

A NEED ASSESSMENT FOR A POST-SECONDARY
CERTIFICATION FOR FULL-TIME TRADE AND
INDUSTRIAL VOCATIONAL INSTRUCTORS
IN OKLAHOMA

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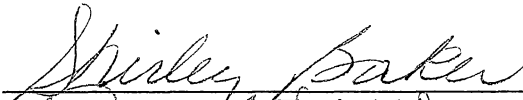
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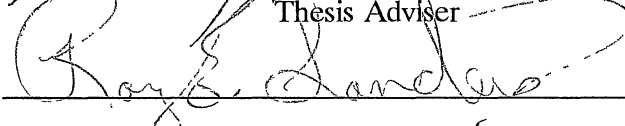
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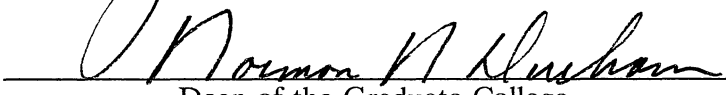
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TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION	1
Statement of the Problem	2
Purpose of the Study	3
Objectives	3
Delimitations of the Study	3
Terms and Definitions	4
II. REVIEW OF LITERATURE	6
Certification	6
Certification of Teachers in Oklahoma	7
Certification in Vocational Education	8
Post-Secondary Certification	10
Trade and Industrial Post-Secondary Education in Oklahoma	11
Training Needs for the Present and Future Work Force	13
The Adult Learner	14
Summary	16
III. METHODOLOGY	17
Research Design	17
Population	18
Design of the Instrument	19
Collection of the Data	20
Statistical Method	20
VI. PRESENTATION OF FINDINGS	23
Objective One	24
Objective Two	33
Objective Three	55
Objective Four	57
Objective Five	61

Chapter	Page
V. SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS	66
Summary	66
Findings	68
Conclusions	70
Recommendations	71
BIBLIOGRAPHY	72
APPENDIX A - SURVEY	74
APPENDIX B - UNSOLICITED COMMENTS	79
APPENDIX C - COVER LETTERS	81

LIST OF TABLES

Table	Page
I. Perceptions of Instructors and Their Immediate Supervisors Regarding the Need for Post-Secondary T&I Teacher Certification	25
II. Perceptions of Instructors and Their Immediate Supervisors of the Sufficiency of Secondary Certification for Post-Secondary T&I Teachers	26
III. Perceptions of Instructors and Their Immediate Supervisors Regarding the Need for Educational Courses for Post-Secondary T&I Teachers	27
IV. Perceptions of Instructors and Their Immediate Supervisors Regarding the Need for Technical Update Training for Post-Secondary T&I Teachers	29
V. Perceptions of Instructors and Their Immediate Supervisors Regarding Their Self-Image as Educators.	30
VI. Perceptions of Instructors and Their Immediate Supervisors Regarding their Self-Image as Tradepersons	31
VII. Perceptions of Instructors and Their Immediate Supervisors Regarding the Need for Post-Secondary T&I Teacher Certification	32
VIII. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: Job and Task Analysis	34
IX. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: Course and Curriculum Development	35
X. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: Methods of Teaching Adults	36
XI. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: Characteristics of the Adult Learner	37
XII. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: Tests and Measurements	38

Table	Page
XIII. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: Organization of Instruction Material	39
XIV. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: VICA Management	40
XV. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: Educational Psychology	41
XVI. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: Audio Visuals (Media)	42
XVII. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: Educating the Handicapped	43
XVIII. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: Human Relations	44
XIX. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: Competency-Based Education	45
XX. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: School and Industrial Relations	46
XXI. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: History and Philosophy of Vocational Education	47
XXII. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: Cooperative Education	48
XXII. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: Public Relations	49
XXIV. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: History and Philosophy of T&I	50

