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ABSTRACT

A study examined the career and professional development activities of postsecondary and adult vocational teachers without degrees in education during their first five years in vocational education. Data were gathered five years after course completion from people who enrolled in a course required for licensure as vocational teachers. The primary reason people took the course was to obtain initial vocational licensure. The two most important factors that attracted people to become vocational educators were their desire to share what they know and to work with students. Postsecondary and adult groups differed significantly on a number of the factors that attracted them to vocational education. The majority had prior teaching experience, participated in professional development activities, and felt there were employment advantages to having a degree in vocational education. Significant differences were found between the adult and postsecondary groups in the numbers of courses taken in instructional methodology and vocational education and in the amount of related work experience. Five years after entering vocational education, only 51.8 percent of the group was still in vocational education. The most important reasons for leaving were career advancement and job elimination. (Appendixes include a bibliography, the survey instrument, the analysis summary, and data tables.) (YLB)

Minnesota Research and Development Center for Vocational Education

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PREFACE

This study examined the career and professional development activities of postsecondary and adult vocational teachers without degrees in education during their first five years in vocational education. Data were gathered from people who enrolled in a course required of such beginning teachers in order for them to qualify for licensure as vocational teachers five years after they completed the course. The ultimate goal was to better understand the career and professional development of such vocational educators with the aim of better meeting their needs in the future.

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CHAPTER I

INTRODUCTION

Those selecting and preparing vocational teachers have historically had to face a dilemma not faced by other fields of education. That dilemma is: given the need to make the choice, should teachers be selected based on their technical competence or their pedagogical competence; and if they are selected on the basis of one, how should they be prepared in the other. This dilemma arises because in some fields of vocational education, it has not been possible to find, or prepare, a sufficient number of teachers who have both technical and pedagogical competence prior to their entering teaching. Hawkins, Prosser and Wright (1951) explain why this has been true. Vocational educators believe:

> Successful (vocational) teachers must be men (people) of practical experience with the industrial world...and in addition should have an understanding of the general principles of teaching, that they may be able to impart their knowledge to others. The combination is not a common one... (Therefore,) as a general rule the school has to choose between the skilled worker not trained as a teacher and the professionally trained teacher, who knows the theory of the trades, but has little if any, practical experience. (p. 242)

Most states select and license vocational teachers using two approaches. Both are aimed at ensuring that vocational teachers eventually have technical and pedagogical competence. The approach used in a particular circumstance is dependent upon the occupational skills required, the demand for people in a field, and the number of degreed people who are available. The first approach is to select people with degrees in vocational education who have the necessary occupational skills as well as the pedagogical skills. The occupational skills are developed through teacher education programs and/or prior work experience. In Minnesota the majority of agricultural, home economics, business, and marketing education teachers must have a teaching degree in order to teach at both the secondary and postsecondary level. Health occupations and industrial education (industrial arts) teachers at the secondary level are also required to have teaching degrees. Non-education degreed teachers are sometimes used in these fields if qualified degreed teachers are not available.

The second approach is to select people who have developed the desired technical competence through work experience, and to provide them with pedagogical skills later. The assumption underlying this approach is that if a person is going to teach people to enter the world of work in a specific occupation,

he/she should have had related work experience. Most postsecondary and adult extension vocational instructors in Minnesota are hired consistent with this approach. The primary hiring criterion is that a person meet work experience requirements. At times, portions of the work experience requirements can be satisfied through schooling, related teaching, or other experiences. In fields where people are available who have degrees as well as work experience, degrees have also been required. However, if people are not available with an education degree and work experience, they are hired with work experience and then required to obtain pedagogical training.

The non-education degreed vocational instructors of Minnesota teach primarily in the public postsecondary Area Vocational Technical Institutes (AVTIs) and private postsecondary vocational schools. They tend to be concentrated in trade and industrial education, technical education and health education fields. However, there are provisions to hire non-degreed teachers in all vocational fields if degreed teachers are not available.

Teachers at the postsecondary level teach in regular day school programs and adult extension programs. Statistics provided by the Minnesota State Board of Vocational Technical Education (SBVTE) indicate that of the approximately 2200 people teaching in the regular day-school programs of the AVTIs during 1986, 1100 were non-education degreed. They also indicated that 404 of the people were in their first year of teaching. In addition to the regular day school instructors, there were approximately 3500 adult extension instructors.

In Minnesota, the non-education degreed instructor who teaches 500 hours or more a year must take a sequence of teacher education courses to obtain and maintain a teaching license. This includes secondary, postsecondary and adult extension instructors. They can obtain an initial 2-year teaching license with proper work qualifications and satisfactory completion of one 3 quarter-credit introduction to vocational teaching course from an approved vocational teacher training institution. A 5-year license can be obtained upon completion of 12 additional quarter-credits included in a core sequence of vocational teacher preparation courses. Those 12 credits include philosophy of vocational education, curriculum development, student evaluation, and instructional methods (Minnesota Department of Education, 1980).

These required courses are designed to ensure that the non-education degreed vocational instructor has both of the components of a competent instructor: technical competence and pedagogical competence. The courses are subsidized by the SBVTE and offered through four teacher education institutions in Minnesota as an in-service teacher education program. Other teacher education institutions also offer the courses but they are not subsidized.

Statement of the Problem

This study was designed to gather data about the non-education degreed vocational instructors and their career and professional development. Career development was defined as a person's movement in an out of different types of positions both within and outside of vocational education (e.g., welder to welding teacher). Professional development was defined as the activities in which a person engaged in order to maintain and improve ones ability to function within a position (e.g., courses taken). The major goals were to better understand the movement of people in, out of, and within vocational education; and the ways in which they developed their pedagogical competence and maintained their technical competence. That information was viewed as useful in planning more effective staff development programs through teacher education institutions and local schools.

Another related goal was to better understand the turnover among these instructors. One of the more alarming trends in education today is the high percentage of qualified instructors leaving the field. Regardless how the vocational instructors are prepared, the retention of them as instructors is of concern. Bryant (1980) found that over half of those who were prepared as agricultural education teachers between 1963 and 1977 never taught, and over 50% of the graduates who entered teaching subsequently left the field of teaching for another occupation. Therefore, only one-fourth of the graduates were still in teaching after 15 years. Statistics compiled by the Minnesota State Department of Education indicated that approximately 4% (Delgehausen, 1986) of the regular day-school instructors left AVTI teaching each year. Replacing those teachers with other highly qualified teachers requires a substantial investment. A better understanding of the career development of the non-education degreed vocational instructor was viewed as a first step in possibly reducing the turnover rate among that group.

Prior to this study, conversations with teachers and administrators revealed a large number of beliefs about why people without degrees in education entered vocational education, how they viewed staff development activities and the need for degrees in education, and why those who left vocational education actually left. There were also beliefs about the differences between postsecondary, secondary and adult vocational non-degreed instructors. However, empirical data about these issues were not available.

This study addressed these, as well as other, questions regarding the non-education degreed vocational educator within a career development perspective. The importance of a career development perspective to teacher preparation rests on the assumption presented by Watts (1980) that teacher preparation and professional development programs must be sensitive to the career development stage of a teacher. The presumption is that teachers at different stages of development have different needs. Despite the great deal of attention that has been paid to the subject of

teacher career development, Christensen, Burke, Fessler, and Hagstrom (1983) note that there is still limited knowledge about the needs of teachers at any given stage of development.

A number of teacher career development models are available within which to view teacher development. They range from relatively uncomplicated conceptual models such as the one reported by Watts, to comprehensive models such as the one reported by McKenna (1982). Watts (1980) suggested that there are three distinct phases in a teacher's career. They are described as "the survival or beginning teacher stage; the middle stage, characterized by an increasing sense of comfort in the teacher role; and the mastery stage, characterized by a sense of confidence and ease." (p. 1).

McKenna (1982) defined five "predictable" stages in the career development of a vocational educator. Stage one occurs during the first three years of professional teaching. This stage is characterized by enthusiasm, idealism, and efforts to fit into existing patterns of operation. Stage two begins after the educator has successfully passed through stage one and is primarily characterized by a sense of stress as the educator seeks to acquire continuing employment status, recognition from peers, and a chance for further advancement.

Stage three covers the mid-career issues facing vocational educators. In stage three teachers may begin to feel dead-ended if they perceive themselves as having either plateaued or having become stagnant in terms of salary or career advancement. On the other hand, teachers who have continued to progress in terms of professional development may feel a greater sense of security and job satisfaction than teachers in stage two.

Stage four may also be called the pre-retirement stage. In this stage, individuals may have reached the top of their profession or rank. Depending upon how far they are toward retirement, they may feel either a lack of professional challenge and job satisfaction, or a sense of relaxation and career satisfaction. Generally, when one is more than five years from retirement, there is a tendency to feel more dissatisfied if they are in stage four.

Stage five is the retirement stage. It can be characterized by either a sense of dissatisfaction or a sense of contentment, depending upon how well one has planned for this period.

Specifically, this study was designed to gather information about vocational educators without degrees in education during their first 5 years in the field. They were identified based on their enrollment in the Introduction to Vocational Industrial Teaching course offered through the University of Minnesota. All non-education degreed teachers are required to take that course as an initial licensure requirement for teaching. The data were gathered to account for the activities of people during the 5 years as they moved through the first two stages of the McKenna

model or the first stage of the Watts model. Some people may also have moved into stage 3 of the McKenna model or stage 2 of the Watts model. The data were used to determine the career development and professional development patterns of beginning non-education degreed vocational educators and to determine if there were differences in those patterns between those who enter postsecondary, secondary, and adult vocational education.

Study Objectives

This study had 12 major objectives. Those objectives are listed below in the form of questions. The questions are presented in a logical order that parallels the model developed for this study which depicts the various paths that people could follow subsequent to their completion of the first licensure course. That model is presented in Appendix C and is discussed more in the section on "Instrumentation." The study was designed to determine:

1. Why do people who complete the Introduction to Vocational Industrial Teaching course enroll?

2. What portion of course completers enter vocational education?

3. Are there differences in the characteristics and career development patterns of the people who enter secondary, postsecondary or adult vocational education?

4. What attracts people to enter vocational education?

5. What are the characteristics of people who enter vocational education without degrees in education?

6. What initial roles do the non-education degreed people play within vocational education?

7. What portion of the group which enters vocational education remains after five years?

8. In what professional upgrading activities do people who remain in vocational education after 5 years engage?

9. What roles are people who stay in vocational education in after 5 years?

10. What factors influence the group which leaves vocational education to leave?

11. What is the nature of the subsequent employment of those who leave vocational education?

12. What do course completers who do not enter vocational education do after completing the course?

CHAPTER 2

REVIEW OF THE LITERATURE

The review of the literature focused on studies related to the objectives which guided this study. One of the major limitations of the literature review is that most studies found dealt primarily with degreed secondary non-vocational education instructors. The generalizability of the demographic characteristics, career development, and professional development of that group to postsecondary and adult vocational educators is limited. However, they do provide a general context within which to view the results of this study.

The first section of the review examines reasons that individuals have had for wanting to enter education. In addition, some of the reasons that graduates of teacher training programs have for not entering education are reviewed. This section corresponds with the objectives of this study concerned with identifying what attracted subjects to vocational education, and why they chose to prepare to enter vocational education.

The second section of the review examines the concept of teacher career development and reviews several studies dealing with the career patterns, and career perceptions of new teachers. This section corresponds to the research objectives of identifying the career patterns of non-degreed vocational instructors and the career development activities pursued by non-degreed instructors.

The third section of the review examines the issue of teacher turnover and teacher burnout. This section corresponds to the study's objectives of identifying the problems, issues, and concerns that lead teachers to decide to leave education.

The last section of the review examines possible differences between vocational educators at postsecondary, secondary, and adult levels.

Reasons for Entering and Not Entering Education

The need to better understand the reasons that individuals have for entering vocational education is imperative since in postsecondary vocational education, there is a great amount of competition with private industry for highly qualified technical talent (Olson, 1974). A study by Bergsma and Chu (1981) examined the reasons that college senior education students had for wanting to enter education. These reasons were compared to reasons that had been identified in several earlier studies. That investigation was intended to provide a trend analysis, so that it could be determined whether motivations for entering education were changing, and if so, in what direction. The

authors found that students in the 1980s were more interested in the intrinsic rewards of teaching than were students in the earlier studies. The primary motivation of students in the 1980s was altruistic. Students were well aware of the lack of teaching positions and low salaries. Their primary reasons for entering teaching were liking children and wanting to help the educational system. There was less tendency for students in the 1980s to be interested in teaching as a result of "outside influences" i.e., peers, teachers, and family influences.

