energy and sense of adventure have been a source of inspiration.

To Ruth, my wife, whose patience, understanding and supportive attitude made the entire project possible.

TABLE OF CONTENTS

| | Page |
|---|------|
| CHAPTER I - INTRODUCTION AND FORMULATION OF THE PROBLEM | 1 |
| The Problem | 3 |
| Importance of the Study | 3 |
| Questions to be Answered | 4 |
| Delimitations | 5 |
| Limitations | 6 |
| Assumptions and Definition of Terms | 7 |
| Overview of Methodology and Organization of the Study | 9 |
| CHAPTER II - REVIEW OF RELATED LITERATURE | 10 |
| CHAPTER III - METHODOLOGY | 18 |
| CHAPTER IV - PRESENTATION OF DATA | 22 |
| Analysis of Returns | 23 ' |
| Order of Importance and Scale Values | 23 ' |
| Students and Employers - By Trade | 26 ! |
| CHAPTER V - SUMMARY, CONCLUSIONS AND RECOMMENDATIONS | 57 |
| Summons of the Ctude | 57 : |
| Conclusions | 59 · |
| Implications6 | 50 |
| Suggestions for Further Research | 1 |

| | I | age |
|--------------|----------------------|-----|
| Bibliography | | 62 |
| Appendix A | Letter of Permission | 67 |
| Appendix B | Questionnaires | 69 |

LIST OF TABLES

| Table | Page |
|-------|--|
| 1 | Rank and Scale Values Main Groups |
| 2 | Rank and Scale Values Main Sub-Groups - All Trades 28 |
| 3 | Rank and Scale Values Students and Employers - Auto Body 31 |
| 4 | Rank and Scale Values Students and Employers - Automotives 33 |
| . 5 | Rank and Scale Values Students and Employers Building Construction |
| 6 | Rank and Scale Values Students and Employers - Electricity 38 |
| 7 | Rank and Scale Values Students and Employers Food Preparation |
| 8 | Rank and Scale Values Students and Employers Machine Shop |
| 9 | Rank and Scale Values Pipe Trades46 |
| 10 | Rank and Scale Values Students and Employers - Welding 49 |
| 11 | Rank and Scale Values Students and Employers - Electronics 51 |
| 12 | Rank and Scale Values Estimation |
| 13 | Between - Trades Comparisons Employers |

LIST OF FIGURES

| | TIGORES | |
|--------|--|---|
| Figure | n | |
| 1 | Pag Scale Values, Main Groups 2 | |
| 2 | Scale Values, Main Sub-Groups 2 | 4 |
| 3 | Scale Values Students | 7 |
| | Scale Values, Students and Employers Auto Body | ` |
| 4 | Scale Values Students | , |
| 5 | Automotives 32 | ? |
| | Scale Values, Students and Employers Building Construction | |
| 6 | Scale Values, Students and Employers Electricity | , |
| 7 | Scale Values Students | |
| | Scale Values, Students and Employers Food Preparation 40 | |
| 8 | Scale Values, Students and Employers | |
| 9 | Scale Values, Students and Employers Pipe Trades 45 | |
| 10 | Scale Values Students | |
| 11 | 48 | |
| | Scale Values, Students and Employers Electronics | |
| 12 | Scale Values, Estimate Ambition | |
| | 53 | |

DEDICATED

to

My late mother, who, though possessed of a rudimentary, formal education fostered the development of an inquiring mind.

CHAPTER I

INTRODUCTION AND FORMULATION OF THE PROBLEM

I. INTRODUCTION

In December 1960, the Federal Government of Canada passed the Technical and Vocational Training Assistance Act. This legislation granted the Provinces partial reimbursement for expenditures devoted to the constructing and equipping of vocational high schools. These institutions were intended to prepare more people to fill the demand for technically competent manpower.

The new vocational high schools were instrumental in preparing qualified youth to enter the labour
market. In this regard the project was successful, however, ultimate success cannot be measured in terms of
increased availability of student-places and increased
numbers in the graduating classes. Other factors such as
the employability of the graduates must also be considered.

While the overall availability of employment is influenced by the state of the economy, employability is influenced by the job-candidate's technical and personal qualifications. The extent to which vocational high school graduates possess both sets of qualifications is central to the success of a program designed to develop competent manpower. On this continent, industry recognized the importance of technical and personal qualifications early in the twentieth century.

The Hawthorne Studies which began in 1923 and continued into the early thirties pointed to personal factors which affected production. Viteles (1953), noted that,

The studies (Hawthorne Studies) also point to the need for the detailed examination of the structure of the social situation at the level of the work group, and of the interrelationships among those specific factors-environmental and personal-which may determine the attitudes and behaviour of the individual as a member of a work group (p. 193).

The business community's early concern for the personal factors which were relevant to employment practices is shown by Viteles (1932),

We say we employ so many 'hands.'
The very use of the word shows
that we do not appreciate the
situation. We are not employing
'hands'; we are employing brains and
hearts and dispositions, and all
sorts of elements that make for
personality- we are employing
them all (p. 113).

More recently, evidence of industry's continued concern and attention to the importance of personal qualifications for employability was demonstrated by a wide crossection of employers who responded to a survey study conducted in New Hampshire. Annis & Perrigo (1968) demonstrated that the business community placed a high priority on the following personal qualifications of employees: courtesy, conversation, neatness, efficiency, pride in work and, pleasing personality.

The role and importance of personal qualifications for employability have immediate relevance to the modern vocational high school since it prepares youth for entry into the labour force. To foster the development of highly employable graduates, vocational educators must know the extent to which their students concur with industry's expectations in the area of personal qualifications.

II. THE PROBLEM

Whether vocational high school students, their instructors and employers are in agreement on the relative importance of personal qualifications deemed important for employability is an unknown factor. This study will attempt to establish whether or not a consensus exists among these groups.

III. IMPORTANCE OF THE STUDY

The investment of human and fiscal resources which made the vocational high school a reality is worthy of maximum returns since its graduates are destined to contribute to the well-being of the immediate and greater community. Highly employable graduates would be one indication that the expected returns were being realized.

Two factors which contribute to highly employable candidates are technical competence and the possession of suitable personal qualities. As demands for technical competencies change, corresponding curriculum changes ensue to maintain adequate levels of proficiency in the

skills possessed by vocational high school graduates.

Similarly, there is a need to evaluate the extent to which graduates qualify in the area of personal qualities.

One way to gain meaningful insights in this area is to determine the relative importance assigned to a set of personal qualifications which industry considers important for employability.

A consensus, or lack of it among vocational high school students, vocational high school instructors and employers would be instrumental in pointing the direction for subsequent research. It is anticipated that subsequent research would strive to maintain high employability of vocational high school graduates.

IV. QUESTIONS TO BE ANSWERED

This study determined and compared the relative importance assigned to six personal qualifications by vocational high school students, vocational high school instructors and employers. Comparisons were made by four groups:

- (1) Main Groups which were identified as All Employers; All Instructors and All Students.
- (2) Main Sub-Groups which consisted of Grade XI Continuing: Grade XI Not Continuing: Grade XI Undecided; Grade XII; All Employers; All Instructors.
- (3) <u>Sub-Groups by Trade</u> which consisted of Grade XI Continuing; Grade XI Not Continuing; Grade XI

Undecided; Grade XII; Employers.

(4) Employers, Between Trades in the following trade areas: Auto Body, Automotives, Building Construction, Electricity, Food Preparation, Machine Shop, Pipe Trades, Sheet Metal, Welding, Electronics.

Scale values were computed for each personal qualification. The scale values were then used to determine the rank assigned to each qualification and to construct a bar graph which illustrated the degree of consensus among the groups.

V. DELIMITATIONS

This study was delimited to vocational high school students and vocational high school instructors participating in the Grade XI and Grade XII high school vocational programs. These programs, under the jurisdiction of the Edmonton Public School Board, were articulated with apprenticeship programs of the Province of Alberta. The trade areas were: Auto Body, Automotives, Building Construction, Electricity, Food Preparation, Machine Shop, Pipe Trades, Sheet Metal, and Welding.

Though Electronics was not an apprenticeable trade in the same sense as those mentioned above, students from this vocational program were included since most of them participated in equivalent apprenticeship programs once employed.

The area of Beauty Culture was excluded since

requirements for apprenticeship were substantially different from those mentioned above. Business Education was not included because these courses did not lead to apprenticeship programs.

This study was further delimited to involve only those employers in the City of Edmonton registered with the Apprenticeship Board as having employed vocational high school graduates as full-time apprentices.

VI. LIMITATIONS

The study was limited to the City of Edmonton whose population was approximately 422,000 and was served by two school boards, one public and the other separate.

Permission to carry out this study was granted only by the Edmonton Public School Board. At the date of writing, this school board had jurisdiction over 82 Elementary, 27 Elementary-Junior High Schools and seven Special Schools. The total enrollment was approximately 74,000 students of which some 16,000 were in Senior High School and the remainder in Elementary and Junior High School. The schools of this system were staffed by 3,825 teachers. Of the total Senior High School enrollment, approximately 5,000 students participated in vocational-technical programs. The Edmonton Separate School Board enrolled approximately 31,000 students, of which approximately 237 participated in vocational-technical programs.

As the result of these limitations, the findings are limited to the participating groups.

VII. ASSUMPTIONS AND DEFINITION OF TERMS

Assumptions

The following assumptions underlie the findings of this study:

- The instruments were honestly and accurately completed.
- 2. The personal qualifications used in this study were valid in Edmonton.