Table	Page
XXV. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: Safety	51
XXVI. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: Shop Organization and Management	52
XXVII. Topics and Courses Perceived by Instructors and Their Immediate Supervisors to be Relevant to a Post-Secondary T&I Certification Program: Technical Updates/Conferences/Courses	53
XXVIII. Courses or Topics Suggested by the Survey Participants	54
XXIX. Correlation Between Responses of Instructors and Responses of Supervisors Regarding the Need for a Post-Secondary Teacher Certification	56
XXX. Correlation of Overall Responses of Instructors and Supervisors Regarding Courses and Topics that Should Be Contained in a Post-Secondary T&I Teacher Certification Program	58
XXXI. Courses or Topics Ranked in the Order of the Survey Ratings	59
XXXII. Biographical Information about the Instructors	62
XXXIII. Biographical Information about the Immediate Supervisors	63
XXIV. Education Levels of the Post-Secondary Instructors and their Immediate Supervisors	64
XXXV. Post-Secondary Instructors' Number of Years of Teaching Adults and Secondary Students	64
XXXVI. Technical Certifications Held by Post-Secondary T&I Instructors	65

LIST OF FIGURES

Figure	Page
1. Standard Deviation Formula	21
2. Pearson Product-Moment	22

CHAPTER I

INTRODUCTION

In the State of Oklahoma, individuals that teach trade and industrial (T&I) education in adult programs are not required to participate in a certification or licensing program. The certifying and licensing process is commonly considered to be a means of providing professional standards for teachers. The certifying process requires an upgrading of the skills of educators for the purpose of providing instruction and, in turn, better educated students who are adequately prepared for the work place.

At the time of this study, post-secondary T&I educators are permitted to participate in the secondary certification program. However, this program was developed for teaching high school students and does not adequately address the needs of the adult learner. The learning styles and motivations of post-secondary students differ from their secondary counterparts. This difference is only one of the factors that indicate a need for a special training or certification program for post-secondary instructors. The teacher certification legislation in Oklahoma established the definitions of a teacher and an instructor. According to the School Laws of Oklahoma (1988), individuals that teach post-secondary students cannot be considered as teachers unless they have a teacher certificate or a license. This same source defined an instructor as an individual that works in a teaching capacity in higher education, training educational personnel. Despite the fact that neither of these definitions seem to clearly include educators of adults, this study referred to post-secondary educators as instructors for the sake of continuity.

Another concern that was considered in assessing the need for post-secondary certification was the changing student population of the vocational schools. In Oklahoma's T&I education programs the trend is that of a decreasing secondary student population and an increasing post-secondary population. This trend is predicted to continue for at least the next decade. The effect will be a continued growth in post-secondary T&I student programs and a corresponding need for additional qualified instructors.

A requirement for post-secondary certification has the potential to significantly improve the quality of training for students as well as to provide an impetus toward professional improvement for post-secondary instructors. However, increasing the standards may also have the potential of discouraging technically qualified individuals from entering the teaching field of vocational/technical education.

Statement of the Problem

Oklahoma has no state requirement for post-secondary trade and industrial instructors to participate in a certification/licensure program. Without such a program, these instructors are outside the legal definition of a teacher. They are not entitled to earn tenure and are not provided with the same job security provisions which certified teachers receive. The schools that employ these instructors may have found it difficult to recommend a professional development plan because of the lack of a mandated or recognized program.

Purpose of the Study

The purpose of this study was to determine if a need existed for a trade and industrial post-secondary teacher certification program for full-time instructors of adults in Oklahoma.

Objectives

This study had the following objectives:

1. To identify the perceptions of T&I instructors and their immediate supervisors regarding the need for a post-secondary T&I certification program.
2. To identify topics and courses perceived to be relevant for a post-secondary T&I certification program.
3. To determine if there is a significant difference between the opinions of instructors and those of their immediate supervisors regarding the need for a post-secondary T&I certification program.
4. To determine if there is a significant difference between the opinions of instructors and those of their immediate supervisors regarding the content of a post-secondary certification program.
5. To collect biographical data about the respondents to describe the population.

Delimitations of the Study

The study was delimited to the population of full-time vocational/technical instructors of adults assigned to the Trade and Industrial Service Area in the State of Oklahoma. These individuals are employed in the area vocational and technical schools under the

auspices of the Oklahoma State Department of Vocational/Technical Education. Instructors of secondary and adult students and instructors of secondary students only were not included in this study.