The conclusion that individuals in the 1980s are choosing careers in education for altruistic reasons is also supported by findings from a study of pre-service and in-service teachers conducted by Page and Page (1981). Among the reasons listed by subjects in this study for entering education were the contributions that they could make to humanity. White (1979) cites the major reasons for teachers electing to remain in education as satisfaction with helping others, and satisfaction with student accomplishment. The literature did not disclose any studies of reasons for wanting to enter education on the part of individuals with demographic characteristics similar to the subjects in this study.

Cheek, McGhee, and West (1983) conducted a study to identify predictors of whether a student will teach after graduating from a teacher preparation program and whether the predictors would provide a practical means of determining which students would enter vocational education. The factors they examined included six demographic and academic variables derived from the Tennessee Self-Concept Scale, the Work Value Inventory, and the Purdue Student-Teacher Opinionnaire. They found little support for using any of these factors as a practical means of screening applicants. They concluded that: "it may be impractical on the basis of demographic, self-concept, work values, and morale measures to pre-screen agricultural education students into those likely to teach and those not likely to teach" (p. 59).

Several studies (Bogad, 1983; Cole, 1983; Miller, 1974; Page & Page, 1981) have investigated the question of why students who have pursued a teacher preparation program subsequently decide not to teach. Among the major reasons listed in the findings from these studies are the following:

1. More personal freedom and time
2. Higher salary
3. Too much red tape
4. Value conflicts with the orientation of the profession
5. Attractive career alternatives
6. Discipline problems

A study by the Michigan State Department of Education (1980) indicated that approximately 30 percent of the individuals who take a teacher preparation course or program subsequently do not enter the field. Bryant (1980) found that very few of the graduates from agricultural education programs who entered non-

teaching positions following graduation ever returned to teaching. Bryant's study is reported more fully in Chapter 1.

Teacher Career Stages

Most of the theories pertaining to teacher career development appear to be adapted from the work of Gould, Buhlers, and Levinson (Newman, Dornburg, Dubois, & Kranz, 1980). The central tenet upon which these adaptations are based is that there is an interaction between how long a person has been teaching and their professional motivation and personal development. The literature has referred to the more predictable periods in an individuals development as either stages or transition periods. A variety of models have been proposed to explain these stages (Christensen, Burke, Fessler, & Hagstrom, 1983; Lowther, 1977; Newman et al., 1980; Watts, 1980; McKenna, 1982) in an individual's career.

Despite the great deal of attention that has been paid to the subject of teacher career development, Christensen et al. (1983) note that there is still limited knowledge about the needs of teachers at any given stage of development. Furthermore, the models that do exist vary greatly in perspective and comprehensiveness. For example, Watts (1980) defines three stages of the teacher development process from the point of entry into teaching until mastery of the teaching role. McKenna (1983), on the other hand, describes a model throughout the full career of a teacher from beginning as a teacher until retirement. The major steps of these two models were presented in the "statement of the problem" section of this study. McKenna's model was the most comprehensive of those reviewed, and therefore was used as a basic element in the framework of this study. This model expands the three major stages most often described in the literature into five stages. The three most often mentioned stages are the entry stage, the mid-career stage, and the pre-retirement stage.

The research conducted by Burden (1982), based on the perceptions of elementary school teachers in Ohio, supports the concept of three distinct career stages. However, the timing for the transition between stages is shorter than most other models. Burden found that the first stage corresponded to the first year of teaching. The second stage spanned the second through fourth years of teaching. The third stage began with the fifth year of teaching to retirement. Teachers described different characteristics during these identifiable periods in their careers.

Research into the problems and difficulties encountered by teachers also supports the concept of career stages and that the problems encountered by teachers change at various stages (Adams, 1982). Using data obtained from the Western Kentucky University Teacher Preparation Evaluation Program, Adams examined changes in teachers' perceived problems and concerns over a six year period. Adams found that teachers at all levels tended to find

classroom discipline and student motivation as major problems but that difficulties with parents and administrators, and concerns about instructional tasks tended to increase over time. This increase in difficulties in several areas is somewhat paradoxical since teachers also reported that their self-confidence and teaching behaviors had improved significantly over time.

Teacher Turnover and Burnout

There is extensive literature on the subject of teacher burnout and turnover. This section of the review includes an abbreviated look at some of the generic educational literature as well as the literature dealing strictly with vocational educators.

The Georgia Professional Standards Commission (1980) has stated that:

> Teacher job dissatisfaction cannot be explained apart from the ideology of teaching and the nature of its reward structure. In contrast with other professions, teaching possesses no well-defined career hierarchy or major extrinsic incentives such as sizable salaries or stratified power and income schedules based on performance. Society historically has associated teaching with religious and moral concerns, low income, and limited prestige. Accordingly, the profession has elevated service motives above material benefits as the proper motivation for work. (p. 5)

As a result of the emphasis on intrinsic rewards, the authors maintained that educators are placed in a more precarious position than those who can measure their success or failure against more concrete objective criteria. Consequently, educators and others in social service fields are more prone to the phenomenon known as "burnout".

According to the Georgia Professional Standards Commission (1980), the source of teacher burnout comes from two main areas. One is problems within the school environment and the second is external sources. External sources include the attitudes that society has towards teachers and the amount of public respect for teachers. The Commission points out that a Gallup poll conducted in 1980 reported that public attitudes towards teachers had dropped for each of the preceding seven years.

Saunders and Watkins (1980) conducted a study of teacher burnout among 1400 elementary and secondary educators in Huntsville, Alabama. They found that the majority of teachers are, or have been, in an ambivalent state regarding their choice of teaching as a career. Among the major factors which they reported as contributing to job stress were:

1. Motivating students
2. Low salaries
3. Lack of job security
4. Disciplining students
5. Not being able to catch up with the work

Frataccia and Hennington (1982) found that the major reasons teachers gave for resigning their positions included a lack of recognition, job advancement, and low salaries. Knight and Binder (1978) found five factors as among the most important reasons given by high school vocational agricultural teachers for leaving their positions. The five reasons were:

1. Teaching not compatible with long range career goals
2. Problems with students
3. Inadequate advancement opportunities
4. Long hours
5. Low pay

Cole (1983), in addition to investigating the reasons that graduates of vocational programs never taught, also looked at teachers who taught and then left the profession. The major reasons for leaving education were concerns for time, money, and classroom control.

Teaching Level Differences

No studies could be found that provide data which directly address differences between postsecondary, secondary and adult vocational educators. However, a number of reports address perceived differences between these groups. Schafer (1976) indicated that there are issues and concerns unique to adult instructors which are not faced by the full-time postsecondary and secondary groups. Because adult educators usually hold another job, it is assumed that they require less pay, do not work beyond designated hours, do not volunteer willingly to professional development, and are hard to reach in terms of organizational communication. He advocates a greater commitment on the part of institutions to bridge the gap between part-time and full-time faculty and administrators.

Bender and Hammons (1972) state the adult educator "has been neglected and needs consideration". Again because of the unusual circumstances surrounding the adult educator (e.g., part-time, no fringe benefits, no office space) they are portrayed as a unique population which might prove to be different in terms of development. The authors suggest that adult educators teach because they want to, not because they have to. Therefore, they are more receptive to "self-improvement" and have a greater desire for professional development. The authors suggest several administrative tools to assure a successful induction into the education system.

Penner and Price (1972) studied specific variables which adult educators should possess to be effective in the classroom

as determined by students, coordinators, and educators themselves. They also provided a list of demographic characteristics pertinent to studying the adult vocational educators. The list included past and present teaching and work experience, education, age, college attendance, and organization membership.

Summary

This review has followed a sequential analysis of the steps taken in a teachers career. Section one described some of the major reasons given by teachers for deciding upon teaching as a career. The literature suggests that most people aspiring to be teachers are idealists who seek careers in education for altruistic motives. Among the major motives for seeking careers in education are liking to work with students, and trying to help others. Section one also briefly reviewed some of the reasons given by graduates of teacher preparation programs for not entering education. Among the general reasons given were better opportunities elsewhere, dissatisfaction with teaching conditions, and salary.

An overview of the concept of teacher career development was provided in section two. A five stage model of teacher career development was described in addition to the typical three stage model. The literature indicated that in order to study the needs of teachers it is important to determine the stage they are at in their career development. Needs appear to change depending upon the career development stages of teachers, and therefore, their teacher education needs probably also change. Most career development models address the issues of teacher induction, teacher advancement, teacher plateauing, and teacher dissatisfaction.

The third section of the review dealt with the subject of teacher burnout and why teachers chose to leave careers in education. Among the reasons most commonly cited were:

1. Student discipline problems
2. Low salaries
3. Lack of opportunities for job advancement
4. Low prestige and respect for the field

The final section of the review presented information on possible differences between postsecondary, secondary and adult vocational educators. The literature suggested differences between the part-time adult educators and their full-time secondary and postsecondary colleagues. Since adult educators were not practicing teaching as their primary occupation and did not receive many of the benefits afforded to full-time instructors, it was suggested that they might display different characteristics in terms of attractions to teaching and career development patterns. There were mixed perspectives on the extent to which the adult educators were interested in professional development.

CHAPTER 3

PROCEDURE

Population

The population included 401 people without degrees in education who completed the first course required for non-degreed vocational teacher licensure (Introduction to Vocational Industrial Teaching) through the University of Minnesota between September, 1980 and December, 1981. The group contained people who entered, or were planning to enter, postsecondary, secondary or adult vocational education 5 years prior to the study. Only twelve people who returned the questionnaire were in secondary vocational education. The secondary group was not teaching in typical high school secondary programs. They were teaching in AVTIs in the same laboratories and using essentially the same curriculum as the postsecondary educators. Investigation indicated that they were also selected using similar criteria. Therefore, they were combined with the postsecondary group. It was felt that 5 years would allow time for career and professional development to have taken place.

Instrumentation

A questionnaire entitled "Vocational Teacher Follow-Up Survey" was developed with the aid of an advisory committee composed of a vocational teacher educator, an AVTI staff development coordinator, a State Board of Vocational Technical Education staff development specialist, and two people who completed the course (one employed in vocational education and one not employed in vocational education). (A copy of the questionnaire can be found in Appendix A. A list of advisory committee members can be found in Appendix B.) Questions included in the questionnaire were keyed to a career flow model derived from the objectives of the study. The model depicted the various logical paths that people could follow subsequent to their completion of the "Introduction" course and associated data elements (See Appendix C). The content validity of the questionnaire was established through agreement of the advisory committee.

The instrument was divided into four sections. Section A asked for background information and demographic characteristics from all subjects. The first part of section B was completed by all subjects who entered vocational education after completing the course. The second part of section B was completed by only those people who entered and stayed in vocational education for the full 5-year period. Section C was completed by subjects who left vocational education during the 5-year period, and section D

was completed by subjects who did not enter vocational education upon completion of the Introduction course.

The instrument was designed to gather data that could be analyzed by computer and could be used as a basis for comparing the responses of sub-groups. Forced-choice items were presented in the form of checklists and rating scales. Open-ended items were used only in those cases where the responses were numerical and to determine the content area a person was teaching. Besides being reviewed by the advisory committee, the instrument was pilot tested using a group of vocational education graduate students at the University of Minnesota to ensure that the response choices were exhaustive. In addition, the final version of the instrument had an "other" category for each set of items where choices other than those presented might have been possible. A copy of the instrument is presented in Appendix A.

Data Gathering and Analysis

After the population was identified, a pre-letter was sent first-class to the 401 people who completed the course. It explained the purpose of the study and indicated that they would be receiving a questionnaire. It also invited people to call if they had any questions or reservations about participating in the study. One hundred and seventeen pre-letters were returned with an indication that the person no longer lived at that address. Some of these people were located through new phone numbers and contacts with employing institutions. Eventually, addresses were verified for 329 people. Since all people were not locatable, the "actual" study population included only the 329 people for whom questionnaires were "deliverable".