Definition of Terms

In this study, the following definitions and/or descriptions were used:

Employers: Those firms located in Edmonton and registered with the Apprenticeship Board as having employed one or more vocational high school students as apprentices.

Instructors: Those teachers directly responsible for the development of technical skills which characterized the students' area of study.

Personal Qualifications:

Conversation - converses with other employees, not a loner.

Courtesy - polite and mannerly with fellow employees, supervisors and customers.

Efficiency - works steadily and maintains an acceptable production record.

Neatness - neat personal appearance, may include conservative, mod dress and grooming.

Pleasing Personality - gets along well with fellow employees, supervisors and customers; is easily approached.

Pride in Work - works enthusiastically, identifies positively with the company's products and/or services.

Students: Members of the Grade XI and Grade XII courses in the following trade areas: Auto Body, Automotives, Building Construction, Electricity, Food Preparation, Machine Shop, Pipe Trades, Sheet Metal, Welding and, Electronics.

VIII. OVERVIEW OF METHODOLOGY AND ORGANIZATION OF THE STUDY

Overview of Methodology

The six personal qualifications formed the body of a survey instrument using Thurstone's Matched Pairs technique. Development of the instrument was consistent with the method outlined by Torgerson (1958 p. 166).

The instrument was tested in a pilot study to detect errors and/or ambiguities in its design. The revised instrument was then used to collect the data for this study. These data were subsequently processed on the University's computing facilities.

Organization

A review of related literature which provided the conceptual framework and the basis for this study is found in Chapter II. Discussion of the methodology employed to secure data for the study is the subject of Chapter III, while Chapter IV summarizes the results obtained from the analysis of data. A summary of the study, and conclusions based on the contents of Chapter IV, are found in Chapter V, as are the discussion of implications and recommendations for further study.

REVIEW OF RELATED LITERATURE

Introduction

Personal qualifications play an important role in determining the employability of a job-candidate. The review of related literature presented in this chapter was the means of establishing a reference frame in which the importance of personal qualifications could be studied, and was the means of devising a method of measuring the relative importance assigned to each of the traits by each of the participating groups.

The summary of related literature is considered under the following headings: Relevance, Approach to Measurement, Measuring Technique, Summary.

Relevance

To a large extent, employment in modern society depends upon the consumption and production of goods and services. In analyzing youth employment, Kalachek (1969) found that other factors such as duration of previous employment, technical competence and job-entry level also affected the employability of young people.

In a productive society, youth is an important human resource. Davis (1966) showed that the development of human resources was a function of a society's goals and economic resources. These factors affected the educational system which prepared youth for participatory roles as adults.

In Canada and the United States of America it is usually accepted that elementary and secondary education is the right of all youth. Many areas which offer elementary and secondary education also offer additional educational opportunity in the form of technical-vocational education. In Canada, technical-vocational educational facilities became widespread only in the last decade, and that at a high cost to the Canadian taxpayer. Though the cost per student was higher for technical-vocational education at the secondary level, Hu (1969) showed that graduates from these programs found gainful employment as the result of their preparation. This was significant since a sizable proportion of those opting for technicalvocational programs would have been prime subjects for becoming high school drop-outs. The fact that gainful employment was available as the result of technicalvocational education is strong evidence in support of public investment in technical-vocational education at the secondary level.

The relatively recent surge of interest in the development of technical-vocational education is contrasted by a long-standing concern for the employee as a "whole person." Whereas up-to-date facilities and techniques favour the development of technically skilled people, the concern for the intangible dimensions of the employee date back to the early thirties. Viteles (1932) drew attention to this fact by noting that the hiring of people was not

restricted to the hiring of "hands" but included the employment of, "brains, hearts and dispositions and all sorts of elements that make for personality..."

Whereas the evaluation of technical competence can be achieved by documentation and demonstration, the evaluation of intangible, personal qualifications is more difficult. One avenue of action in evaluating personal traits has been the observation of secondary characteristics which are believed to be related to the underlying traits which are of concern to the employer. This process of analysis and observation forms the substance of much of the field of industrial psychology and sociology.

Tiffen (1947) and Miller (1946) are typical of that body of literature which recognize and analyze personal qualifications. The development of the subject generally follows broad areas rather than dealing with readily visible, specific indicators of underlying personal traits.

The evaluation of the job-candidate's personal characteristics has been of utmost importance to industry. Industry, by means of the employment interview, seeks to determine the nature of personal qualifications by noting specific external indicators. Fisher, Haworth, Kessler, Ransom (1968) found that the interviewers were interested in an applicant's grooming, character and attitudes as a means of establishing the candidate's suitability as an employee. These factors were considered in addition to the candidate's technical competence.

Webster (1964) summarized the results of extensive investigation of the decision-making process embodied in the employment interview and found that interviewers sought to match job-applicants with a pre-existing stereotype of the successful candidate. This stereotype was that of the "good" worker. It was clearly demonstrated that "early impressions, based on quickly assessed material, play a significant role in determining the outcome (of the interview) (p. 20)." Of special significance was the result that interviewers were "more influenced by unfavourable than favourable information (p. 87)." It was also shown that "one unfavourable impression is followed by rejection in 90% of the cases... (p. 87)."

Though the validity of the employment interview has been questioned and has come under repeated close scrutiny, it is still an important part of the hiring process. Attempts at making it more objective and reliable have included the use of standardized tests to evaluate personal traits. However, evaluating personal qualifications on the basis of externals is still a common practice.

Tiffen & McCormick (1965) quote Yonge (1956) and note that,

He (Yonge) developed an interview chart to be used in rating six attitude areas.
... namely a) Formation of goal;
b) Strength of job interest; c) Strength of general interests; d) Self-regard;
e) Acquisitive perserverance (such as evidenced by persistence in holding previous jobs, making savings, or acquiring property); and f) Nervous tension (p. 90).

The same researchers acknowledge a degree of validity and continued practice of evaluation of personal qualifications based on externals by stating that,

In general terms it is probably reasonable to expect that interviewers can form opinions about those characteristics or traits that are overtly manifest in the behaviour of the interviewee during the interview, or that can be inferred from his behaviour (p. 90).

The fact that young people will likely experience the employment interview is adequate reason to identify a set of characteristics which a crossection of employers consider important for employment. For the purposes of this study, the most important feature of such a set is that it be the expression of a crossection of employers, rather than be exhaustive. The essence of this study is to compare the relative importance assigned to each element of that set by vocational high school students, their instructors and employers. The importance of the study centers on the comparisons of the relative importance, or rank, assigned to each characteristic comprising that set.

The criteria stated above were met by a set of specific personal characteristics deemed important for employability by employers. Annis & Perrigo (1968) surveyed 221 businesses, ranging in size from less than ten to more than 1000 employees, located in eight towns and cities in New Hampshire. Since this survey was intended to gather information for the evaluation of existing technical-vocational programs and to aid in the development of new programs, a wide crossection of types of

businesses was selected. Their research identified some twenty characteristics and/or attitudes.

The following six characteristics were adopted for this study. They were: pride in work, efficiency, courtesy, neatness, conversation, and, pleasing personality. Annis & Perrigo (1968) selected these six from those submitted by employers as a basis for development of new courses in technical-vocational education. These six qualifications were in greatest demand by the employers surveyed in that study.

Approach to Measurement

Harris & Liba (1960) defined attitudes as,
"a psychological construct, or latent variable, inferred
from observable responses to stimuli, which is assumed to
mediate consistency and covariation among these responses
(p. 103)." The fact that the employers insisted on these
qualifications in employees for adequate job performance
indicates that these qualities were believed to affect
the employee's behaviour on the job. To this extent, it
may be concluded that the personal qualifications noted
earlier bear a very close resemblance to attitudes.

Measurement

In this study, three groups of individuals were requested to rank six attitude-like qualities of job-candidates. The process of making subjective evaluations of intangible qualities involved the evaluator's attitudes, sense of values and other personal characteristics relevant

to such judgements. It follows therefore, that the respondent's behaviour in making judgements on the relative importance of the six qualities would be subject to their attitudes to the qualities being ranked. Therefore, it is important that the measurement technique be suitable to the nature of the evaluation task. Harris & Liba (1960) state the following about the measurement of attitudes.

The contributions of scale models for attitude measurement by Thurstone in 1928 and Likert in 1932 have unquestionably been the most influential works in this field, and the methods developed have become the most widely used (p. 109).

Coughlan (1968) used a modified paired comparisons technique to classify school teachers on the basis of work values. The study indicated that the method of paired comparisons was effective in the measurement of intangibles such as values.

Torgerson (1958) showed that Thurstone's Law of Comparative Judgement, used in conjunction with the method of paired comparisons was one way of converting judgements to numerical values on an interval scale.

Van Dalen (1966) discussed the accuracy of the method of paired comparisons relative to the accuracy of the rank order method of scaling. It was found that the method of paired comparisons was likely to give more accurate results than rank order scaling methods, but the laborious computations entailed in studies using many pairs made the method unattractive. With the modern computing facilities now available, this objection is no longer a

serious constraint and the full benefit of the method of paired comparisons may now be realised.

In this study, the method of paired comparisons and Thurstone's Law of Comparative Judgement was used to develop scale values for each of the six personal qualifications. These scale values were then used to determine the rank assigned to each of the six personal qualities under consideration.

The literature showed general agreement on the importance of personal qualifications for employability. The recommended methods of measuring attitude-like phenomena focused on scaling techniques. The Law of Comparative Judgement in conjunction with the method of paired comparisons was adopted for developing the rank assigned to each of the six personal qualifications considered important for employability.