Definitions of Terms

Definitions of pertinent terms used in this study are as follows.

1. Board: "Means the State Board of Education" (School Laws of Oklahoma, 1988, p. 124).
2. Certified Teacher or Certificated Teacher: "Means any teacher who has been issued a certificate by the Board in accordance with this act and the rules and regulations of the Board" (School Laws of Oklahoma, 1988, p. 125).
3. Teacher: (School Laws of Oklahoma, 1988)
"Any person who is employed to serve as district superintendent, county superintendent, principal, supervisor, counselor, librarian, school nurse, or classroom teacher, or in any other instructional, supervisory, or administrative capacity, is defined as a teacher. Such person shall not be deemed qualified unless he or she holds a valid certificate or license, issued by and in accordance with the rules and regulations of the State Board of Education, to perform the particular services for which he or she is employed" (p. 11).
4. Certificate: "A document certifying that a person may officially practice in a certain profession" (American Heritage Dictionary, 1985, p. 255).
5. Instructor: "Means any individual who is employed in a teaching capacity in an institution of higher education, approved by the Board for the preparation of educational personnel" (School Laws of Oklahoma, 1988, p. 125).
6. Licensed Teacher: "Means any person who holds a valid license to teach, issued by the Board in accordance with this act and the rules and regulations of the Board" (School Laws of Oklahoma, 1988, p. 124).

7. Standard Certificate: "(five-year-validity) - The standard certificate is a permanent certificate with a five-year term of validity and a provision for renewal upon compliance with prescribed conditions" (Certification Standards Adopted by the Oklahoma State Board of Education, 1984, p. 2).

8. Provisional Level II Certificate - "The Provisional Level II has a two-year term of validity. (Certification Standards Adopted by the Oklahoma State Board of Education, 1984)

This certificate is renewable one time if nine semester hours of credit toward meeting requirements of an approved standard certificate program have been completed during its first term of validity.

Provisional Level II Certification for vocational programs have a five-year term of validity. Provisional Level II Certificates for vocational programs may be renewed more than one time upon completion of fifteen (15) semester hours of credit toward meeting the requirements of an approved standard certificate program. (p. 2)

9. Provisional Level I Certificate - "The Provisional Level I Certificate has a one-year term of validity.

"Provisional Level I Certificate for vocational programs has a one year term of validity and may be renewed more than one time upon compliance with prescribed conditions including the completion of six (6) semester hours of credit toward meeting requirements of an approved standard certificate program" (Certification Standards adopted by the Oklahoma State Board of Education, 1984, (p. 2).

CHAPTER II

REVIEW OF LITERATURE

A review of literature was conducted as a part of this study. The review was divided into seven subunits and a summary, which cover the following topics: a general discussion of certification, a background on certification in Oklahoma schools, information about certification in vocational/technical education, a discussion of post-secondary certification, a discussion of trade and industrial post-secondary education in Oklahoma, the training needs for the present and future work force, and the characteristics and needs of the adult learner.

Certification

A certifying process plays an important role in a profession by establishing minimum acceptance standards. In Professional Certification, Gilley (1985) explained that certification is utilized by certain professions to increase or improve professional competence and to enhance professionalism.

In the teaching profession, it is a common belief that the certification process has substantially contributed to the professional status of teachers. Wise and Hammond (1987) stated,

The argument for the professionalization of teaching is similar to the arguments that led to the transformation of other occupations into professions. The primary rationale is a need for quality control over a process in which the service provider, in a large private transaction, provides important services to a client who inevitably knows less than the service provider. (p. 3)

The purpose of any certification program is to protect the public. A professional is certified to ensure that a minimum acceptable standard is demonstrated or reached before practicing a profession. In their book, The Validity Issue, Chernoff, Nassif, and Gorth (1987) stated,

To discuss the validity of a measurement instrument is to ask what it should measure, within the context of certification program goals. The program seeks to assure that the welfare of the public is protected by establishing that practitioners in a given profession have met some predetermined standards of knowledge or performance. The logic behind such requirements is generally not in dispute today. (p. x1)

Professionalism was referred to as a guarantee to the public that all people entering into a profession will have adequately mastered the skills and knowledge to perform the basic responsibilities of the job before they are allowed to practice (Wise and Hammond, 1987). Therefore, professionalism and certification are commonly associated in discussions relating to the protection of the public.