The actual instrument and a letter explaining the study was then sent first-class to the 329 people. A second questionnaire was sent to people who did not respond after 3 weeks. It included a packet of instant coffee and an appeal to complete the questionnaire while having a "cup of coffee on us." Those who did not respond to the second mailing were called.

The total number of returned questionnaires was 250. The response rate for the study was 62% of the total population which completed the course (250/401). The response rate was 75% of the population which it was assumed actually received the questionnaire (250/329).

An attempt was made to determine whether there was a difference between respondents and non-respondents in the study. A random sample of 20 non-respondents was selected. The Minnesota State Department of Education licensing specialist provided the most recent information on people who had not responded and had a valid teaching license. In addition, calls were made to locate relatives and to talk with people who did not respond even though we had their addresses. All of these procedures provided questionnaire responses from only 5 of the 20 people sampled. Since this did not provide a large enough data

base to conduct a meaningful analysis, the attempt to verify that the respondents and non-respondents were similar was abandoned. Therefore, the results of this study are limited to the extent that the respondents and non-respondents may be different.

The reliability of the instrument was determined by selecting a random sample of twenty respondents and sending a second identical questionnaire to each of them. Each was provided with the promise of a free movie ticket as a response incentive. Fifteen of these people returned second questionnaires. The reliability of each item was calculated by correlating the original responses with the responses received from the second questionnaire. The total number of items analyzed was 113. The reliability coefficients ranged from +1.00 to 0.50. Thirty-two of the item reliabilities ranged from +1.00 to .90, 41 from .89 to .80, 26 from .79 to .70, 9 from .69 to .60 and 5 from .50 to .59. A list of the reliability coefficients for each of the items can be found on the "Analysis Summary" presented in Appendix D.

Data Analysis

Project data were analyzed using a statistical program designed to run on the IBM Personal computer. The program (StatPac, developed and copyrighted by David S. Walonick, 1986) was used to run all the descriptive as well as inferential statistics used in the analysis of the data. Throughout the analyses, a probability level of .05 was used to identify significant differences ($P<.05$). This means that the differences which were identified would be expected to occur by chance only 5 times or less out of 100.

The templates for entering the data were developed with the help of a consultant familiar with StatPac. Following the development of the templates, two of the researchers entered the raw data from the first 100 surveys. This was done to check for any "bugs" in the system and to develop a systematic procedure for dealing with exceptions. Once problems were addressed, the entering of the remainder of the data was done by clerical staff.

The accuracy of the procedures used to input the data was checked by comparing the data input to the actual survey data, and noting any discrepancies. Discrepancies were subsequently resolved.

CHAPTER 4

RESULTS AND DISCUSSION

The results of the study are reported in relation to each of the 12 objectives. Findings are presented along with a brief discussion of those findings and their implications. Two types of results are reported. First, descriptive statistics are reported which describe the response patterns of the total group of subjects to each of the items in the questionnaire. Second, Chi-square analysis results are reported if significant differences were found between the response patterns of people who entered postsecondary or adult vocational education. **Chi-square analyses were only possible for those people who entered vocational education after completing the course** since people could indicate the type of vocational education they became involved with only after entering vocational education. Appendix D (Analysis Summary) presents the Chi-square probability levels associated with the analyses of each of the variables. A N/A symbol is recorded in place of the probability level for those variables for which analyses were not appropriate. A N/D symbol occurs for variables on which there were not enough data to run a meaningful Chi-square analysis.

Appendix E presents cross-tabulation tables of the actual data for each of the variables for which differences were found to be significant. If the reader is interested in examining the differences between groups beyond the level presented in the discussion, she/he should refer to the cross-tabulation tables in Appendix E.

1. Why do people who complete the Introduction to Vocational Industrial Teaching course enroll?

Table 1 presents the number of people who enrolled in the Introduction to Vocational Industrial Teaching course for various reasons. As would be expected, the largest number (77.6%) enrolled in the course as a basis for obtaining licensure as a vocational instructor. Fourteen percent of the group enrolled to explore vocational education as a career, 3.6% enrolled to renew a non-vocational license, 2.4% enrolled for salary advancement credit, and 2.0% enrolled as a basis for preparing for private sector employee training. Only one person indicated that she/he had another reason for enrolling.

Based on these results it appears that the course was satisfying the purpose that it was intended to serve, that of preparing non-degreed people for teaching in vocational education. It also served a goal which has been debated for years in Minnesota, that of providing potential instructors with an opportunity to explore vocational education as a career.

An analysis of the differences between the postsecondary and adult groups that took the course and later entered vocational education revealed a significant difference in the proportion who enrolled in order to obtain an initial license. Significantly fewer of the adult people took the course in order to obtain an initial license than the postsecondary people. There were no significant differences in the other reasons why people took the course.

Table 1

Reasons Why People Enrolled

	Number	Percent
Needed for initial vocational teaching license	194	77.6
Used to renew a non-vocational teaching license	9	3.6
For salary advancement credit	6	2.4
Explore vocational education as a career alternative	35	14.0
Prepare for private sector employee training	5	2.0
Other	1	0.4
	250	100.0

2. What portion of course completers enter vocational education?

Of the 250 people who completed the course and responded to the questionnaire, 79.6% (199) entered vocational education and 20.4% (51) did not. This was a substantially greater number than the literature indicated entered vocational teaching after completing a degree. However, it must be remembered that a large number of the people who took this course had already been hired by an AVTI and needed this course to be licensed to teach. Therefore, the large number of people who enter vocational teaching after taking the course is reasonable. There was no significant difference in the proportion of people who entered vocational education into postsecondary and adult programs after taking the course.

3. Are there differences in the characteristics and career development patterns of the people who enter secondary, postsecondary or adult vocational education?

An important question which had to be addressed at the beginning of the analyses was, "Are there significant differences in the results obtained from people who completed the course and eventually went into postsecondary, secondary or adult vocational education?" The literature suggested there may be. If there were, the data would have to be analyzed separately for each of the variables on which the groups differed and separate results would have to be reported for each group.

Of the 199 people who completed the course and entered vocational education, nine of them did not report the level at which they taught. Therefore, data were available on 190 people as a basis for analyzing differences between the people who went into postsecondary, secondary or adult teaching after completing the course. The numbers of people who entered each type of teaching are presented in Table 2.

Table 2

Level at Which People Entered Vocational Education

Level	Number	Percent
Postsecondary	104	55.0
Secondary	12	6.4
Adult	74	38.6
	190	100.0

Most of the people went into postsecondary day-school programs (55.0%) and adult extension programs (38.6%). Only 6.4% taught in secondary programs. As was described in the population section of this report, because there were so few secondary people and they were essentially the same as the postsecondary people, the secondary people were combined with the postsecondary people throughout the analyses (see the population section).

Analyses showed there were significant differences between the postsecondary and adult groups on 21 variables. Therefore, it was not possible to generalize all results to the groups and separate analyses had to be conducted for each group.

Throughout this report differences among the postsecondary and adult groups are discussed for only those variables on which significant differences were found. If significant differences

among the groups were not found, the results were generalized to both groups.

4. What attracts people to enter vocational education?

People who completed the course and went into vocational education were asked "What attracted you to vocational education?" They were provided a list of 12 specific factors which they were asked to rate on a scale from 1 to 5, and an opportunity to indicate "other" factors. A rating of 1 indicated that it was not an important factor in attracting them. A rating of 5 indicated it was an important factor. Table 3 presents the mean ratings for each item and a ranking of the importance of each item as seen by the group. The two most important factors

Table 3

Factors Entering Into the Decision to Become a Vocational Educator (N=198)

Factor	Mean	Rank
Sharing what I know	4.338	1
Working with students	4.167	2
Work environment	3.480	3
Type of people I could work with	3.379	4
Ability to control what I do	3.268	5
Salary	3.086	6
Work schedule	3.035	7
Wanted a job change	3.030	8
Career advancement	2.955	9
Job security	2.354	10
Fringe benefits	2.328	11
Less stress in vocational education	2.253	12

in people deciding to become vocational educators where "sharing what I know" and "working with students". The two least

important factors were "less stress in vocational education" and "fringe benefits".

The results of this study are consistent with those reported by Bergsma and Chu (1981) and Page and Page (1981) which indicated that people preparing to become teachers in the 1980s were more interested in the intrinsic rewards of teaching than extrinsic rewards.

The postsecondary and adult vocational educators differed significantly on the extent to which they felt seven of these factors were important in attracting them to vocational education. Those factors were fringe benefits, sharing what I know, want a job change, career advancement, work schedule, job security, and ability to control what I do. The differences in the perceived importance of fringe benefits was due to postsecondary educators considering them to to be more important than the adult educators. This is logical since the postsecondary people would view teaching as their primary employment while many of the adult people would not view teaching as a full-time activity.

The differences in the perceived importance of "sharing what I know" were a reflection of a larger proportion of adult educators rating this item as "very" important as compared to postsecondary educators. However, the vast majority of the postsecondary educators also rated this factor high. The differences in "want a job change" were due to more postsecondary people rating this factor high as compared with the adult people. This makes sense since they were actually changing their primary employment where most of the adult educators tend to view teaching as a part-time job.

The difference in the perceived importance of "career advancement" as attracting people to vocational education was due to the postsecondary people considering this to be more important than the adult people. This also makes sense since many of the people who teach as adult instructors are not necessarily interested in changing their careers to become full-time teachers. The work schedule associated with education was perceived as more important to the postsecondary educators than the adult educators. Postsecondary people perceived job security as more important than the adult people. The postsecondary people perceived the "ability to control what I do" as being a more important attraction to vocational education than the adult educators.

In summary, the significant differences between the groups on seven of the factors which attracted them to vocational education appeared to be due to the adult people not perceiving their vocational teaching as their primary employment. Therefore, issues such as career advancement, fringe benefits, want a job change, work schedule and security were not as important to them as they were to the postsecondary educators. The adult educators also tended to be more concerned about

sharing what they know and less concerned about controlling their environment. These findings tend to agree with the suggested orientation of adult vocational educators described by Bender and Hammons (1972) and Schafer (1976).

5. What are the characteristics of people who enter vocational education without degrees in education?

Age

Of the 199 who entered vocational education, 75 (37.7%) were females and 124 (62.3%) were males. Table 4 presents the age

Table 4

Age Distribution of
People Who Entered Vocational Education

Age	Number	Percent
25 and under	12	6.2
26-30	52	26.8
31-40	72	37.1
41-50	41	21.1
51-60	12	6.2
61-65	4	2.1
66 and over	1	0.5
Total	194	100.0

median 35

distribution of the group that entered vocational education when they completed the course. The median age of the people who entered vocational education after completing the course was 35. Thirty-three percent of the people were 30 years of age or under, and 2.6% were over 60 years of age.

There was a significant difference in the age distributions of the postsecondary and adult people. The postsecondary group was younger than the adult group. The postsecondary group had a median age of 33 and the adult group a median age of 38.

Prior Teaching Experience

About 61% of the people who entered vocational teaching had prior teaching experience while 39% did not. There was a significant difference in the amount of prior private vocational school teaching experience among the postsecondary and adult groups. More of the postsecondary teachers had private vocational school experience than the adult teachers.

Prior Education

Ninety-five percent of the people who entered vocational education had a high school diploma, and 0.5% had no high school education. About 41% of the people had a vocational school diploma and 10.5% had some vocational school education. There was a significant difference in the amount of prior vocational school education among the postsecondary and adult groups. More of the postsecondary group had vocational school diplomas than did the adult group.

Table 5 presents the amount of college education of the people who entered vocational education. About 29 percent of

Table 5

Amount of College Education of
People Who Entered Vocational Education

Education	Number	Percent
No College	57	28.7
Some College	74	37.2
2 Year Degree	10	5.0
4 Year Degree	36	18.1
Some Graduate School	15	7.5
Master's Degree	6	3.0
Doctorate	1	0.5
Total	199	100.0

the people who entered vocational education had no college education and about 29% had a 4-year degree or higher in fields other than education (e.g., economics, chemistry, nursing). People who had 4-year degrees or higher in education did not take the course.