CHAPTER III

METHODOLOGY

Introduction

To determine the scale values assigned to each of the personal qualifications by respondents of the participating groups, a systematic procedure was adopted for the collection of data. That procedure is described in this chapter under the following headings: Developing the Instrument, Samples, Administering the Instrument, Treatment of Data, Display of Results.

Developing the Instrument

The personal qualifications (stimuli) were randomly combined to form 15 paired comparisons. The order of presentation, and the order of rotation were randomized. These procedures were consistent with those outlined by Torgerson (1958 p. 166). The completed instrument was administered to a group of graduate students at the University of Alberta.

Graduate students were selected since many of them had experience in the business world and also possessed the qualifications to offer constructive criticisms of the design of the instrument. These expectations were realized and the results of the pilot study indicated that an employer would likely have difficulty in deciding the trade area to which he was to address his efforts; and secondly that guidance as to

the meaning of the stimuli was desirable to ensure uniformity of response.

The instrument was modified to overcome these shortcomings and then used in the main study.

Samples

All groups surveyed in this study were exhaustive samples, and consisted of 286 Grade XI, 130 Grade XII students, 101 employers and 34 vocational education instructors. The student and instructor samples were drawn from the following high schools of the Edmonton Public School Board: Harry Ainlay Composite High School, Jasper Place Composite High School, M. E. Lazerte Composite High School and, Victoria Composite High School.

Permission to conduct this study was requested of both the Edmonton Public School Board and the Edmonton Separate School Board. The former saw fit to grant that permission. A copy of correspondence granting authorization of the study is found in Appendix A.

The sample of employers consisted of all employers known to have hired vocational high school graduates as full time apprentices in the trade areas covered by this study. The employer sample was drawn with the assistance of the Apprenticeship Board, and consisted of firms located in the City of Edmonton. The City of Edmonton was considered an adequate location because of its industrial and academic facilities and also that one in three Albertans reside there.

Administering the Instrument

Arrangements were made and confirmed with each of the Principals and a meeting involving the Principal, the Department Head and Researcher was held in each school to clarify the purpose of the study and to review procedures for administering the instrument. Suitable quantities of the instruments were left with the officers of the school for administration to the respondents. The Researche returned at a prearranged date to pick up completed form

Each of the participating firms was reached by telephone to explain the purpose of the study and to secure cooperation. Instruments were mailed to the attention of the responsible officer for completion. A stamped, self-addressed envelope was included for reply.

Follow-up procedures were necessary for the collection of instruments from participating firms. These procedures consisted of a telephone call and a personal visit where needed. These procedures produced a 90% return of instruments from participating employers, while 88% and 97% of those completed by instructors and students respectively were returned.

Treatment of Data

The data were sorted, counted and then transferred to IBM cards for analysis on the University IBM 360 computing facilities. An existing program was used to perform the analysis.

Display of Results

Scale values were converted to positive numbers by the addition of the constant factor +2.200. These results were then ranked and displayed in suitable tables. For the sake of completeness both the rank and modified scale values were displayed.

An indication of the degree of consensus was obtained by plotting bar graphs showing scale values against the individual groups.

CHAPTER IV

PRESENTATION OF DATA

Introduction

This study was conducted to compare the relative importance assigned to six personal qualifications for employability. Data were obtained from vocational high school students, their instructors and employers.

Thurstone's Law of Comparative Judgement, in conjunction with the method of paired comparisons was used to obtain scale values which were then converted to ranks for each stimulus.

This chapter contains the tabulation and graphical display of the results. Graphs and tables were employed to facilitate the interpretation of scale values. Figures 1 through 12 present a visual display of consensus while Tables 1 through 12 present the rank of each stimulus and the scale value which determined that rank. The accompanying text discusses the relationships conveyed by the data.

Discussion of the results is undertaken in two parts. The first part relates to sample data and returns. The second part discusses the order of importance assigned to each stimulus by each responding group.

Returns

A total of 101 instruments was sent to cooperating firms. Ninety-two were returned, constituting a return rate of 90%.

All of the 34 instructors returned their forms, however, four were incomplete and could not be used in the study.

The student sample numbered 416, of which 286 were in Grade XI, and 130 in Grade XII. Twelve of the Grade XI forms were not usable, while all of the Grade XII forms were usable.

Twelve Grade XI forms were excluded as the result of student attempts to redefine three of the seven stimuli. These new definitions appeared on the back of each sheet. Since it was not possible to know which set of definitions was used to complete the forms, these forms were discarded as sources of data.

II. ORDER OF IMPORTANCE AND SCALE VALUES

Main Groups

The Main Groups consisted of All Instructors,
All Students and All Employers. Figure 1 shows the
degree of consensus on the order of importance (rank)
assigned to each stimulus. There would have been agreement were it not for the reversal of ranks for efficiency
and, pride in work by the All Students group as shown in

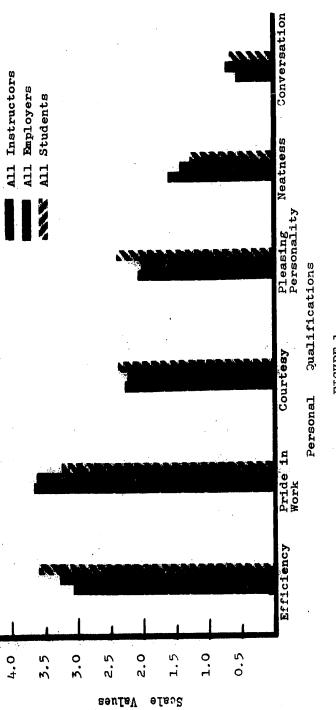


FIGURE 1 SCALE VALUES, MAIN GROUPS

TABLE 1
RANK AND SCALE VALUES
MAIN GROUPS

| | | 14 | Rank and Scale Values | cale Valu | .es | | |
|-------------------------------|----------------------------|--------------|--------------------------------|--------------|-------------------------------------|--------------|--------------------------------|
| Group | 1st | 2nd | 3rd | 4th | 5th | 6th | z |
| | S.V. | S.V. | S.V. | S.V. | S.V. | S.V. | |
| All Instructors | PIW 3.65 | Eff. 3.07 | cty. 2.78 | P.P. 2.06 | Neat. 1.60 | Cvn. 0.54 | 30 |
| All Employers | PIW 3.60 | Eff. 3.26 | Cty. 2.25 | P.P. | Neat. 1.40 | Cvn. 0.72 | 001 |
| All Students | Eff. 3.53 | PIW 3.23 | Cty. 2.37 | P. P. | Neat. 1.24 | Cvn. 0.65 | 707 |
| Note: PIW = Pri S.V. = Sca | ride in Work cale Value | Cvn. Eff. | = Conversation = Efficiency | | Neat, = Neatness Cty, = Courtesy | ness | P.P. = Pleasing Personality |

Main Sub-Groups

With all participating students grouped in a single category, differences of opinion unique to a portion of that group would not necessarily be noticed in the overall scale value. The further classification of the entire student group into sub-groups on the basis of their intention of continuing their studies at the Grade XII level was carried out to make it more likely that differences of opinion be noted in scale values for each of the sub-groups. These smaller groups were termed Main Sub-Groups.

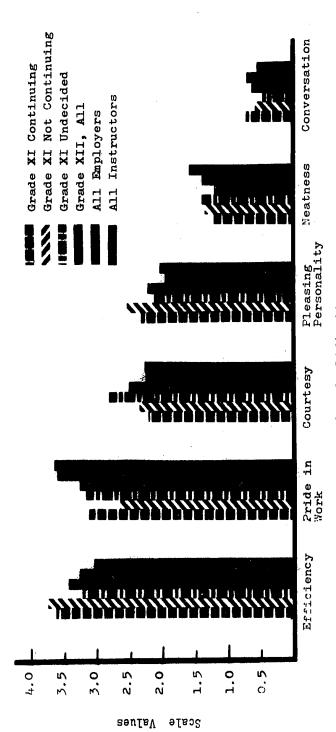
Figure 2 and Table 2 show that the overall consensus for the groups Grade XI Continuing, Grade XI Not Continuing, Grade XI Undecided, and Grade XII was very similar to that of the Main Groups shown in Figure 1 and Table 1.

III. STUDENTS AND EMPLOYERS - BY TRADE

Introduction

This series of analyses was performed to discover similarities and/or differences which might have been unique to respondents in the individual trade areas. A full complement of comparisons normally consisted of results from all of the Main Sub-Groups (Grade XI Continuing; Grade XI Not Continuing; Grade XI Undecided; Grade XII)
All Instructors and, Employers.

J



Personal Qualifications

FIGURE 2 SCALE VALUES, MAIN SUBGROUPS

TABLE 2
RANK AND SCALE VALUES
MAIN SUB-GROUPS
ALL TRADES

| | | | Rank and | Rank and Scale Values | les | | |
|---|------------------------|--------------|--------------------------------|-----------------------|--------------------------|--------------------------|--------------------------------|
| dronb | 1st S.V. | 2nd S.V. | 3rd | 4th S.V. | 5th S.V. | 6th s.v. | z |
| Grade XI Continuing | Eff. 3.60 | PIW 3.13 | P. P. | Cty. 2.71 | Neat. | Cvn. 0.72 | 196 |
| Grade XI Not Continuing | Eff. 3.74 | PIW 2.64 | P. P. | Cty. 2.35 | Neat. | CVn. 0.58 | 39 |
| Grade XI Undecided | Eff. 3.25 | PIW 3.15 | Cty. 2.81 | P. P. | Neat. | Cvn. 0.48 | 39 |
| Grade XII All | Eff. 3.42 | PIW 3.21 | P. P. 5.51 | cty. 2.22 | Neat. | Cvn. 0.64 | 130 |
| Employers All | PIW 3.60 | Eff. 3.26 | cty. 2.25 | P. P. | Neat. | Cvn. 0.72 | 100 |
| Instructors All | PIW 3.65 | Eff. 3.07 | Cty. 2.96 | 2.28 2.28 | Neat. | Cvn. 0.54 | 30 |
| Note: PIW = Pride in Work S.V. = Scale Value | de in Work le Value | Cvn. Eff. | = Conversation = Efficiency | | Neat. = Ne Cty. = Cou | = Neathess : Courtesy | F.P. = Pleasing Personality |

In some trade areas a full set of comparisons was not possible since insufficient data made it impossible to carry out the necessary analysis. Insufficient data was the result of small sample sizes which were characteristic of trade areas such as Machine Shop, Sheet Metal, Auto Body and Electricity, at the Grade XI level.