Certification of Teachers in Oklahoma

All public school teachers in Oklahoma that teach kindergarten through grade 12 are required to obtain a teaching certificate. This requirement was the result of a state law entitled House Bill (H.B.) 1706. This legislation required teachers in Oklahoma to achieve specific standards to be qualified for a certificate. The certifications were Early Childhood, Elementary, Elementary-Secondary, Secondary, School Service Personnel, Specialized Service, and Vocational-Technical. H.B. 1706 did not include certification for post-secondary vocational-technical instructors.

Prior to the passage of H.B. 1706, the task of certifying teachers relied upon the recommendations of the universities in Oklahoma. In the book Testing For Teacher Certification (1986), Dr. John Folks, the former State Superintendent of the Oklahoma State Department of education, explained why Oklahoma became involved in changing the

state certification requirements. He cited the following three reasons for the passage of H.B. 1706 of 1980.

First, Oklahoma became involved in testing teachers because all the opinion polls taken in the state and on the national level showed that people were concerned about the quality of teachers in the classroom. The polls also indicated concern about the quality of people entering the teaching profession.

Second, and more locally, a regional magazine published in Texas printed an article entitled "Why Teachers Can't Teach" (Lyons, 1980). That article received much attention and generated heated debate in Oklahoma.

Last, the State Regents for Higher Education conducted a survey and found that the people entering teacher education programs in Oklahoma had the lowest ACT scores, on the average, and the lowest grade point averages of any other students within the University system. (p. 49)

Certification in Vocational Education

The vocational educator differs from the traditional educator in many ways. However, the greatest difference is that traditional educators receive their education at colleges or universities prior to starting their teaching profession whereas most vocational/technical educators do not. A major consideration in employing vocational educators is their occupational experience. Vocational teachers are generally required to work toward teaching credentials while they teach.

In Oklahoma, new secondary teachers that are employed in a vocational/technical school may or may not have a Baccalaureate Degree or a teaching certification. In order to comply with state certification requirements, the new teachers are required to obtain a Provisional I Certificate. A degree plan accompanies the certification application which is kept on file at the Oklahoma State Department of Education. In order to renew the Provisional I Certification after the first year, the teacher has to comply with renewal requirements. When the teacher has completed the appropriate qualifications, application

is made for a Provisional II. Upon completion of all certification requirements, a Standard Certificate is issued.

In a study by the Massachusetts State Department of Education (1981), the question of whether vocational teachers were tradespeople or teachers was an issue. The study stated, "The answer to this question relates directly to the choice and approval processes, the design of adequate training and support, and the structure for bringing 'state-of-the-art' information to the classroom" (p. 7). It was their premise that no matter what background or trade area of expertise, vocational teachers were teachers. This was based on the circumstances of the selection, approval, training, and upgrading of these instructors and their evaluations in terms of classroom or shop efforts.

Doty and Mastrantuono (1990) elaborated on this concern in "T&I Needs Educators Who Are Teachers First, Tradespersons Second." They discussed their concern that T&I teachers should first complete a Baccalaureate Degree. They believed that T&I teachers were hampered in their efforts to contribute to the field of education because they lacked the ability to write and speak proficiently. "Because they have not achieved knowledge of communications . . . , they have developed an anti-intellectual behavior that further alienates them from the mainstream of education" (p. 39).

Following the publication of A Nation At Risk (1983), the term excellence became the key word in education. In 1984 Robert Norton wrote a paper entitled Excellence in Vocational Teacher Education. In this paper he cited six examples of excellence in vocational education. One of those examples was the National Occupational Competency Testing Institute (NOCTI), which is the agency that provides competency tests for vocational instructors. The NOCTI test is used for certifying vocational education instructors in many states including secondary instructors in Oklahoma.

Norton also commended the State of Arkansas for initiating a post-secondary certification program for vocational instructors. This includes trade and industrial instructors.