Vocational Fields Entered After Taking the Course

Table 6 indicates the vocational fields of the people who entered vocational education after completing the course. The largest number of people without degrees in education entered trade and industrial (24.6%), technical (23.0%), and health occupations programs (19.4%). The smallest number entered

Table 6

Vocational Fields of People
Who Entered Vocational Education

Field	Number	Percent
Agriculture	4	2.1
Business and office	17	8.9
Health occupations	37	19.4
Home economics	19	9.9
Marketing	3	1.6
Related subjects	20	10.5
Technical	44	23.0
Trade and industry	47	24.6
Total	191	100.0

agricultural (2.1%) and marketing (1.6%) programs. This is expected since the preferred licensure for agricultural and marketing teachers is that they have a degree in agricultural or marketing education.

Post-Course Vocational Education Teaching Activity

People were asked whether they had been employed in public or private vocational education programs after completing the course. About 80% said they had been employed in public vocational education, 16.6% in private vocational education and 3.5% in both public and private vocational education. The average number of months taught by the adult group during the five years after completing the course was 34.7 and the average number of months taught by the postsecondary group was 37.8.

They were also asked if they had taught in the military, other public or private schools, or the private sector (industry). Two percent said they had taught in the military, 11% said they had taught in other public or private schools, and 12% said they had taught in the private sector.

There was a significant difference in the number of postsecondary and adult instructors that taught in private vocational education. Fewer adult instructors taught in private vocational education than postsecondary instructors.

6. What initial roles do the non-education degreed people play within vocational education?

People were asked to indicate their roles within vocational education upon initially completing the course. Table 7 presents the entry roles of people who entered vocational education after completing the course and the roles people were in after 5 years. Eighty-nine percent of the people initially became vocational program instructors (e.g., taught occupational skills such as machine shop, accounting, etc.). Four and one-half percent became related instructors (e.g., taught math, English, etc.). There was a significant difference in the number of postsecondary and adult people who became related instructors after completing the course. A larger proportion of postsecondary people became related instructors than adult people.

Although Table 7 also presents the roles people were in after 5 years, those data will not be discussed at this point. They are discussed later in relation to objective 9.

Table 7

Roles of Non-Degreed
People In Vocational Education

	At Entry (N=198)		After Five Years (N=100)	
Role	Number	Percent	Number	Percent
Instructional assist.	7	3.5	3	3.0
Related instructor	9	4.5	1	1.0
Instructor	176	89.0	89	89.0
Supervisor	1	0.5	3	3.0
Administrator	1	0.5	2	2.0
Support staff	4	2.0	2	2.0

7. What portion of the group which enters vocational education remains after five years?

Of the 199 people who entered vocational education after completing the course, 51.8% (103) were still in vocational education after 5 years. An analysis of the number of postsecondary instructors who remained vs. the number of adult extension instructors indicated that the percentages were almost identical (51.9% postsecondary instructors and 54.8% of the adult extension instructors). This result was unexpected. It was expected that the turnover among adult instructors would be much higher than postsecondary instructors since in many cases adult instructors teach on a part-time basis.

In comparison to past research and projections received from the Minnesota State Department of Education staff, the turnover rate was quite high. Bryant (1980) found over 50% of the agricultural education degree graduates who entered teaching left the field of teaching for another occupation during a 15 year period. Statistics compiled from the Minnesota State Department of Education indicated that approximately 4% (Delgehausen, 1986) of the instructors left AVTI teaching each year. This would mean that one would expect 20% of the new people to leave during a 5-year period if they left at the average rate of all AVTI instructors. Apparently they do not. These beginning non-degreed instructors left at a rate 2.5 times faster.

8. In what professional upgrading activities do people who remain in vocational education after 5 years engage?

People were asked to provide information about the college credit courses, non-credit workshops, and related work experiences they took part in during the 5 years. They were also asked whether they perceived employment advantages in vocational education of having a college degree in vocational education, and whether the courses they took were applied toward a degree.

College Credit Courses

Over 90% of the people who were employed in vocational education throughout the 5-year period took part in professional education college-credit courses. The majority of people took at least one course in instructional methodology (82%), vocational education (74%), and other education courses (55.5%). In addition, the majority took part in technical updating courses (70%). The largest number of people took between one and four courses in each category. Table 8 presents the numbers of people who took different numbers of each type of course.

The amount of college credit courses taken was higher than expected. Conversations with administrators, SBVTE staff, and others prior to the study implied that teachers were taking only those credit courses required for licensure. The actual numbers of courses taken far exceeded those needed for licensure. In

Table 8

Type and Amount of
Professional Courses Taken (N=103)

	Instructional Methodology		Technical Updating		Vocational Education*		Other Courses	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
0 Courses	18	18.0	31	30.0	27	26.0	46	44.5
1-4 Courses	56	54.0	48	46.0	71	69.0	46	44.5
5-8 Courses	26	25.0	11	11.0	3	3.0	7	7.0
9-12 Courses	2	2.0	4	4.0	1	1.0	1	1.0
31+ Courses	1	1.0	9	9.0	1	1.0	3	3.0

* Vocational education courses NOT including instructional methodology or technical updating courses

order to obtain a five-year teaching license people would only have needed to take 3 more instructional methodology courses, 1 vocational education course, and 1 "other" course (e.g., human relations). They were not required to take any technical updating courses.

The data revealed a significant difference between the postsecondary and adult groups on the numbers of courses taken in the instructional methodology and vocational education areas. The difference was due to proportionately more postsecondary people taking more of these courses as compared with the adult people. The finding that adult instructors did not take as many instructional methodology and vocational education courses as postsecondary instructors supports the paper written by Schafer (1976) which stated that adult educators are less willing to participate in development activities. However, it tends to contradict the opinion of Bender and Hammons (1972) that adult vocational educators are concerned with their professional development.

The finding that about 70% of both groups took part in technical updating courses was surprising. Particularly in light of the fact that licensure rules do not require either group to take part in such courses during the first five years of teaching.

Perceived Employment Advantages of a Vocational Education Degree

People were asked whether they perceived employment advantages in vocational education of having a degree in vocational education. They were asked to judge whether there was an advantage in each of the eight areas presented in Table 9.

Over eighty-five percent of those responding indicated there were one or more advantages. The majority felt that a degree in vocational education was an advantage in terms of "opportunity for advancement" (67.7%) and "salary" (56.3%). People felt a degree was least advantageous in terms of "type of people I can work with" (22.9%) and "fringe benefits" (20.8%).

Table 9

Perceived Advantages of
Having a Degree in Vocational Education (N=96)

Advantages	Number	Percent
Opportunities for advancement	65	67.7
Salary	54	56.3
Teaching competence	43	44.8
Type of work I can do	40	41.7
Job security	39	40.6
Acceptance by other staff	38	39.6
Type of people I can work with	22	22.9
Fringe benefits	20	20.8

There was a significant difference between the post-secondary and adult groups in their perceptions of 3 advantages of having a degree. More of the adult people perceived a degree as influencing their job security, future acceptance in vocational education, and fringe benefits than people in the postsecondary group.

Pursuit of Degrees

People were also asked whether they applied the professional education courses they took toward a degree. Twenty-five percent said yes and 75% said no. Table 10 presents the types of degrees toward which these people applied their courses. The largest

number of people were applying the courses toward a bachelor's degree (13%). Seven percent were applying them toward a graduate degree and 5% toward an associate degree.

Twenty of the people who were working toward a degree actually completed one during the 5-year period. Two completed an AS/AA degree, 14 a BS/BA degree, and 4 an MS/MA degree. In other words, about 20% of the people who remained in vocational education throughout the 5-year period completed degrees.

Table 10

Degrees Toward Which
Professional Education Courses Were Applied

Degree	Number	Percent
None	75	75.0
AS/AA	5	5.0
BS/BA	13	13.0
MS/MA	6	6.0
EdD/PhD	1	1.0
Total	100	100.0

Non-Credit Workshops

People were also asked to indicate the number and type of workshops they engaged in that were not for college credit. Table 11 presents the results. Over ninety-five percent of the people who were employed in vocational education during the 5-year period took part in one or more types of non-credit workshops. The largest number of workshops taken were through business and industry (63.1%) and school/districts (51.5%). The fewest people participated in state/government workshops (27.2%), or workshops from private consultants (34.0%). About 40% indicated they participated in non-credit workshops through colleges, and 14.6% said they attended workshops other than those indicated.

The postsecondary and adult groups differed significantly in the numbers of school/district sponsored workshops they took. The postsecondary group took proportionately more than the adult group.

Table 11

Amount and Types of
Non-College Credit Workshops (N=103)

Type	Number	Percent
Business/Industry workshops	65	63.1
School/Districts workshops	53	51.5
College University workshops	41	39.8
Private Consultants workshops	35	34.0
State/Govt. workshops	28	27.2
Other	15	14.6

Related Work Experience

People were also asked to indicate the related work experience they had during the 5 years they were in vocational education. Work experience was defined as working in an occupational area related to what they were teaching. It did not include teaching. Table 12 presents the results. The data included both months of full and part-time work experience. Over 81% indicated that they participated in work experience related to their vocational education role during the 5-year period. The largest number of people (46.6%) indicated that they had between 49 and 60 months of related work experience during the period. Sixty-nine percent of the postsecondary group and 96% of the adult group participated in 7 or more months of related work experience during the 5-year period. The average number of months of related work experience for the postsecondary group was 30.1 and the average number of months for the adult group was 50.5.

There was a significant difference in the amount of related work experience between the postsecondary and adult groups. This is not surprising since the adult group was working at another job, presumably related to what they were teaching, throughout the 5-year period.

The amount of related work experience people had was surprising because there was no requirement that teachers engage in related work experience during the first five years of teaching. However, the majority of both the postsecondary and adult people engaged in a substantial amount of related work experience.

Table 12

Related Work Experience During the Five Years

Months	Number	Percent
None	20	19.4
6 or less	8	7.8
7 - 12	3	2.9
13 - 24	6	5.8
25 - 36	10	9.7
37 - 48	8	7.8
49 - 60	48	46.6
Total	103	100.0

9. What roles are people who stay in vocational education in after 5 years?

Table 7 presents data on the roles the people were in after 5 years. The vast majority (89.0%) of the people who were still in vocational education after 5 years were in the role of a vocational program instructor. Five percent were supervisors or administrators, 1.0% were related instructors, 3.0% were instructional assistants, and 2.0% were support staff. Twenty-four percent of the group occupied more than one role during the 5 years.

10. What factors influence the group which leaves vocational education to leave?

Ninety-six (48.2%) of the 199 people who entered vocational education after taking the course left during the 5-year period. Table 13 presents 13 possible reasons why people might leave vocational education. People were asked to rate each reason on a scale ranging from 1 to 5. A rating of 1 indicated that it was not an important reason for leaving, and a rating of 5 indicated it was an important reason. The mean racing for each of the 13 reasons was calculated and the reasons were ranked based on the means. The two most important reasons for leaving among those given were "career advancement" and "position was eliminated". The two least important reasons were "did not like vocational education" and "students".

These reasons tend to agree with some of those reported in the literature. Frataccia and Hennington (1982) found that the major reasons teachers gave for resigning their positions were

Table 13

Reasons for People Leaving
Vocational Education (N=93)

Reason	Mean	Rank
Career advancement	2.656	1
Position was eliminated	2.473	2
Work schedules	2.330	3
Salary	2.258	4
Type of people I could work with	2.065	5
Work environment	2.000	6
Fringe benefits	1.989	7
Stress	1.978	8
Wanted a job change	1.839	9
To maintain occupational competence	1.828	10
Family reasons	1.753	11
Did not like vocational education	1.688	12
Students	1.645	13

job advancement, and low salaries. Knight and Binder (1978) identified five reasons why high school vocational agricultural teachers left their positions. Among them were long range career, inadequate advancement opportunities, and low pay. Among the reasons identified by Cole (1983) was money.

The major discrepancy between the results of this study and those of other studies was the extent to which dissatisfaction with students and vocational education was a factor in leaving. This may be due to the fact that the subjects of this study were in the first two stages of McKenna's model of career development as contrasted with the majority of people who are teaching. Therefore, the beginning teachers of this study were still at the stages where they were trying to establish themselves as contrasted with being in the later stages of their careers when dissatisfaction with students or education may appear as primary reasons for leaving. Further study of this group as they move

into the latter stages of development might reveal different results.