Auto Body

Figure 3 and Table 3 shows the comparison of only two groups since enrollment was low and resulted in insufficient data.

With the exception of the reversal of ranks for courtesy and efficiency by the student group, there was a marked consensus between students and employers.

Employers in this trade area agreed with the group of All Employers on the ranking of the stimuli, while the students in this trade area did not agree with the group of All Students on the ranking of stimuli. This is one incident where the opinions of a large group differed from the opinion of one of its sub-groups.

Automotives

All groups agreed on the rank of efficiency, pleasing personality, neatness, and conversation; as shown in Table 4.

In discriminating between the relative importance of pride in work and courtesy, the student groups were more emphatic than the employers. A comparison of results in this table with those of the Main Sub-Groups

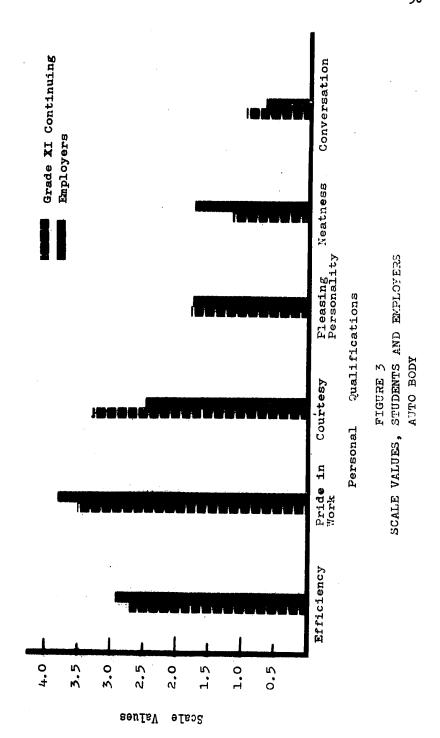
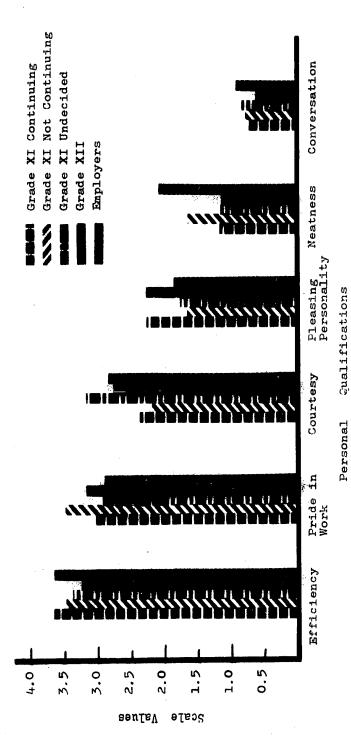


TABLE 3
RANK AND SCALE VALUES
STUDENTS AND EMPLOYERS
AUTO BODY

| | | | Rank and Scale Value | Scale Va | lue | | ; |
|------------------------|-------------|--------------|----------------------|----------|------------------|--------------|--------------------------------|
| Group | 1st | 2nd | 3rd | 4th | 5th | 6th | z |
| | S.V. | S.V. | S.V. | S.V. | S.V. | S.V. | |
| Grade XI Continuing | PIW 3.48 | Cty. 3.25 | Eff. 2.70 | P.P. | Neat. | Cvn. 0.92 | 2 |
| Employers | PIW 3.79 | Eff. 2.91 | Cty. 2.45 | P.P. | Neat. | Cvn. 0.64 | .11 |
| Note: PIW = Prid | ide in Work | Cvn. | = Conversation | | Neat. = Neatness | | P.P. = Pleasing Personality |
| 2 1 | מדם משדיי | | ******* | | 1100 | | 7 |



SCALE VALUES, STUDENTS AND EMPLOYERS AUTOMOTIVES FIGURE 4

TABLE 4
RANK AND SCALE VALUES
STUDENTS AND EMPLOYERS
AUTOMOTIVES

| | | æ | Rank and Scale Values | ale Value | ğ | | ; |
|----------------------------|--|--------------|--------------------------------|-------------|-------------------------------------|--------------|--------------------------------|
| Group | 1st S.V. | 2nd S.V. | 3rd S.V. | 4th S.V. | 5th S.V. | 6th s.v. | z |
| Grade XI Continuing | Eff. 3.65 | PIW 3.01 | Cty. 2.37 | P.P. | Neat. | Cvn. 0.74 | 53 |
| Grade XI Not Continuing | Eff. 3.49 | PIW 3.49 | cty. 2.18 | P.P. | Neat. | Cvn. 0.77 | 9 |
| Grade XI Undecided | Eff. 3.36 | cty. 3.18 | PIW 2.93 | P.P. | Neat. | Cvn. 0.83 | 11 |
| Grade XII | Eff. 3.26 | PIW. 3.17 | Cty. 2.74 | P.P. | Neat. | Cvn. 0.62 | 51 |
| Employers | Eff. 3.64 | PIW . 2.88 | Cty. 2.84 | P.P. | Neat. 2.08 | Cvn. 0.91 | 21 |
| Note: PIW = Pr | PIW = Pride in Work S.V. = Scale Values | Cvn. Eff. | = Conversation = Efficiency | | Neat. = Neatness Cty. = Courtesy | | P.P. = Pleasing Personality |

in Table 2 showed striking similarities but a lack of agreement.

Building Construction

No single stimulus was assigned the same rank by all groups in this trade area. As the result of the groupings for courtesy, neatness and, conversation, the degree of consensus depicted by Figure 5 was considered inconclusive. The contribution to the degree of inconclusiveness by Grade XI Undecided group was apparent for all stimuli with the exception of pride in work. The latter group differed markedly in its ranking of the stimulus, courtesy. This extreme effect might have been caused by the small sample upon which the scale values were computed. There were four cases in this sample. The effect might have been less pronounced had the sample been larger.

Electricity

A complete roster of groups was not possible for this trade area since there was insufficient data to allow computation of scale values for the Grade XI Undecided group.

Table 6 shows agreement on the ranks assigned to the stimuli by Employers and Grade XII students. The other two groups, Grade XI Continuing and Grade XI Not Continuing reversed the ranks of efficiency and pride in work. This reversal of ranks was the only point of difference for the two Grade XI groups.

Figure 6 shows a general consensus on the relative

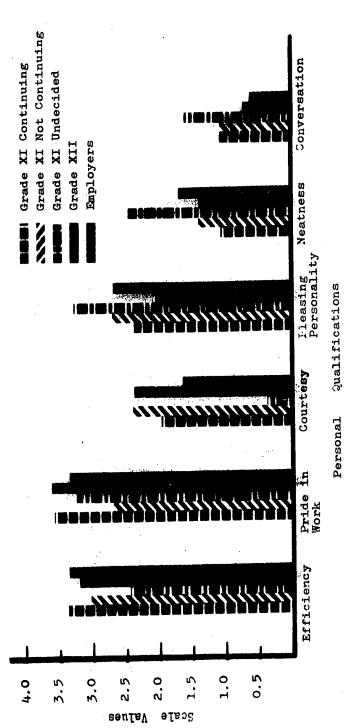


FIGURE 5
SCALE VALUES, STUDENTS AND EMPLOYERS
BUILDING CONSTRUCTION

TABLE 5
RANK AND SCALE VALUES
STUDENTS AND EXPLOYERS

BUILDING CONSTRUCTION

| | | pr. | Rank and Scale Values | ale Valu | Se | | |
|--|--------------------------|--------------|--------------------------------|---------------|-------------------------------------|--------------|--------------------------------|
| Group | 1st S.V. | 2nd S.V. | 3rd s.v. | 4th S.V. | 5th S.V. | 6th S.V. | M |
| Grade XI Continuing | PIW 3.55 | Eff. 3.36 | P. P. 2.34 | Cty. 1.92 | Neat. 1.03 | Cvn. 1.02 | 196 |
| Grade XI Not Continuing | Eff. 3.05 | P. P. | cty. 2.37 | PIW 1.70 | Neat. 1.38 | Cvn. 1.02 | īV |
| Grade XI Undecided | PIW 3.23 | P.P. 3.23 | Eff. 2.41 | Neat. 2.14 | Cvn. 1.58 | Cty. 0.35 | 4 |
| Grade XII | PIW 3.60 | Eff. 3.20 | cty. 2.35 | P. P. | Neat. | cvn. 0.69 | . 2 |
| Employers | PIW 3.34 | Eff. 3.34 | P.P. | Neat. | cty. 1.62 | cvn. 0.59 | 01 |
| Note: PIW = Pride in Work S.V. = Scale Value | ide in Work ale Value | Cvn. Eff. | = Conversation = Efficiency | | Neat. = Neatness Cty. = Courtesy | tness | P.P. = Pleasing Personality |

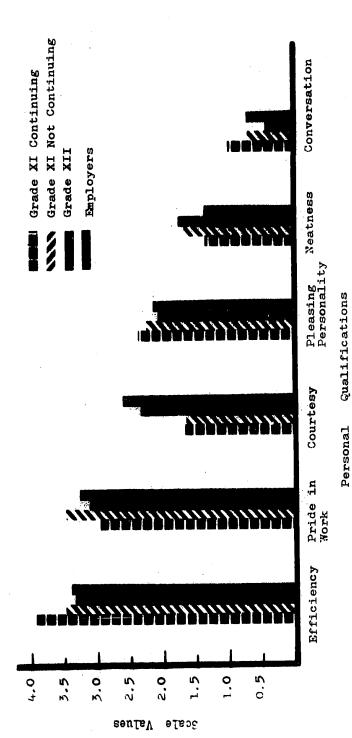


FIGURE 6
SCALE VALUES, STUDENTS AND EXPLOYERS
ELECTRICITY

TABLE 6
RANK AND SCALE VALUES
STUDENTS AND EMPLOYERS
ELECTRICITY

| | | | Rank and Scale Values | ale Val | ues | | |
|----------------------------|---|--------------|--------------------------------|--------------|-------------------------------------|--------------|--------------------------------|
| Group | 1st S.V. | 2nd S.V. | 3rd S.V. | 4th S.V. | 5th S.V. | 6th S.V. | z |
| Grade XI Continuing | Eff. 3.92 | PIW 2.94 | P.P. 2.34 | Cty. 1.68 | Neat. | cvn. | 13 |
| Grade XI Not Continuing | 97°E . | Eff. 3.46 | P. P. | Cty. 1.66 | Neat. | Cvn. 0.70 | 4 |
| Grade XII | Eff. 3.54 | PIW 3.09 | Cty. 2.31 | P. P. | Neat. 1.75 | Cvn. 0.42 | 12 |
| Employers | Eff. 3.40 | PIW 3.24 | cty. 2.57 | P. P. | Neat. | Cvn. 0.71 | 13 |
| Note: PIW = P1 | PIW = Pride in Work S.V.= Scale Values | CVn. Eff. | = Conversation = Efficiency | | Neat. = Neatness Cty. = Courtesy | tness | P.P. = Pleasing Personality |

order of importance assigned to all of the stimuli with the exception of courtesy. The Grade XI groups in this trade area differed markedly with the Grade XII and Employers groups.

Comparisons of these small groups with the Main Sub-Groups in Table 2 showed agreement between the Grade XI Continuing groups only.

Food Preparation

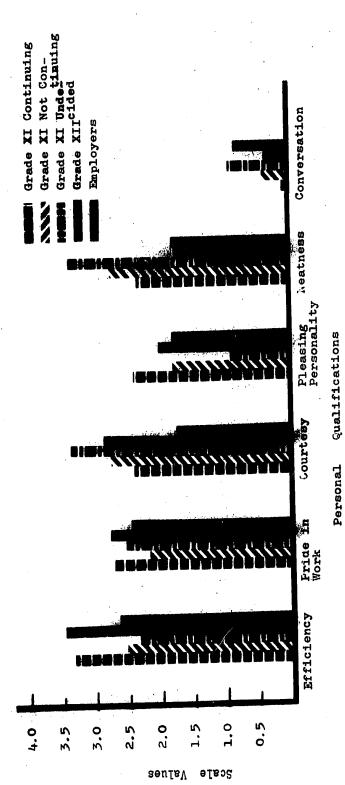
No single stimulus was assigned the same rank by all groups. As was noted for Building Construction, the Grade XI Undecided group stood out from the others. In this instance, the inconsistency of the Grade XI Undecided group was evident in all stimuli except pride in work. This is shown in Figure 7.

Students generally considered courtesy and neatness more important than did the Employers. Comparisons of the ranks in Table 7 with those in Table 2 showed lack of agreement among groups.

Machine Shop

Scale values for the Grade XI groups were not computed as the result of insufficient data.

Table 8 shows that Employers and Grade XII students disagreed only on the ranking of neatness and pleasing personality. In this instance the ranks were reversed by the groups. With the exception of this reversal of ranks, there was strong agreement on both ranks and scale values assigned the remainder of the



Ferencial quantifications

SCALE VALUES, STUDENTS AND EMPLOYERS FOOD PREPARATION

TABLE ?
RANK AND SCALE VALUES
STUDENTS AND EMPLOYERS
FOOD PREPARATION

| | | . ** | Rank and Scale Values | cale Valu | 99 | | |
|----------------------------|---|---------------|--------------------------------|--------------|-------------------------------------|---------------|--------------------------------|
| Group | 1st | 2nd | 3rd | 4th | 5th | 6th | × |
| | S.V. | S.V. | S.V. | S.V. | S.V. | S.V. | |
| Grade XI Continuing | Eff. 3.31 | PIW 2.71 | cty. 2.39 | P.P. | Neat. 2.32 | Cvn. 0.10 | 32 |
| Grade XI Not Continuing | Eff. 2.73 | cty. 2.71 | Neat. 2.51 | PIW 2.17 | P.P. | Cvn. 0.41 | 6 |
| Grade XI Undecided | cty. 3.36 | Neat. 3.36 | PIW 2.32 | Eff. 2.32 | Cvn. 0.92 | P. P. | 7 |
| Grade XII | Eff. 3.47 | cty. 2.86 | PIW 2.76 | 2 P 0 P | Neat. | Cvn. 0.36 | v |
| Employers | Eff. 2.63 | PIW 2.44 | P.P. | Neat. | Cty. 1.73 | Cvn. 0.83 | 6 |
| Note: PIW = Pr | PIW = Pride in Work S.V.= Scale Values | Cvn. Eff. | = Conversation = Efficiency | | Neat. = Neatness Cty. = Courtesy | tness tesy | P.P. = Pleasing Personality |

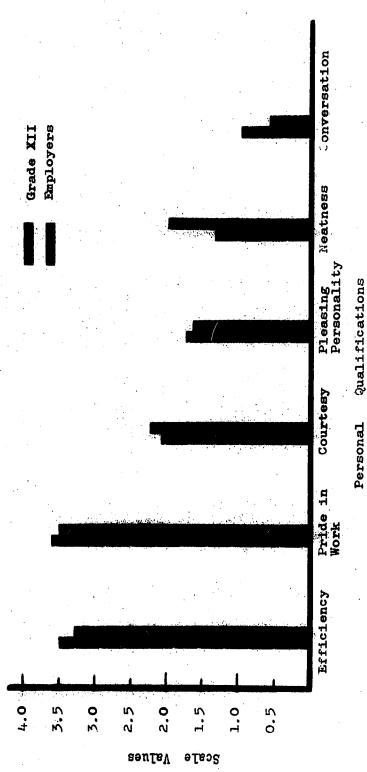


FIGURE 8
SCALE VALUES, STUDENTS AND EMPLOYERS
MACHINE SHOP

٦.

TABLE 8
RANK AND SCALE VALUES
STUDENTS AND EMPLOYERS

| | | | МАСН | MACHINE SHOP | | | |
|----------------|---|--------------|--------------------------------|--------------|-------------------------------------|--------------|--------------------------------|
| | | | Rank and Scale Values | Scale Val | nes | | ; |
| Group | 1st S.V. | 2nd S.V. | 3rd S.V. | 4th S.V. | 5th S.V. | 6th S.V. | z |
| Grade XII | PIW 3.61 | Eff. 3.55 | cty. 2.09 | P.P. 1.73 | Neat. | cvn. 0.98 | 10 |
| Employers | PIW 3.54 | Eff. 3.30 | Cty. 2,24 | Neat. | P.P. | Gvn. 0.59 | īv. |
| Note: PIW = PI | PIW = Pride in Work S.V. = Scale Value | Cvn. Eff. | = Conversation = Efficiency | ation ncy | Neat. = Neatness Cty. = Courtesy | tness | P.P. = Pleasing Personality |

stimuli.

Employers and Grade XII students in the machine shop trade did not agree with the entire group of employers and neither did Grade XII students in machine shop agree with the group of all students in Grade XII.

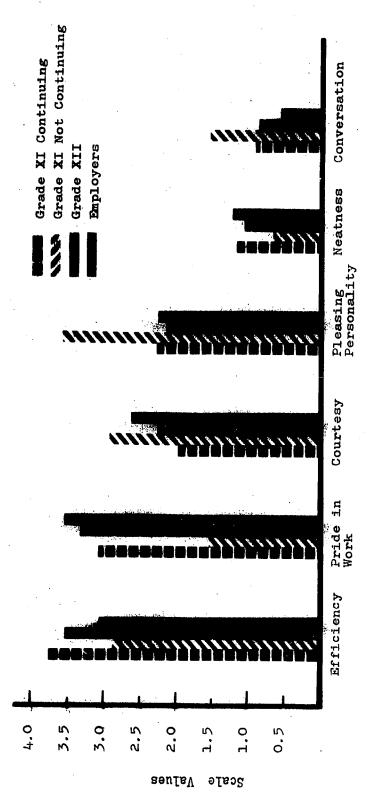
Pipe Trades

Scale values for the Grade XI Undecided group were not computed as the result of insufficient data.

No single stimulus was assigned the same rank by all groups. Figure 9 showed a weak consensus, possibly as the result of the values assigned to the stimuli by the Grade XI Not Continuing group. If these values were disregarded, the overall consensus might have been better.