The other major reason for leaving identified by this study was "position was eliminated." Since those beginning non-degreed teachers were the last hired, they were probably the first released. This may account in part for the large turnover rate among these people reported above.

The postsecondary and adult groups differed significantly on three reasons for leaving vocational education: fringe benefits, career advancement, and family reasons. Proportionately more of the postsecondary group indicated fringe benefits and career advancement as reasons for leaving vocational education than the adult group. This makes sense because most of the adult group probably did not see teaching as their primary occupation. Proportionately more of the adult group left for family reasons.

11. What is the nature of the subsequent employment of those who leave vocational education?

People who left vocational education during the 5 years were asked to indicate what they did after leaving. They were presented seven possible activities in which they might have engaged after leaving and an opportunity to list other reasons. Table 14 presents the results. The majority (55.3%) went into private employment in business and industry. About 13% became self-employed, 8.5% went into public employment, 7.4% were between jobs, 4.3% attended school, and 1.1% became homemakers. About 11% listed other reasons.

The fact that many people indicated they left vocational education for career advancement is consistent with what they did after leaving. They entered private or self-employment. Relatively few continued with public employment.

There was a significant difference between the postsecondary and adult groups on the number of individuals who indicated that they participated in "other" activities after leaving vocational education. More of the adult group listed "other" activities than did the postsecondary and secondary groups.

12. What do course completers who did not enter vocational education do after completing the course?

Forty of the 51 people who did not enter vocational education after completing the course indicated what they did after completing the course. Since this group never entered vocational education, it was not possible to analyze their data relative to postsecondary and adult programs. Table 15 shows that the majority went into private or public employment (65%) and 12.5% went into self-employment. An examination of the reasons why people enrolled in the course presented in Table 1 showed that 56 people took the course for reasons other than to

Table 14

What People Did After
Leaving Vocational Education

Activity After Leaving	Number	Percent
Went into private employment	52	55.3
Became self-employed	12	12.8
Went into public employment	8	8.5
Was between jobs	7	7.4
Attended school	4	4.3
Became a homemaker	1	1.1
Went into military	0	0.0
Other	10	10.6
Total	94	100.0

obtain an initial teaching license. An analysis was conducted to determine the reasons why the 40 people who did not enter vocational education enrolled in the course. This was done to determine the extent to which they never intended to use the course as a basis for teaching in vocational education. Forty percent of 40 people who did not enter vocational education originally took the course as a basis for exploring the possibility of becoming a vocational teacher. Another 10% took the course as a basis for teaching in private industry, and 5% took it for salary advancement or "other" reasons. Only 18 (45%) of the 40 people who did not enter vocational education took it to become initially licensed as a vocational instructor.

Therefore, only approximately 10% of the group (194) that originally took the course for the purpose of becoming initially licensed to teach in vocational education, presented in Table 1, did not eventually become employed in vocational education.

Table 15

What Those Who Did Not Enter Vocational Education Did Do

	Number	Percent
Went into private employment	14	35.0
Went into public sector employment	12	30.0
Became self-employed	5	12.5
Became a homemaker	2	5.0
Between jobs	1	2.5
Attended school	1	2.5
Went into military	0	0.0
Other	5	12.5
	40	100.0

CHAPTER 5

SUMMARY AND CONCLUSIONS

Summary

This study followed up a group of 401 people without degrees in education who entered, or were planning to enter vocational education teaching 5 years prior to the study. The group completed the first course required for non-education degreed vocational teacher licensure in Minnesota (Introduction to Vocational Industrial Teaching) through the University of Minnesota between September, 1980 and December, 1981. They were preparing to enter vocational education at the postsecondary, secondary, or adult level. Because of the small number of secondary people and their similarity to the postsecondary people in terms of teaching environment, curriculum taught, and the way they were selected, the 12 secondary people were combined into the postsecondary group. The following summary and conclusions are based on the responses from the 250 people who responded to the questionnaire. The reader should take into account that data were not available from all course participants. The major goal of the study was to examine the career and professional development of the group in order to improve the staff development of such people in the future.

People took the course for a variety of reasons. The primary reason was to obtain initial vocational licensure (77.6%). This was expected because many of the people were already employed by a postsecondary Area Vocational Technical Institute (AVTI) and needed the course to become a licensed teacher. Significantly fewer adult people took it for initial licensure than postsecondary people. The next most important reason for taking the course was to explore vocational education as a career (14%).

The two most important factors which attracted people to become vocational educators were their desire to share what they know and to work with students. These reasons appear to be altruistic and agree with the literature regarding why people enter education. The two least important factors were "less stress in vocational education" and "fringe benefits". The postsecondary and adult groups differed significantly on a number of the factors which attracted them to vocational education. These differences were in the extent to which the groups were attracted by fringe benefits, sharing what they know, wanting a job change, career advancement, work schedule, job security, and the need to control what they do. Most of these differences appeared to be based on the fact that more postsecondary people perceived these as important as compared to the adult people because teaching is their primary occupation while it is usually a part-

time job for the adult people. However, the adult educators tended to be relatively more concerned about sharing what they know. These findings tend to agree with the suggested orientation of adult vocational educators described by Bender and Hammons (1972) and Schafer (1976) reported in the review of the literature.

Of the 250 people who responded, 79.6% (199) actually entered vocational education. Of the 199 who entered vocational education, 75 (37.7%) were females and 124 (62.3%) were males. The median age of the people who entered vocational education after completing the course was 35. There was a significant difference in the age distributions of the postsecondary and adult people. The postsecondary group had a median age of 33 and the adult group a median age of 38.

Ninety-five percent of the people had graduated from high school, 40.7% had completed a vocational school program, and 71.3% had attended at least some college with 29.1% having received at least a 4-year degree in a field other than education. There was a significant difference in the amount of prior vocational school education among the postsecondary and adult groups. More of the postsecondary group had vocational school diplomas than did the adult group.

The majority, 61% of the people who entered vocational teaching, had prior teaching experience. There was a significant difference in the amount of prior private vocational school teaching experience among the postsecondary and adult groups. More of the postsecondary teachers had private vocational school experience than the adult teachers.

The largest numbers of people who entered vocational education entered technical, trade and industrial, and health occupations programs. The smallest numbers entered agricultural and marketing programs. This finding was consistent with the Minnesota licensure requirements in these fields and past practice.

About 80% of the people who entered vocational education said they had been employed in public vocational education, 16.6% in private vocational education and 3.5% in both public and private vocational education. The average number of months taught by the adult group during the five years after completing the course was 34.7 and the average number of months taught by the postsecondary group was 37.8.

They were also asked if they had taught in the military, other public or private schools, or the private sector (industry). Two percent said they had taught in the military, 11% said they had taught in other public or private schools, and 12% said they had taught in the private sector.

There was a significant difference in the number of postsecondary and adult instructors that taught in private

vocational education. Fewer adult instructors taught in private vocational education than postsecondary instructors.

While in vocational education, the people occupied a number of different roles. The majority entered vocational education as an occupational program instructor (89%). During the 5 years, 95% of the people who stayed in vocational education served in the role of a program instructor. Twenty-four percent of the group occupied more than one role during the 5 years. There was a significant difference in the numbers of postsecondary and adult people who became related instructors after completing the course. A larger proportion of postsecondary people became related instructors than adult people.

The majority of the group participated in professional development activities. They participated in additional college-credit courses (90.3%), non-college credit workshops from a variety of agencies (95.1%), and related work experience (81.0%). The amount of college credit courses taken by both groups exceeded that required for licensure. This included pedagogical and technical updating credit courses.

The data revealed a significant difference between the postsecondary and adult groups in the numbers of courses taken in instructional methodology and vocational education. Proportionately more postsecondary people took more of these courses as compared with the adult people. This finding supported the paper written by Schafer (1976) which stated that adult educators are less willing to participate in development activities. However, this finding must be placed into the perspective that teaching is a part-time job for the adult people. In that perspective, they took part in a substantial amount of professional development activity.

The data also revealed a significant difference between the groups in the amount of related work experience which included both months of full and part-time work experience. Sixty-nine percent of the postsecondary group and 96% of the adult group participated in 7 or more months of related work experience during the 5-year period. The average number of months of related work experience for the postsecondary group was 30.1 and the average number of months for the adult group was 50.5. This difference is not surprising since the adult group was working at another job, presumably related to what they were teaching, throughout the 5-year period. What is surprising is the amount of related work experience taken by both groups since there was no licensure requirement requiring related work experience during the five year period.

The majority of the people felt there were employment advantages to having a degree in vocational education vs. not having a degree (85.4%). Twenty-five percent of the people were applying the college-credit courses they were taking toward a degree. Significantly more of the adult people perceived a degree as influencing their future opportunities for advancement,

acceptance in vocational education, and their fringe benefits than people in the postsecondary group. This may be due to the fact that if they had a degree they might be interested in being employed full-time in vocational education.

Five years after entering vocational education, only 51.8% (103/199) of the group was still in vocational education. This attrition rate exceeded the average rate at which AVTI instructors tended to leave teaching. Data obtained from the Minnesota Department of Education indicated that the average expected rate was about 4% per year. Over a 5 year period about 20% of the people would have been expected to leave vocational education as contrasted with 51.8%. Therefore, the attrition rate for this group was about 2.5 times higher than that for all AVTI instructors. This attrition rate was also higher than that typically reported in the literature.

The two most important reasons for people leaving vocational education were for career advancement and because their jobs were eliminated. The two least important reasons were "did not like vocational education" and "students". The postsecondary and adult groups differed significantly on three reasons for leaving: fringe benefits, career advancement, and family reasons. The postsecondary group indicated fringe benefits and career advancement were relatively more important reasons and the adult group indicated that family reasons were relatively more important for leaving vocational education.

Over 68% percent of those who left vocational education entered private employment or became self-employed. This finding is consistent with the finding that one of the primary reasons for these people leaving vocational education was career advancement.

Conclusions

People without degrees in education are entering each of the vocational fields at the postsecondary and adult levels. They are entering for altruistic reasons such as a desire to share what they know and to work with students. These findings tend to agree with the literature. Bergsma and Chu (1981), and others, found that people preparing to become teachers in the 1980s were primarily interested in the intrinsic rewards of teaching. Although the postsecondary and adult groups differed significantly on a number of the factors which attracted them to vocational education, the data gathered from the groups were more alike than different.

About two-thirds of the group that entered were males and one-third were females. The majority of the people had previous teaching experience. The median age of the group was 35 with the adult group being somewhat older than the postsecondary group. The fact that the median age of the group that entered vocational education was 35 was surprising because it had been generally assumed that a large number of the non-degreed vocational people

entered vocational education after many years of being in another career of which they tired. If this were true, the median age should have been older. Therefore, it appears that assumption is not correct.

About 80% of the people who entered vocational education said they had been employed in public vocational education, 16.6% in private vocational education and 3.5% in both public and private vocational education. Fewer adult people entered private vocational education programs than postsecondary people. The largest number of people who entered vocational education entered technical, trade and industrial, and health occupations programs.

The majority of the people perceived education degrees as being of value. Although there were some differences between the postsecondary and adult groups in their relative amounts of professional activity; they participated in substantially more college credit courses, non-credit workshops, and work experience activities than were required for minimal licensure as a teacher. Both groups appeared to have a common commitment to career and professional development as teachers.

These findings conflict with a commonly held belief stated by many administrators of vocational education in Minnesota that vocational educators tend to take only those courses and professional development activities required for licensure. However, the large amount of professional development activity on the part of the people in this study must be placed in a career development context. These beginning non-degreed teachers were in their early stages of career development which are characterized by enthusiasm and efforts to establish themselves as educators. These findings should not be generalized to teachers in latter stages of career development without further study.

An examination of the number of months the adult group taught after completing the introduction course vs. the postsecondary group implies that the adult teacher group is not as transient as might have previously been thought. There was no overall significant difference in the number of months taught. However, data were not gathered regarding how much time was spent during a given month teaching, so a person could have been teaching part-time vs. full-time and that difference would not have been detected. It appears that many adult instructors have a long-term commitment to teaching.