It was noted that, whereas Employers ranked pleasing personality fourth, the Grade XI Not Continuing group ranked it first. Conversely, Employers ranked pride in work first while Grade XI Not Continuing ranked it fifth.

Comparison of the ranks shown in Table 9 with that shown in Table 2 showed that the groups involved in the Pipe Trades, with the exception of the Grade XI Not Continuing group, were in general agreement. Disagreements consisted of reversal of ranks for pride in work and efficiency and, courtesy and pleasing personality. These reversals applied to the Grade XI Continuing, Grade XII, and Employer groups.



Personal Qualifications

FIGURE 9
SCALE VALUES, STUDENTS AND EXPLOYERS
PIPE TRADES

TABLE 9
RANK AND SCALE VALUES
STUDENTS AND EMPLOYERS
PIPE TRADES

| : | | н | Rank and Scale Values | cale Valı | ser | | |
|---------------------------------------|--------------------------|--------------|--------------------------------|--------------|-------------------------------------|--------------|--------------------------------|
| Group | 1st S.V. | 2nd S.V. | 3rd S.V. | 4th S.V. | 5th S.V. | 6th s.v. | z |
| Grade XI Continuing | Eff. 3.78 | PIW 3.07 | P.P. 2.29 | Cty. 1.96 | Neat. | Cvn. 0.92 | 13 |
| Grade XI Not Continuing | P. P. | cty. 2.93 | Eff. 2.88 | Cvn. 1.59 | PIW 1.54 | Neat. | ľ |
| Grade XII | Eff 3.52 | PIW 3.31 | Cty. 2.27 | P.P. | Neat. | Cvn. 0.88 | 12 |
| Employers | PIW 3.54 | Eff. 3.06 | cty. 2.61 | P.P. | Neat. 1.24 | Cvn. 0.58 | |
| Note: PIW = Pride in S.V. = Scale Val | ide in Work ale Value | Cwn. Eff. | = Conversation = Efficiency | ation | Neat. = Neatness Cty. = Courtesy | tness | P.P. = Pleasing Personality |

Sheet Metal

Results for this trade area were not shown since there was insufficient data.

Welding

Although no single stimulus was assigned the same rank by all groups, Figure 10 showed strong agreement on all stimuli except neatness and conversation. It was noted that while Employers ranked neatness last, Grade XI Undecided students ranked it third. When compared with the ranking of the Main Sub-Groups in Table 2, it was found that none of the members of this trade area were in agreement.

Electronics

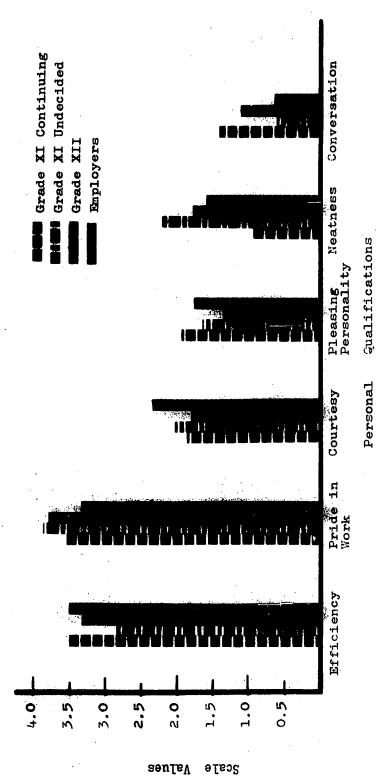
No single stimulus was assigned the same rank by all groups, and, that two of the groups disagreed strongly on the rank of courtesy. While Employers ranked courtesy first, Grade XI Not Continuing and Grade XI Undecided ranked it last. A similar relationship existed for pleasing personality.

Comparison with the corresponding groups in Table 2 showed that no groups were in agreement on the ranks assigned the stimuli.

IV. BETWEEN TRADE COMPARISONS

Between trade comparisons of ranks assigned by employers were carried out to identify specific preferences which employers of a particular group possessed when con-

7



Fersonal suallications

SCALE VALUES, STUDENTS AND EMPLOYERS
WELDING

TABLE 10
RANK AND SCALE VALUES
STUDENTS AND EMPLOYERS
WELDING

| | | | Rank and Scale Values | cale Val | nes | | |
|------------------------|--|--------------|-----------------------------|--------------|-------------------------------------|---------------|--------------------------------|
| Group | 1st S.V. | 2nd S.V. | 3rd S.V. | 4th | 5th 8.V. | 6th S.V. | z |
| Grade XI Continuing | PIW 3.56 | Eff. 3.52 | P.P. | Cty. 1.84 | Cvn. | Neat. 0.95 | 16 |
| Grade XI Undecided | PIW 3.86 | Eff. 2.86 | Neat. 2.21 | cty. 2.03 | P. P. | Cvn. 0.62 | ſV |
| Grade XII | PIW 3.79 | Eff. 3.34 | Cty. 1.80 | Neat. | P.P. | Cvn. 1, 13 | 10 |
| Employers | Eff. 3.52 | PIW 3.32 | P. P. | Cty. 1.76 | Cvn. 1.60 | Neat. 0.64 | ∞ |
| Note: PIW = S.V.= | PIW = Pride in Work S.V. = Scale Values | Gvn. Eff. | = Conversation = Efficiency | tion | Neat. = Neatness Cty. = Courtesy | tness | P.P. = Pleasing Personality |

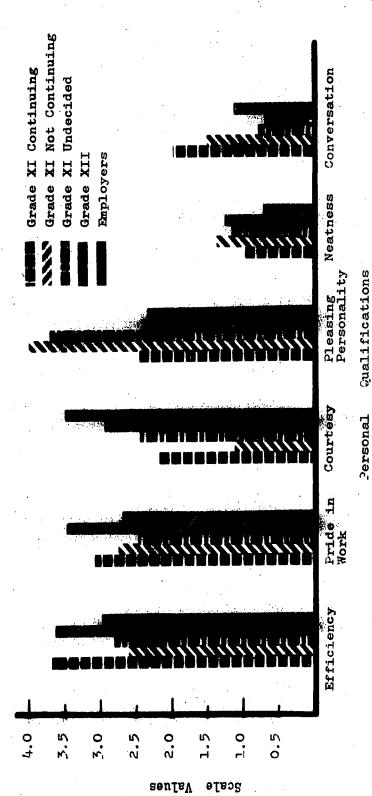


FIGURE 11
SCALE VALUES, STUDENTS AND EMPLOYERS
ELECTRONICS

TABLE 11
RANK AND SCALE VALUES
STUDENTS AND EMPLOYERS
ELECTRONICS

| | | | Rank and S | Scale Values | Lues | | |
|---------------------------------------|---------------------------|--------------|--------------------------------|--------------|-------------------------------------|--------------|--------------------------------|
| dnoaf | 1st | 2nd | 3rd | 4th | 5th | 6th | × |
| Grade XI Continuing | Eff. 3.64 | PIW 3.05 | P.P. 2.45 | Gty. 2.17 | Cvn. 1.95 | Neat. | 38 |
| Grade XI Not Continuing | P.P. | PIW 2.73 | Eff. 2,60 | Cvn. 1.47 | Neat. | Cty. | ٥ |
| Grade XI Undecided | P.P. | Eff. 2.80 | PIW 2.43 | Cty. 2.43 | Neat. | cvn. 0.74 | 4 |
| Grade XII | Eff. 3.62 | Cty. 3.43 | PIW 2.92 | P. P. | Neat. | Cvn. 0.65 | 16 |
| Employers | cty. 3.48 | Eff. 2.97 | PIW 2.67 | P.P. | Cvn. 1.09 | Neat. | īζ |
| Note: PIW = Pride in S.V. = Scale Val | ide in Work ale Values | Cvn. Eff. | = Conversation = Efficiency | | Neat. = Neatness Cty. = Courtesy | | P.P. = Pleasing Personality |

sidering the employment of job-candidates. Table 13 is a resume of those preferences.

As a group, Employers ranked efficiency and pride in work highest while the lowest ranks were assigned to pleasing personality, neatness and conversation - in that order.

Employers assigned courtesy a broad range of ranks, seemingly in relation to the extent to which employees were expected to deal directly with the public. An illustration of this tendency is noted in the Building Construction and Food Preparation trades where courtesy ranked fifth out of six possibilities. Conversely, Electronics ranked courtesy first, while Auto Body, Automotives, Electricity, Machine Shop and Pipe Trades ranked courtesy third. Welders ranked it fourth.

Estimation

Partial data was available for a seventh stimulusambition. These data were evaluated by using a modified form of the original computer program. The analyses were carried out on the data obtained from the following groups: All Students, All Instructors and, All Employees. The results are displayed in Figure 12 and Table 12.

The estimated scale values ranked ambition between efficiency and courtesy. The highest rank assigned to ambition was second while the lowest was third; out of seven possibilities. The consensus among the groups was strong and the scale values assigned to ambition were

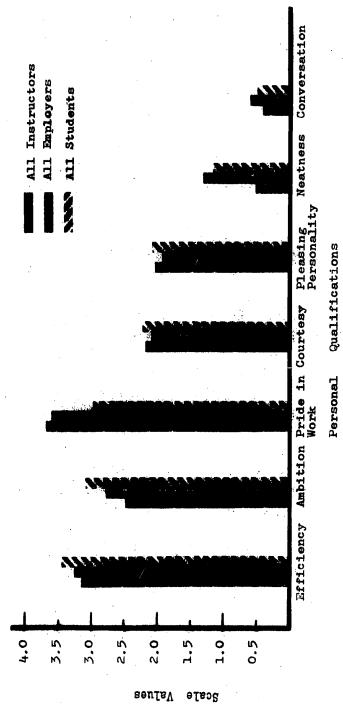


FIGURE 12
SCALE VALUE ESTIMATE
AMBITION

TABLE 12
RANK AND SCALE VALUES
ESTIMATION

| | | |] Jaule and | 2011 - Lang han - land | 7.00 | | | |
|---|------------------------------------|--------------|--------------------------------|------------------------|---------------|-------------------------------------|--------------|--------------------------------|
| נוסיים | | | Mailk allu | SCALE VE | Cann | | | 2 |
| i i | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | i |
| | S.V. | S.V. | S.V. | S.V. | S.V. | S.V. | S.V. | |
| All Instructors | PIW 3.67 | Eff. 3.17 | Amb. 2.49 | cty. 2.18 | P. P. | Neat. 0.50 | Cvn. 0.39 | 30 |
| All Employers | PIW 3.60 | Eff. 3.25 | Amb. 2.78 | Cty. 2.08 | P.P. | Neat. | cvn. 0.59 | 100 |
| All Students | Eff. 3.43 | Amb. 3.08 | PIW 2.98 | Cty. 2.21 | P.P. | Neat. | Cvn. 0.49 | 404 |
| Note: PIW = Pri S.V.= Sca Amb.= Amb | ide in Work ale Value bition | Cvn. Eff. | = Conversation = Efficiency | rsation | Neat. Cty. | Neat. = Neatness Cty. = Courtesy | | P.P. = Pleasing Personality |

TABLE 13
BETWEEN TRADE COMPARISONS OF RANKS
EMPLOYERS

| Trade Areas | .* | Pers | Personal Qualifications | fications | | |
|---|--------------|----------------------------|-------------------------|------------|---------|------------------------------|
| | Eff. | PIW | Cty. | P. P. | Neat. | Gwn. |
| Auto Body | 2 | - | К | 4 | 7. | 9 |
| Automotives | - | N | ~ | 4 | r. | 9 |
| Building Construction | ď | - | 2 | М | 4 | Ģ |
| Electricity | | N | ы | 4 | ī. | 9 |
| Food Preparation | - | N | Ī | М | 4 | 9 |
| Machine Shop | · ~ | - T | W | 2 | 4 | 9 |
| Pipe Trades | 8 | - - | М | 4 | Ŋ | . |
| Welding | - | N | М | 4 | 2 | 9 |
| Electronics | N | ٣ | _ | 4 | 9 | rV. |
| Note - PIW = Pride in Work Cvn, = Conversation | Eff. Cty. | = Efficiency = Courtesy | Neat. | = Neatness | ss P.P. | P. = Pleasing Personality |

consistent.

Summary

The results seemed to fall into two major classes. They were:

- a. For those groups where the sample sizes were 30 or more, ranking seemed to be more consistent.
- b. For small sample sizes, ranking appeared to be erratic as was noted in the following trade areas: Building Construction, Food Preparation and, Electronics.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS 1. SUMMARY OF THE STUDY

This study was conducted to determine the relative importance assigned to six personal qualifications for employability. Employability of vocational high school graduates was considered to be an important facet of the success of the vocational high school.

Participating groups in this study were vocational high school students enrolled in the Grade XI and Grade XII levels of technical-vocational courses offered in the schools under the jurisdiction of the Edmonton Public School Board, vocational high school instructors from the same schools, and employers.

A survey instrument was developed, based on Thurstone's Matched Pairs' technique. The instrument was administered to each of the groups and the resulting data were processed on the University's computing facilities. The results were tabulated, and displayed graphically.

The results indicated that students, instructors and employers were in close agreement on the relative importance assigned the personal qualifications for employability.

When the student groups were sub-classified into smaller groups and then compared with the

instructors and employers, it was shown that the overall consensus was maintained.

comparisons on the basis of trade specialty showed general agreement between the various student sub-groups and prospective employers. Respondents in Grade XI Not Continuing, and Grade XI Undecided who specialized in Food Preparation and, Electronics were exceptions. These students disagreed strongly on the ranks of courtesy and pleasing personality when compared with their corresponding employers.

The analysis of data and subsequent tabulation and graphical display showed that the six stimuli fell into three groups of two stimuli each. This phenomenon was noticed in the analysis of the Main Groups, and, to a lesser extent, in the analysis for the Main Sub-Groups. The sub-classifications were as follows:

- 1. Pride in work, and, efficiency
- 2. Courtesy, and, pleasing personality
- 3. Neatness, and, conversation.

It was assumed that the first pair was given the highest two ranks because they appeared to be highly job-related in the sense that they had the greatest effect on tangible output. The second pair was assigned the next two ranks, thus inferring that they were less job-related than the first pair. The last pair was assigned the last two ranks, inferring that they were least productive of tangible output.

Re-examination of the descriptions assigned to each of the stimuli on the instrument showed that they too, could have been classified in a similar manner, although no attempt was made to achieve this classification when the instrument was originally designed.

Since it was assumed that the instruments were completed accurately and honestly, and since the descriptions could be classified in the same way that the results were classified, it was shown that the instrument functioned according to its design. By definition, this property of an instrument is an indication of validity but the degree of validity is not known.

II. CONCLUSIONS

The following conclusions are directly related to the questions which were researched in this study:

- a. Vocational high school students, vocational high school instructors and employers were in close agreement on the relative importance of personal qualifications for employability.
- b. Vocational high school students, when subclassified according to grade level and intention, and then compared with employers and instructors, were in general agreement on the relative importance of the stimuli.
- c. Comparisons of student sub-groups and employers on the basis of trade revealed a broad agreement on the relative importance of the stimuli for employability.

d. On the basis of trades alone, there was broad agreement on the three most important, and the three least important qualifications for employability.

III. IMPLICATIONS

This study showed that the groups were in general agreement on the relative importance of the stimuli for employability. The fact that a dissenting minority of students was found implies that contemporary statements suggesting a deep rift between the values of youth and those of the establishment regarding employment are a minority phenomenon. The fact that the dissenting minority was not inclined to continue its educational program suggests that it held its opinions strongly.

Since it might be assumed that a sizeable fraction of the dissenting minority would be seeking employment without having completed graduation requirements; it might be desirable to provide special guidance in the field of employer expectations early in their programs. This implication is foreseen in the light of findings by Webster (1964) in which it was shown that employment interviews were searches for negative information. Negative information unearthed during the employment interview was seen to result in a decision to reject the applicant in 90% of the cases studied.

IV. SUGGESTIONS FOR FURTHER RESEARCH

This study showed that there was general agreement on the relative importance of personal qualifications for employability. A further study to determine the extent to which employers' expectations are actually met in the hiring of vocational high school graduates is desirable to provide a broader base upon which to evaluate curriculum changes. It would be desirable to study the extent to which these personal qualifications are used in existing hiring procedures.

Further research to explore the relationship between the subclassification of pairs of stimuli on the basis of job-relatedness, is needed to establish grounds for accepting or rejecting the assumption that respondents replied on the basis of a hierarchy related to production.

This study should be replicated with larger samples to avoid instances where scale values could not be computed as the result of small samples.

Since social institutions change with time, it is recommended that longitudinal studies designed to assess the differences between industry and schools in the area of employability be carried out.

BIBLIOGRAPHY

- Annis, W.H., and Perrigo, J.E. A pilot study to determine the need for curriculum modification in vocational technical education in New Hampshire. The University of New Hampshire, 1968, ERIC ED 027 405.
- Borow, H. Ed. Man in a world at work. Boston: Houghton Mifflin Company, 1964.
- Campbell, D.T., and Stanley, J.C. Experimental and quasiexperimental designs for research. Chicago: Rand McNally & Company, 1963.
- Coughlan, R.J. An assessment of teacher work values. Paper presented to The American Educational Research Association. Chicago: 1968, ERIC ED 022 721.
- Crites, J.O. <u>Vocational psychology</u>. New York, McGraw-Hill Book Company, 1969.
- Cronbach, L.J. Evaluation for course improvement. Teachers College Record. 1963, 64, 672-683.
- Cummings, L.L., and Scott, W.E. (Eds.) Readings in organizational behaviour and human performance. Homewood, Illinois: Richard D. Irwin, Inc. and The Dorsey Press, 1969.
- Davis, R.C. Planning Human Resource Development. Chicago: Rand McNally, 1966.
- Dubois, P.H. An introduction to psychological statistics. New York: Harper & Row, 1965.
- Fisher, W.H., Haworth, C.T., Kessler, M.A., and Ransom, L.S.

 A comparative study of the employee skills/
 training acceptable to employers under varying
 degrees of labor market stringencies. Batelle
 Memorial Institute, Colombus, Ohio, 1968.
- Folk, H. The problem of youth unemployment. in The transition from school to work. A report based on the Princeton manpower symposium, Princeton, N.J.: Princeton University, 1968.
- Youth unemployment: an economic analysis.

 National Association of Secondary School Principals
 Bulletin, 1969.
- Ford, C.R. Technical and Vocational Education. An address at a convention, June 14th, 1962. (Director Vocational Training Canadian Department of Labour).