During the 5-year period, 48.2% of the non-degreed people who entered vocational education after taking the introduction to vocational teaching course had left. This high attrition rate among the non-education degreed vocational educators should be a concern. It is 2.5 times higher than the expected rate for all AVTI instructors. In light of the large amount of professional and technical skill development activities of the group who entered vocational education, such a loss of people from vocational education is costly. However, the primary reasons for

people leaving vocational education may be unavoidable. People will leave for career advancement, and if their positions are eliminated. The two least important reasons for people leaving were "did not like vocational education" and "students".

These findings regarding the reasons why people leave partially agree with the findings of other studies in the literature. They agree in the finding that career development was an important reason. They did not agree with the literature which indicates that primary reasons for leaving teaching are dissatisfaction with students and teaching. This study found that those were the least important reasons. Again, this may be due to the career development stage of the people in this study. The career development models reviewed suggest that dissatisfaction with teaching does not tend to occur until people are in their latter stages of career development. A partial explanation for such a large number of people in this study leaving vocational education was that they were last hired and, therefore, they were first fired.

Although some differences between the postsecondary and adult groups were found on some of the variables in this study, the data gathered from the groups were more alike than different. The differences detected appear to be due to whether people perceive teaching as their primary or secondary occupation. The postsecondary teachers typically enter full-time teaching positions and, therefore, teaching is their full-time job. The adult teachers typically are employed full-time somewhere else and teaching is their secondary occupation. These differences are reflected in the extent to which the groups are concerned about variables such as fringe benefits, career advancement, work schedule, and job security.

The results also provide some insights into the recruitment of vocational teachers. The large number of people who entered vocational education who had previously completed a vocational school program (40.7%) was unexpected. However, this finding may be useful in recruiting future vocational teachers. Information might be presented to the people enrolled in vocational education programs which encourages them to consider a career as a vocational teacher. Also, the data indicate that the Introduction to Vocational Industrial Teaching course served as a vehicle for people to explore vocational teaching as a profession. A number of the people responded that this was their primary motivation in taking the course.

Based on the results of this study, it appears that the non-education degreed vocational educator is motivated to help students learn what they know, is interested in improving professional education skills to do it more effectively, and is interested in continuing to update technical skills. A substantial number that enter vocational education leave during their first five years. This should be a concern because of the substantial waste of resources that takes place when this occurs.

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APPENDIX A

VOCATIONAL TEACHER FOLLOW-UP SURVEY

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VOCATIONAL TEACHER FOLLOW-UP SURVEY

COMPLETE THOSE SECTIONS THAT APPLY TO YOU.

Section A — Background Information

1. Indicate your formal education completed prior to enrolling in the Introduction to Vocational-Industrial Teaching course. (*Check all that apply*)

_____• Some high school
_____• High school diploma
_____• Some vocational school
_____• Vocational school diploma
_____• Some college
_____• 2 year college degree
_____• 4 year college degree
_____• Some graduate school
_____• Master's degree
_____• Doctorate degree
_____• Other: (*Describe*) _____

2. Sex: _____M _____F

3. Present age: _____

4. Indicate your primary reason for taking this course? (*Check one*)

_____• Needed for initial vocational teaching license
_____• Used to renew a non-vocational teaching license
_____• For salary advancement credit
_____• Explore vocational education as a career alternative
_____• Prepare for private sector employee training
_____• Other: _____

5. Do you have a current vocational teaching license?

_____Yes _____No

6. Did you teach prior to enrolling in the Introduction to Vocational-Industrial Teaching course?

_____Yes (*Continue*) _____No (**IF NO, GO TO SECTION B on page 2**)

7. Indicate the number of months you taught in each of the following prior to taking the Introduction course.

No. of months

_____• Military
_____• Public vocational school
_____• Private vocational school
_____• Other public or private school
_____• Private sector employee training
_____• Other: _____

CONTINUE WITH SECTION B

Section B

1. Were you *ever* employed in a **public or private school vocational program** *after* completing the Introduction to Vocational-Industrial Teaching course? (*Include college or university position*)

   _____Yes (Continue) _____No (**IF NO, PLEASE GO TO SECTION D on page 6**)

2. Were you employed in a public or private vocational school?

   _____Public

   _____Private

3. What attracted you to vocational education? On a scale of 1 to 5, with 1 = not very important, and 5 = very important, indicate how important each of the following factors was in attracting you to vocational education.

   1 2 3 4 5 Salary
   1 2 3 4 5 Fringe benefits
   1 2 3 4 5 Work environment
   1 2 3 4 5 Working with students
   1 2 3 4 5 Sharing what I know
   1 2 3 4 5 Less stress in vocational education
   1 2 3 4 5 Wanted a job change
   1 2 3 4 5 Career advancement
   1 2 3 4 5 Work schedule
   1 2 3 4 5 Job security
   1 2 3 4 5 Ability to control what I do
   1 2 3 4 5 Type of people I could work with
   1 2 3 4 5 Other (*Please specify*)_____

4 What was your role within vocational education **immediately** after completing the Introduction course? (*Check one*)

   _____• Instructional assistant

   _____• Related instructor (*e.g., Related math, communications*)

   _____• Instructor (*Including lead instructor*)

   _____• Supervisor (*e.g., Department head*)

   _____• Administrator

   _____• Support staff (*e.g., Counselor, financial aids*)

   _____• Other: _____

5. If you were an instructor, what was your first teaching specialty *after* completing the Introduction to Vocational-Industrial Teaching course?

   _____

   (*Indicate name of subject or occupation*)

6. How many months have you taught vocational education at each of the following levels?

   _____• Adult extension

   _____• Postsecondary

   _____• Secondary

7. Indicate the number of months you taught in each of the following after taking the Introduction course.

No. of months

_____• Military

_____• Public vocational school

_____• Private vocational school

_____• Other public or private school

_____• Private sector employee training

_____• Other: _____

8. Are you still employed in a public or private school vocational program? (*Include college or university position*)

_____Yes (Continue) _____No **(IF NO, PLEASE GO TO SECTION C on page 5)**

9. What roles have you served within vocational education since completing the Introduction course? (*Check all that apply*)

_____• Instructional assistant

_____• Related instructor (*e.g., Related math, communications*)

_____• Instructor (*Including lead instructor*)

_____• Supervisor (*e.g., Department head*)

_____• Administrator

_____• Support staff (*e.g., Counselor, financial aids*)

_____• Other: _____

10. What is your **current** role within vocational education? (*Check one*)

_____• Instructional assistant

_____• Related instructor (*e.g., Related math, communications*)

_____• Instructor (*Including lead instructor*)

_____• Supervisor (*e.g., Department head*)

_____• Administrator

_____• Support staff (*e.g., Counselor, financial aids*)

_____• Other: _____

11. If you are teaching, what is your present teaching specialty?

_____

(*Subject or occupation*)

12. Please indicate the *number* **of college courses you have completed in each of the following areas** *since* taking the Introduction course: (*Check the approximate number of courses taken*)

In areas related to instructional methodology, or course construction, testing etc.

_____ 0 courses
_____ 1-4 courses
_____ 5-8 courses
_____ 9-12 courses
_____ more than 13

In areas related to technical updating skills in the content area you are teaching (*e.g., Auto mechanics, nursing*).

_____ 0 courses
_____ 1-4 courses
_____ 5-8 courses
_____ 9-12 courses
_____ more than 13

In areas related to vocational education (*e.g., Philosophy of vocational education*), but not instructional methodology or technical updating.

_____ 0 courses
_____ 1-4 courses
_____ 5-8 courses
_____ 9-12 courses
_____ more than 13

In other education courses.

_____ 0 courses
_____ 1-4 courses
_____ 5-8 courses
_____ 9-12 courses
_____ more than 13

13. Were any of the above courses applied towards a degree?

_____No _____Yes (*If yes, indicate the type(s) of degree.*)

AS/AA_____ BS/BA_____ MS/MA_____ EdD/PhD_____ Other _____

14. Did you complete a degree?

_____No _____Yes (*If yes, indicate the degree(s) you have completed.*)

AS/AA_____ BS/BA_____ MS/MA_____ EdD/PhD_____ Other _____

15. Please indicate the approximate *number* of workshops, conferences, seminars, etc., which you have attended *since* completing the Introduction course, and which were *not taken for college credit.* (*Check the approximate number*)

Sponsored by:

Business/Industry	_____0	_____1-4	_____5-8	_____9-12	_____13+
State/Govt.	_____0	_____1-4	_____5-8	_____9-12	_____13+
School/District	_____0	_____1-4	_____5-8	_____9-12	_____13+
Private Consultants	_____0	_____1-4	_____5-8	_____9-12	_____13+
College/University	_____0	_____1-4	_____5-8	_____9-12	_____13+
Other	_____0	_____1-4	_____5-8	_____9-12	_____13+

16. Indicate your related work experience since taking the Introduction course. Indicate the total amount of time you have worked at each job title or occupation. Do *NOT* list employers. (*e.g., If you sold cars and furniture for different employers you would indicate the total amount of months as a "SALESPERSON."*)

1. Job Title: _____

   Length of work experience (*In months*) _____

2. Job Title: _____

   Length of work experience (*In months*) _____

3. Job Title: _____

   Length of work experience (*In months*) _____

4. Job Title: _____

   Length of work experience (*In months*) _____

17. Comparing non-degreed persons with degreed persons in vocational education, do you believe having a degree in vocational education is an advantage in the following areas?

Yes	No	
_____	_____	• Job security
_____	_____	• Opportunities for advancement
_____	_____	• Acceptance by other staff
_____	_____	• Salary
_____	_____	• Fringe benefits
_____	_____	• Teaching competence
_____	_____	• Type of people I can work with
_____	_____	• Type of work I can do
_____	_____	• Other: _____

FOR THOSE WHO ARE STILL IN VOCATIONAL EDUCATION, YOUR PART OF THE SURVEY IS *COMPLETED.* Thank you.

Section C

1. Why did you leave vocational education? On a scale of 1-5, with 1 = not very important, and 5 = very important, please indicate how important each of the following factors was in your decision to leave vocational education.

1 2 3 4 5	Salary
1 2 3 4 5	Fringe benefits
1 2 3 4 5	Work environment (*Inside work, outside work, etc.*)
1 2 3 4 5	Career advancement
1 2 3 4 5	Work schedules
1 2 3 4 5	Type of people I could work with
1 2 3 4 5	Stress
1 2 3 4 5	Position was eliminated
1 2 3 4 5	Students
1 2 3 4 5	Did not like vocational education
1 2 3 4 5	To maintain occupational competence
1 2 3 4 5	Wanted a job change
1 2 3 4 5	Family reasons
1 2 3 4 5	Other: _____

2. Indicate what you did immediately after leaving vocational education:

_____• Went into private employment (*e.g., Business, industry*)

_____• Went into public sector employment (*e.g., Government*)

_____• Became self-employed

_____• Became a homemaker

_____• Was between jobs

_____• Attended school

_____• Went into the military

_____• Other: _____

3. Indicate the types of skills developed in vocational education that transferred to the activity in which you engaged immediately after leaving vocational education. (*Check all that apply*)

_____• Teaching experience was transferable

_____• Technical experience was transferable

_____• Supervisory experience was transferable

_____• Skills learned in handling people were transferable

_____• Other: _____

_____• No skills were transferred

FOR THOSE WHO LEFT VOCATIONAL EDUCATION, YOUR PART OF THE SURVEY IS *COMPLETED.* Thank you.

Section D

If you were never employed in a public or private school vocational program, indicate what you did immediately after taking the introduction to Vocational-Industrial Teaching course.

_____• Went into private employment (*e.g., Business, industry*)

_____• Went into public sector employment (*e.g., Government*)

_____• Became self-employed

_____• Became a homemaker

_____• Was between jobs

_____• Attended school

_____• Went into the military

_____• Other: _____

FOR THOSE WHO NEVER ENTERED A PUBLIC OR PRIVATE SCHOOL VOCATIONAL PROGRAM, YOUR PART OF THE SURVEY IS NOW *COMPLETED.* Thank you.

5a

APPENDIX B

Advisory Committee for the
Non-Degreed Vocational Teacher
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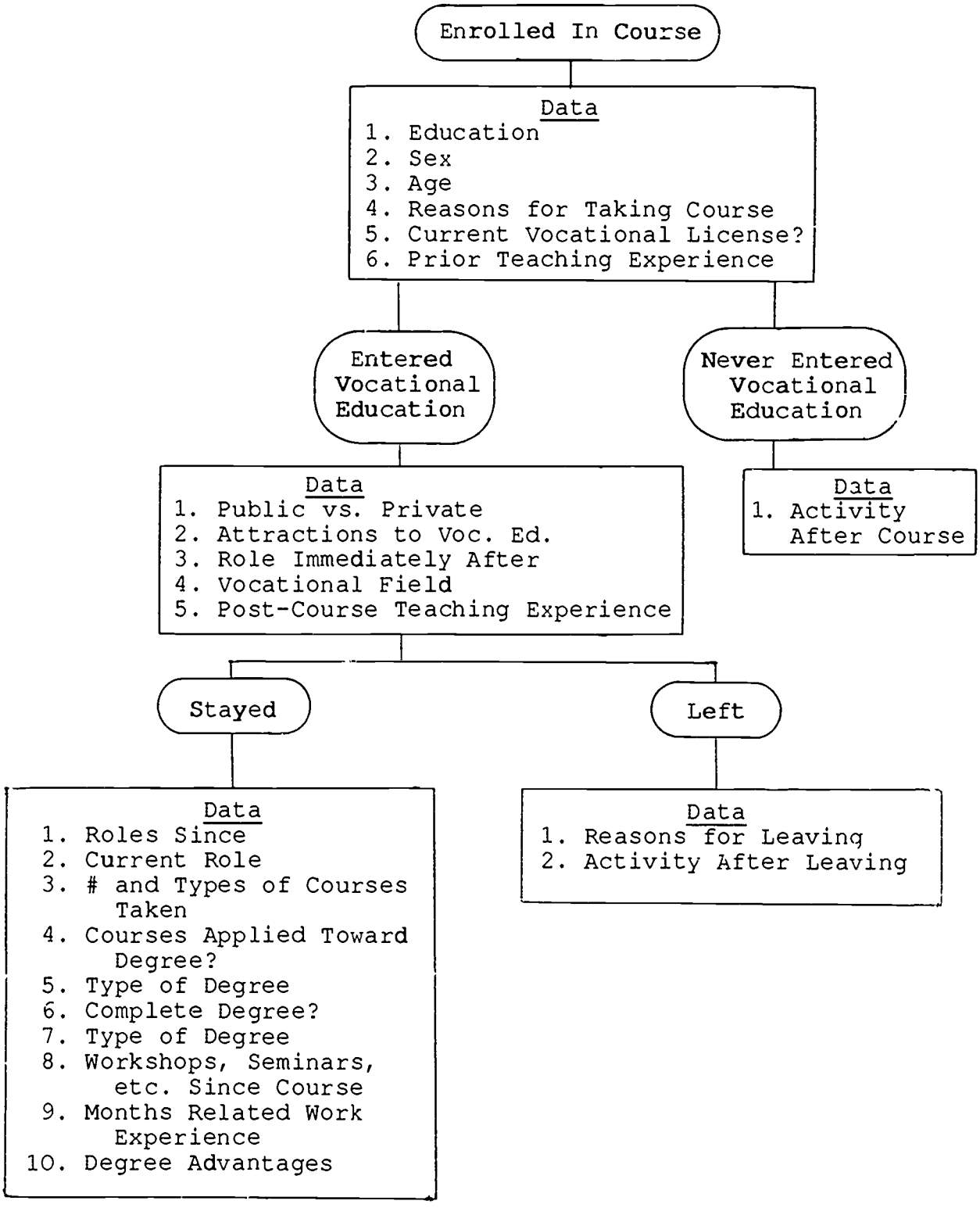
APPENDIX C

Career Flow Model Of Alternative
Career Decisions And Associated Data Elements



APPENDIX D

Analysis Summary

ITEMS	ENTERED/STAYED	ENTERED/LEFT	NEVER ENTERED	PROBABILITY[1]	RELIABILITY
Section A: Background Information (Filled out by all respondents)					
Indicate your formal education prior to enrolling in this course.					
-High School Education	X	X	X	.793	.68
-Vocational School Education	X	X	X	.011*	.95
-College Education	X	X	X	.762	.99
Sex	X	X	X	.490	1.00
Present age	X	X	X	.008*	.99
Indicate your primary reason for taking this course:					
-Needed for initial vocational teaching license	X	X	X	.011*	.53
-Used to renew a non-vocational teaching license	X	X	X	.305	1.00
-For salary advancement credit	X	X	X	.077	1.00
-Explore vocational education as a career alternative	X	X	X	.206	.78
-Prepare for private sector employee training	X	X	X	.692	.68
-Other	X	X	X	.820	1.00
Do you have a current vocational teaching license?	X	X	X	.706	.87
Did you teach prior to enrolling in this course?	X	X	X	.083	.72
Indicate the number of months you taught in each of the following prior to taking this course:					
-Military	X	X	X	.923	.81
-Public vocational school	X	X	X	.358	.51
-Private vocational school	X	X	X	.002*	.81
-Other public or private school	X	X	X	.462	.90
-Private sector employee training	X	X	X	.462	.67
-Other	X	X	X	.188	.72

	ENTERED/STAYED	ENTERED/LEFT	NEVER ENTERED	PROBABILITY[1]	RELIABILITY
Section B: (Filled out by those who entered vocational education)					
Were you ever employed in a public or private school vocational program after completing the course? Y/N *If No go to Section D:	X	X	X	.820	.87
Were you employed in a public or private vocational school?	X	X		.071	.88
What attracted you to vocational education? (Likert scale from 1 to 5)					
-Salary	X	X		.141	.88
-Fringe benefits	X	X		.000*	.55
-Work environment	X	X		.081	.55
-Working with students	X	X		075	.80
-Sharing what I know	X	X		.025*	.71
-Less stress in vocational education	X	X		.825	.69
-Wanted a job change	X	X		.029*	.81
-Career advancement	X	X		.023*	.82
-Work schedule	X	X		.012*	.79
-Job security	X	X		.000*	.82
-Ability to control what I do	X	X		.012*	.83
-Type of people I could work with	X	X		.100	.75
-Other	X	X		N/D	.07
What was your role within vocational education immediately after completing the course?					
-Instructional assistant	X	X		.477	.87
-Related instructor	X	X		.035*	.79
-Instructor	X	X		.154	.84
-Supervisor	X	X		.820	.87
-Administrator	X	X		.820	.87
-Support staff	X	X		.692	.87
-Other	X	X		.890	.87
If you were an instructor, what was your first teaching specialty after completing the course?	X	X		.663	.99

Analysis Summary, continued

	ENTERED/STAYED	ENTERED/LEFT	NEVER ENTERED	PROBABILITY[1]	RELIABILITY
How many months have you taught vocational education at each of the following levels?					
-Adult extension	X	X		N/A	.86
-Postsecondary	X	X		N/A	.86
-Secondary	X	X		N/A	.91
Indicate the number of months you taught in each of the following after taking the course:					
-Military	X	X		.993	.87
-Public vocational school	X	X		.212	.93
-Private vocational school	X	X		.001*	.91
-Other public or private school	X	X		.639	.60
-Private sector employee training	X	X		.301	.87
-Other	X	X		N/D	1.00
Are you still employed in a public or private school vocational program?	X	X		.706	.79
What is your current role within vocational education?					
-Instructional assistant	X			.885	.83
-Related instructor	X			.237	.83
-Instructor	X			.793	.79
-Supervisor	X			.384	.91
-Administrator	X			.642	.83
-Support staff	X			.642	.83
-Other	X			.748	.83
Indicate the number of courses you have completed in each of the following areas since taking the course.					
In areas related to instructional methodology, or course construction, testing, etc.:	X			.004*	.93
In areas related to technical updating skills in the content area you are teaching, e.g., auto mechanics, nursing:	X			.682	.92

	ENTERED/STAYED	ENTERED/LEFT	NEVER ENTERED	PROBABILITY[1]	RELIABILITY
In areas related to vocational education e.g., philosophy of vocational education, but not instructional methodology or technical updating:	X			.007*	.98
In other education courses:	X			.665	.89
Were any of the above courses applied towards a degree?	X			.422	1.00
If yes, indicate the type: -AS/AA, BS/BA, MS/MA, EdD/PhD, Other	X			N/D	1.00
Did you complete a degree?	X			.539	.72
If yes, indicate which degree: -AS/AA, BS/BA, MS/MA, EdD/PhD, Other	X			N/D	.97
Indicate the approximate number of workshops, conferences, seminars, which you have attended since completing the course and which were not taken for college credit:					
-Business/Industry	X			.364	.94
-State/Govt.	X			.747	.52
-School/District	X			.000*	.96
-Private Consultants	X			.139	.91
-College/University	X			.615	.72
-Other	X			.636	.69
Indicate your related work experience since taking the course.	X			.001*	.68
Comparing non-degreed persons with degreed persons in vocational education, do you believe having a degree in vocational education is an advantage in the following areas?					
-Job security	X			.044*	.75
-Opportunities for advancement	X			.797	.83
-Acceptance by other staff	X			.009*	.79
-Salary	X			.431	.79
-Fringe benefits	X			.015*	.91
-Teaching competence	X			.952	.74

Analysis Summary, continued

	ENTERED/STAYED	ENTERED/LEFT	NEVER ENTERED	PROBABILITY[1]	RELIABILITY
-Type of people I can work with	X			.335	.85
-Type of work I can do	X			.894	.74
-Other	X			.466	.83
Section C: (Filled out by those who left vocational education)					
Why did you leave vocational education?					
-Salary		X		.219	.82
-Fringe benefits		X		.038*	.88
-Work environment		X		.191	.92
-Career advancement		X		.042*	.80
-Work schedules		X		.393	.78
-Type of people I could work with		X		.272	.95
-Stress		X		.145	.94
-Position was eliminated		X		.423	.65
-Students		X		.746	.86
-Did not like vocational education		X		.754	.78
-To maintain occupational competence		X		N/D	.91
-Wanted a job change		X		.199	.93
-Family reasons		X		.007*	.94
-Other		X		N/D	.68
Indicate what you did immediately after leaving vocational education:					
-Went into private employment		X		.497	.79
-Went into public sector employment		X		.870	.87
-Became self-employed		X		.992	.87
-Became a homemaker		X		.793	.87
-Was between jobs		X		.085	.92
-Attended school		X		.193	.87
-Went into the military		X		N/D	.87
-Other		X		.024*	.84
Section D: (Filled out by those who never entered voc. ed.)					
If you were never employed in a public or private school vocational program, indicate what you did immediately after taking the course:					
-Went into private employment			X	N/A	.61
-Went into public sector employment			X	N/A	.64

	ENTERED/STAYED	ENTERED/LEFT	NEVER ENTERED	PROBABILITY[1]	RELIABILITY
-Became self-employed			X	N/A	.70
-Became a homemaker			X	N/A	.70
-Between jobs			X	N/A	.70
-Attended school			X	N/A	.70
-Went into the military			X	N/A	.70
-Other			X	N/A	.79

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[1] Chi-square probabilities associated with the differences between the postsecondary and adult groups.

* Significant at the .05 level

N/A = Not applicable

N/D = Not enough data

APPENDIX E

Cross-tabulation Tables for Variables on Which the Postsecondary and Adult Groups Differed Significantly.