- Glass, G.V., and Stanley, J.C. <u>Statistical methods in education and psychology</u>. <u>Englewood Cliffs, New Jersey</u>, <u>Prentice-Hall</u>, Inc., 1970.
- Guilford, J.P. <u>Psychometric methods</u>. New York, McGraw-Hill Book Company, 1st edition, 1936.
- Harris, C.W., and Liba, M.R. (Eds.) <u>Encyclopedia of educational research</u>. The American Educational Research Association, Macmillan Company, New York, 3rd edition, 1960.
- Hastings, J.T. Curriculum Evaluation: the why of the outcomes. Journal of Educational Measurement, 1966, 3, 27-32.
- Helsel, J. "A study of employment interviewing practices used in the selection of office personnel with implications for business teachers." Unpublished doctoral dissertation Northwestern University, Evanston, Illinois, 1959.
- Hu, T., Lee, M.L., Stromsdorfer, E.W., and Kaufman, J.J.

 A cost-effectiveness study of vocational
 education. University Park, Penn.: Pennsylvania
 State University, Institute for Research on Human
 Resources, 1969.
- Jackson, D.N., and Messick, S. Problems in human assessment, New York, McGraw Hill Book Company, 1965.
- Kalachek, E. Determinants of teenage employment. <u>Journal</u> of Human Resources, (a) 1969, 4 (1).
- . The youth labor market. Policy papers in human resources and industrial relations no. 12. Ann Arbor, Mich.: Institute of Labor and Industrial Relations, 1969 (b).
- Kaufman, J.J. Cost effectiveness analysis as a method for the evaluation of vocational and technical education.

 Washington, D.C.: Office of Education (DHEW), 1968.
- Kotz, A. Occupational education planning and programming. Vol. 1. Menlo Park, Calif.: Stanford Research Institute 1967. ERIC ED 017 733 (a).
- Vol. 2. Menlo Park, Calif.: Stanford Research Institute 1967. ERIC ED 017 734 (b).
- Krathwohl, D.R., Bloom, B.S., and Masia, B.B. Taxonomy of educational objectives, the classification of educational goals. Handbook II: Affective Domain.

 New York: David McKay Company Inc., 1964.

- Kurtz, K.H. Foundations of psychological research. Boston: Allyn and Bacon, Inc., 1965.
- Miller, D.C., and Form, W.H. <u>Industrial Sociology</u>. New York, Harper & Row, 2nd edition, 1964.
- Petruk, M.W. "Obtaining scale values for six industrial arts materials areas". Occasional papers, Department of Industrial and Vocational Education, Edmonton, Alberta: University of Alberta, 1969.
- Assessing technical qualifications. Unpublished master of education thesis, University of Alberta, Edmonton, 1967.
- Porter, L.W., and Lawler, E.E. III, Managerial attitudes and performance, Homewood, Illinois: Richard D. Irwin Inc., 1968.
- Senior high school handbook 1970-71. Edmonton: Department of Education of the Province of Alberta, 1970.
- Taba, H. Curriculum planning theory and practice.

 Harcourt, Brace & World Inc., New York, 1962,
 220-223.
- Tiffen, J. Industrial psychology. (2nd edition). New York: Prentice-Hall, 1947.
- Tiffen, Joseph, and McCormick, Ernest J. Industrial
 Psychology, Englewood Cliffs, N.J., PrenticeHall, Inc., 1965.
- Torgerson, W.S. Theory and methods of scaling. New York: John Wiley & Sons, 1965, pp. 155-204.
- U.S. Department of Health, Education and Welfare. Getting hired, getting trained. A study of industry practices and policies on youth employment.
 Washington, D.C.: Office of Juvenile Delinquency and Youth Development.
- Van Dalen, D.B. <u>Understanding educational research</u>. New York: McGraw-Hill Book Company, 1966.
- Viteles, M.S. Industrial psychology. New York: W.W. Norton & Company Inc., 1932.
- Motivation and morale in industry. New York: W.W. Norton & Company Inc., 1953.

- Vroom, V.H. Work and motivation. New York: John Wiley & Sons Inc., 1964.
- Warren, M.A., Parker, H.J., and Whatley, A.E. Generalizations related to concepts important for youth orientation to the world of work. University of Oklahoma Research Institute, Project number 1584.
- Webster, E.C. Decision making in the employment interview. Industrial Relations Centre, Montreal: McGill University, 1964.
- Yuzuk, R.P. The assessment of employee morale, a comparison of two measures. Bureau of Business Research Monograph Number 99, The Bureau of Business Research, College of Commerce and Administration. Colombus, Ohio State University, 1961.

APPENDIX A

APPENDIX B

.....

PERSONAL QUALIFICATIONS AND EMPLOYABILITY

Introduction

Recent studies have shown that personal qualifications such as courtesy, conversation, neatness, efficiency, ambition, pride in work, and, pleasing personality are important factors which affect ones employability.

This survey is part of a study designed to study the importance of personal qualifications and employability more closely. Your participation is appreciated.

Please read the following descriptions before proceeding to the next page.

Descriptions

COURTESY - polite and mannerly with fellow-employees, supervisors and customers.

CONVERSATION - converses with other employees, not a loner.

NEATNESS - neat personal appearance, may include conservative, 'mod' dress and grooming.

EFFICIENCY- works steadily and maintains an acceptable production record.

AMBITION - will, on his own, undertake tasks and assume responsibility for completion.

PRIDE IN WORK- works enthusiastically, identifies positively with the company's products and/or services.

PLEASING PERSONALITY - gets along well with fellow-employees, supervisors and customers, is easily approached.

| T | | Form # E - | |
|---|---|--|--|
| | tructions | | |
| | qualifications. | Each consists of a pair of personal | |
| | Read each pair carefully, and the qualification you consider the mo of an apprentice in the area of _ | re important for the employment | |
| 3. | Do not skip any pair. It is ver in EACH pair. "Ties" are not allo | y important that you make a choice wed. | |
| 1. | Efficiencyor | Ambition | |
| 2. | Conversationor | Courtesy | |
| 3. | Efficiencyor | Pleasing Personality | |
| 4. | Conversationor | Neatness | |
| 5. | Neatnessor | Pride in Work | |
| 6. | Neatnessor | Courtesy | |
| 7. | Efficiencyor | Pride in Work | |
| 8. | Pleasing Personalityor | Conversation | |
| 9. | Ambitionor | Pride in Work | |
| 10. | Pleasing Personalityor | Ambition | |
| 11. | Courtesyor | Pleasing Personality | |
| | Ambitionor | Courtesy | |
| 13. | Ambitionor | Neatness | |
| 14 | Efficiencyor | Neatness | |
| 15 | Pride in Workor | Conversation | |
| 16 | Courtesyor | Pride in Work | |
| 17 | . Conversationor | Efficiency | |
| 18 | Pleasing Personalityor | Neatness | |
| 19 | Conversationor | Neatness | |
| 20 | . Efficiencyor | Courtesy | |
| 27. | Pride in Workor | Pleasing Personality | |
| | | | |
| Please verify that you have not missed any items. Thank you. | | | |
| Please indicate if you would like to receive a summary of the | | | |
| results. | | | |
| - | TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT | | |

PERSONAL QUALIFICATIONS AND EMPLOYABILITY

To the invigilator:

- 1. Distribute the survey instruments to the respondents.
- 2. Have respondents read ALL of page 1, before going on to page 2.
- 3. Have respondents read the instructions on page 2, with special attention to instruction number 3.
- 4. Seal and return the completed and unused instruments in the envelope in which they arrived.

Thank you for your cooperation.

PERSONAL QUALIFICATIONS AND EMPLOYABILITY

Introduction

Recent studies have shown that personal qualifications such as courtesy, conversation, neatness, efficiency, ambition, pride in work, and, pleasing personality are important factors which affect ones employability.

This survey is part of a study designed to study the importance of personal qualifications and employability more closely. Your participation is appreciated.

Please read the following descriptions before proceeding to the next page.

Descriptions

- COURTESY polite and mannerly with fellow-employees, supervisors and customers.
- CONVERSATION converses with other employees, not a loner.
- NEATNESS neat personal appearance, may include conservative "mod" dress and grooming.
- EFFICIENCY- works steadily and maintains an acceptable production record.
- AMBITION will, on his own, undertake tasks and assume responsibility for completion.
- PRIDE IN WORK- works enthusiastically, identifies positively with the company's products and/or services.
- PLEASING PERSONALITY gets along well with fellow-employees, supervisors and customers, is easily approached.

| Instructions | | Form # |
|--------------|--|---|
| 1. | There are 21 items on this page. | Each item consists of a pair of |
| 2. | Read each pair carefully, and the qualification you consider the m | en put a check mark opposite the ore important for employability. |
| 3. | Do not skip any pair. It is ver in EACH pair. "Ties" are not al | y important that you make a choice lowed. |
| 1. | Efficiencyor | Ambition |
| 2. | Conversationor | Courtesy |
| 3. | Efficiencyor | Pleasing Personality |
| 4. | Conversationor | Neatness |
| 5. | | |
| 6. | Neatnessor | Courtesy |
| 7. | Efficiencyor | Pride in Work |
| 8. | | |
| 9. | | Pride in Work |
| 10. | | Ambition |
| 11. | · · · · · · · · · · · · · · · | Pleasing Personality |
| 12. | | Courtesy |
| 13. | • | Neatness |
| 14. | | Neatness |
| 15. | | |
| 16. | · · · · · · · · · · · · · · · · · · · | |
| 17. | | Efficiency |
| 18. | | • |
| 19. | Conversationor | _ |
| 20. | Efficiencyor | |
| 21 | Pride in Workor | ··· |
| NOTI | E: | |
| 1. | Please check that you have not mis | sed any items. Thank you. |
| 2. | Students in Grade 11, "22 level" of following: | courses, please complete the |
| | Please indicate whether you intend | to take the "32 level" courses |

Yes