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Table E.1

Cross-tabulation of Teaching Level and
Amount of Prior Vocational School Education
(See questionnaire for category definitions)

Count Tot Pct	No Voc School	Some Voc School	Voc School Diploma	Row Total
Post-Secondary	52 27.4	8 4.2	56 29.5	116 61.1
Adult	39 20.5	13 6.8	22 11.6	74 38.9
Column Total	91 47.9	21 11.1	78 41.1	190 100.0

Chi-Square	Degrees of Freedom	Significance Level
9.025	2	0.011

Table E.2

Cross-tabulation of Teaching Level and
Age Upon Completing the Course
(See questionnaire for category definitions)

	Postsecondary		Adult			
Age	Count	Tot Pct	Count	Tot Pct	Count Totals	Percent Totals
25 and under	8	4.3	3	1.6	11	5.9
26 - 30	34	18.4	17	9.2	51	27.6
31 - 40	50	27.0	20	10.8	70	37.8
41 - 50	16	8.6	21	11.4	37	20.0
51 - 60	3	1.6	8	4.3	11	5.9
61 - 65	1	0.5	3	1.6	4	2.1
66 and over	0	0.0	1	0.5	1	0.5
Col. Totals	112	60.5	73	39.5	185	100.0

Chi-Square	Degrees of Freedom	Significance Level
19.199	7	0.008

Table E.3

Cross-tabulation Of Teaching Level and
Taking the Course to Obtain an Initial License
(See questionnaire for category definitions)

Count Tot Pct	No	Yes	Row Total
Post- Secondary	10 5.3	106 55.8	116 61.1
Adult	17 8.9	57 30.0	74 38.9
Column Total	27 14.2	163 85.8	190 100.0

Chi-Square	Degrees of Freedom	Significance Level
6.502	1	0.011

Table E.4

Cross-tabulation of Teaching Level and
Amount of Prior Private Vocational School Experience
(See questionnaire for category definitions)

Count Tot Pct	None	1 or more	Row Total
Post- Secondary	55 47.4	22 19.0	77 66.4
Adult	38 32.8	1 0.9	39 33.6
Column Total	93 80.2	23 19.8	116 100.0

Chi-Square	Degrees of Freedom	Significance Level
9.44	1	0.002

Table E.5

Cross-tabulation of Teaching Level and the Importance of Fringe Benefits to Being Attracted to Vocational Education
(See questionnaire for category definitions)

Count / Tot Pct	1 - Not Very Important	2	3	4	5 - Very Important	Row Total
Post-Secondary	28	19	37	23	9	116
	14.9	10.1	19.7	12.2	4.8	61.7
Adult	44	11	12	4	1	72
	23.4	5.9	6.4	2.1	0.5	38.3
Column Total	72	30	49	27	10	188
	38.3	16.0	26.1	14.4	5.3	100.0

Chi-Square	Degrees of Freedom	Significance Level
29.534	4	0.000

Table E.6

Cross-tabulation of Teaching Level and the Importance of Sharing What I Know to Being Attracted to Vocational Education
(See questionnaire for category definitions)

Count / Tot Pct	1 - Not Very Important	2	3	4	5 - Very Important	Row Total
Post-Secondary	6	1	10	38	61	116
	3.2	0.5	5.3	20.2	32.4	61.7
Adult	5	1	2	11	53	72
	2.7	0.5	1.1	5.9	28.2	38.3
Column Total	11	2	12	49	114	188
	5.9	1.1	6.4	26.1	60.6	100.0

Chi-Square	Degrees of Freedom	Significance Level
11.178	4	0.025

Table E.7

Cross-tabulation of Teaching Level and the Importance of Wanting a Job Change to Being Attracted to Vocational Education
(See questionnaire for category definitions)

Count Tot Pct	1 - Not Very Important	2	3	4	5 - Very Important	Row Total
Post-Secondary	27 14.4	12 6.4	16 8.5	27 14.4	34 18.1	116 61.7
Adult	27 14.4	6 3.2	14 7.4	17 9.0	8 4.3	72 38.3
Column Total	54 28.7	18 9.6	30 16.0	44 23.4	42 22.3	188 100.0

Chi-Square	Degrees of Freedom	Significance Level
10.795	4	0.029

Table E.8

Cross-tabulation of Teaching Level and the Importance of Career Advancement to Being Attracted to Vocational Education
(See questionnaire for category definitions)

Count Tot Pct	1 - Not Very Important	2	3	4	5 - Very Important	Row Total
Post-Secondary	25 13.3	14 7.4	23 12.2	27 14.4	27 14.4	104 55.3
Adult	29 15.4	3 1.6	17 9.0	13 6.9	10 5.3	72 38.3
Column Total	54 28.7	17 9.0	40 21.3	40 21.3	37 19.7	188 100.0

Chi-Square	Degrees of Freedom	Significance Level
11.349	4	0.023

Table E.9

Cross-tabulation of Teaching Level and the Importance of Work Schedule to Being Attracted to Vocational Education
(See questionnaire for category definitions)

Count Tot Pct	1 - Not Very Important	2	3	4	5 - Very Important	Row Total
Post-Secondary	20 10.6	13 6.9	28 14.9	19 10.1	36 19.1	116 61.7
Secondary	1 0.5	0 0.0	2 1.1	4 2.1	5 2.7	12 6.4
Adult	29 15.4	7 3.7	13 6.9	10 5.3	13 6.9	72 38.3
Column Total	49 26.1	20 10.6	41 21.8	29 15.4	49 26.1	188 100.0

Chi-Square	Degrees of Freedom	Significance Level
12.941	4	0.012

Table E.10

Cross-tabulation of Teaching Level and the Importance of Job Security to Being Attracted to Vocational Education
(See questionnaire for category definitions)

Count Tot Pct	1 - Not Very Important	2	3	4	5 - Very Important	Row Total
Post-Secondary	34 18.1	24 12.8	31 16.5	16 8.5	11 5.9	116 61.7
Adult	41 21.8	3 1.6	15 8.0	12 6.4	1 0.5	72 38.3
Column Total	75 39.9	27 14.4	46 24.5	28 14.9	12 6.4	188 100.0

Chi-Square	Degrees of Freedom	Significance Level
22.385	4	0.000

Table E.11

Cross-tabulation of Teaching Level and the Importance of Ability to Control What I Do to Being Attracted to Vocational Education
(See questionnaire for category definitions)

Count Tot Pct	1 - Not Very Important	2	3	4	5 - Very Important	Row Total
Post-Secondary	16 8.5	10 5.3	30 16.0	32 17.0	28 14.9	116 61.7
Adult	22 11.7	1 0.5	11 5.9	23 12.2	15 8.0	72 38.3
Column Total	38 20.2	11 5.9	41 21.8	55 29.3	43 22.9	188 100.0

Chi-Square	Degrees of Freedom	Significance Level
12.929	4	0.012

Table E.12

Cross-tabulation of Teaching Level and Being a Related Instructor Immediately After Completing the Course
(See questionnaire for category definitions)

Count Tot Pct	No	Yes	Row Total
Post-Secondary	107 56.3	9 4.7	116 61.1
Adult	74 38.9	0 0.0	74 38.9
Column Total	181 95.3	9 4.7	190 100.0

Chi-Square	Degrees of Freedom	Significance Level
4.43	1	0.035

Table E.13

Cross-tabulation of Teaching Level and
Months of Private Vocational School Teaching Experience
After Taking the Course
(See questionnaire for category definitions)

Count Tot Pct	None	1 or more	Row Total
Post- Secondary	85 46.4	29 15.8	114 62.3
Adult	66 36.1	3 1.6	69 37.7
Column Total	151 82.5	32 17.5	183 100.0

Chi-Square	Degrees of Freedom	Significance Level
11.83	1	0.001

Table E.14

Cross-tabulation of Teaching Level and Number of Instructional
Methods Courses Taken After Entering Vocational Education
(See questionnaire for category definitions)

Count Pct	Number of Courses None	1 - 4	8 or more	Row Total
Post- Secondary	5 5.0	30 30.0	23 23.0	58 58.0
Adult	12 12.0	24 24.0	6 6.0	42 42.0
Column Total	17 17.0	54 54.0	29 29.0	100 100.0

Chi-Square	Degrees of Freedom	Significance Level
11.242	2	0.004

Table E.15

Cross-tabulation of Teaching Level and Number of Vocational Education Courses Taken After Entering Vocational Education
(See questionnaire for category definitions)

Count / Pct	Number of Courses: None	1 - 4	8 or more	Row Total
Post-Secondary	9 9.0	45 45.0	4 4.0	58 58.0
Adult	17 17.0	25 25.0	0 0.0	42 42.0
Column Total	26 26.0	70 70.0	4 4.0	100 100.0

Chi-Square	Degrees of Freedom	Significance Level
9.868	2	0.007

Table E.16

Cross-tabulation of Teaching Level and Number of School/District Workshops Taken After Entering Vocational Education
(See questionnaire for category definitions)

Count / Pct	Number of Courses: None	1 - 4	8 or more	Row Total
Post-Secondary	19 19.2	14 14.1	26 26.4	59 59.6
Adult	27 27.3	11 11.1	2 2.0	40 40.4
Column Total	46 46.5	25 25.3	28 28.3	99 100.0

Chi-Square	Degrees of Freedom	Significance Level
19.39	2	0.000

Table E.17

Cross-tabulation of Teaching Level and Months of Related Work Experience After Entering Vocational Education

Count / Tot Pct	Number of Months 0-6	7-24	25-36	37-48	49-60	Row Total
Post-Secondary	12	7	4	3	13	39
	14.1	8.2	4.7	3.5	15.3	45.9
Adult	2	2	6	5	31	46
	2.4	2.4	7.1	5.9	36.5	54.1
Column Total	14	9	10	8	44	85
	16.5	10.6	11.8	9.4	51.8	100.0

Chi-Square	Degrees of Freedom	Significance Level
17.728	4	0.001

Table E.18

Cross-tabulation of Teaching Level and the Advantage of Having a Degree in Terms of Job Security
(See questionnaire for category definitions)

Count / Tot Pct	No	Yes	Row Total
Post-Secondary	40	18	58
	42.1	18.9	61.1
Adult	17	20	37
	17.9	21.1	38.9
Column Total	57	38	95
	60.0	40.0	100.0

Chi-Square	Degrees of Freedom	Significance Level
4.075	1	0.044

Table E.19

Cross-tabulation of Teaching Level and the Advantage of Having a Degree in Terms of Acceptance by Other Staff (See questionnaire for category definitions)

Count Tot Pct	No	Yes	Row Total
Post-Secondary	42 44.2	16 16.8	58 61.1
Adult	16 16.8	21 22.1	37 38.9
Column Total	58 61.1	37 38.9	95 100.0

Chi-Square	Degrees of Freedom	Significance Level
6.904	1	0.009

Table E.20

Cross-tabulation of Teaching Level and the Advantage of Having a Degree in Terms of Fringe Benefits (See questionnaire for category definitions)

Count Tot Pct	No	Yes	Row Total
Post-Secondary	51 53.7	7 7.4	58 61.1
Adult	24 25.3	13 13.7	37 38.9
Column Total	75 78.9	20 21.1	95 100.0

Chi-Square	Degrees of Freedom	Significance Level
5.91 2	1	0.015

Table E.21

Cross-tabulation of Teaching Level and the Importance of Fringe Benefits to Leaving Vocational Education
(See questionnaire for category definitions)

Count / Pct	1 - 2 Not Very Important	3	4 - 5 Very Important	Row Total
Post-Secondary	33	12	11	56
	37.9	13.8	12.6	64.4
Adult	26	4	1	31
	29.9	4.6	1.1	35.6
Column Total	59	16	12	87
	67.8	18.4	13.8	100.0

Chi-Square	Degrees of Freedom	Significance Level
6.518	2	0.038

Table E.22

Cross-tabulation of Teaching Level and the Importance of Career Advancement to Leaving Vocational Education
(See questionnaire for category definitions)

Count / Pct	1 - 2 Not Very Important	3	4 - 5 Very Important	Row Total
Post-Secondary	25	3	28	56
	28.7	3.4	32.2	64.4
Adult	22	2	7	31
	25.3	2.3	8.0	35.6
Column Total	47	5	35	87
	54.0	5.7	40.2	100.0

Chi-Square	Degrees of Freedom	Significance Level
6.33	2	0.042

Table E.23

Cross-tabulation of Teaching Level and the Importance of Family Reasons to Leaving Vocational Education
(See questionnaire for category definitions)

Count / Pct	1 - 2 Not Very Important	3	4 - 5 Very Important	Row Total
Post-Secondary	46 52.9	6 6.9	4 4.6	56 64.4
Adult	20 23.0	1 1.1	10 11.5	31 35.6
Column Total	66 75.9	7 8.0	14 16.1	87 100.0

Chi-Square	Degrees of Freedom	Significance Level
10.03	2	0.007

Table E.24

Cross-tabulation of Teaching Level and Other Reasons for Leaving Vocational Education
(See questionnaire for category definitions)

Count / Tot Pct	No	Yes	Row Total
Post-Secondary	53 58.2	4 4.4	57 62.6
Adult	25 27.5	9 9.9	34 37.4
Column Total	78 85.7	13 14.3	91 100.0

Chi-Square	Degrees of Freedom	Significance Level
5.089	1	0.024