Post-Secondary Certification

There was some difficulty in determining the states that required post-secondary certification. In a survey conducted by Ryland (1981), the following statement was made.

While the request for information was intended to identify state requirements for certification of vocational teachers in post-secondary programs, many of the respondents provided material regarding certification of vocational teachers in secondary programs; the lack of delineation between secondary and post-secondary was evident. (p. 16)

This concern was also recognized by Sullivan (1989) as one of the three limitations of his study. He found that the state supervisors that responded to his questionnaire were confused about their certification requirements. Sullivan stated, "If two surveys were received from the same state there would be discrepancies between the responses" (p.5). McMurry and Trott (1990) explained that certification provided the primary means of insuring instructors' competence and should be considered a valid way to measure change within a state. They stated,

. . . Certification requirements for vocational-technical teachers vary widely from state to state, as well as between secondary and post-secondary teachers. We recently completed a study of certification requirements in each of the 54 states and territories and the District of Columbia.

Fifty respondents indicated the existence of uniform statewide requirements for secondary vocational-technical teachers, but only 24 reported uniform statewide requirements for post-secondary instructors. (p. 36)

Certifying of vocational teachers has become widely accepted in secondary education as a remedy for setting standards for teaching skills. However, less than half of the states have developed certification standards for post-secondary teachers.

Post-secondary certification requirements may be attributable to a shortage of qualified instructors. Finding technically qualified people that have teaching credentials or are willing to work toward those credentials has created concerns. One of the states that has a post-secondary certification program is Florida. A study by the Florida State Post-Secondary Education Commission (1985) stated that one of the reasons for performing the study was the belief that individuals who were qualified to be post-secondary teachers may have been discouraged from becoming teachers because of the state's certification requirements. It was also a concern of the commission that the need for qualified instructors was increasing and the state's certification law would discourage instructors that were employed at that time from staying in teaching. The recommendation of this study was to make certification standards more flexible for post-secondary instructors.

Vaughn (1981), in a study about certification standards in Tennessee, concluded that a significant change in certification policies should be made and cited the continuing national shortage of qualified occupational teachers as the probable reasoning why change had not occurred. Vaughn stated, "Consequently, any state which desires to make significant changes in certification policies must impact on the supply and demand issue" (p. 122).

Trade and Industrial Post-Secondary

Education in Oklahoma

Trade and industrial education is explained in A Guide To Oklahoma Vo-Tech (1988).

It stated,

Trade and Industrial Education prepares high school students and adult students for employment in service, manufacturing, or industrial occupations. The student becomes prepared for gainful employment

through practical instruction on industrial-quality tools and equipment and actual industry-level projects.

The vocational trade and industrial education program is conducted within the confines of a school setting. Students attend classes for three consecutive hours in a specific occupation to develop the theoretical base information and the job skills needed to enter employment in an occupation upon graduation. (p. 27)

Trade and industrial programs account for approximately fifty-five percent of the vocational technical enrollment in the area vocational/technical (vo-tech) school system in Oklahoma, according to A Vision of Excellence: Strategic Plan for Oklahoma Vo-Tech (1990). Additionally, population changes occurring in the nation and the State of Oklahoma suggest that secondary students will comprise a decreasing percentage of vocational enrollment. "Fewer secondary students will be available for participation in vocational education programs. More adults, especially women, will seek vocational education and training" (p. 9).

This document also stated that in 1990 there was a total of 386,667 students enrolled in the area vo-techs. The post-secondary population accounted for 301,011 of these students. There is a definite trend toward decreasing enrollment of secondary students and increasing enrollment of adult students in the area vo-tech schools in the State of Oklahoma.

As a result of the increase in the adult population in the state vo-tech schools, many changes have taken place. These changes directly affected T&I post-secondary training. For example, some post-secondary T&I programs have developed cooperative agreements with colleges. These agreements allow students to receive college credit for T&I courses offered at the vocational/technical schools. In the Cooperative Agreement Between Oklahoma City Community College and Francis Tuttle Area Vocational-Technical Center, District Number 21 (1988), adult students can concurrently enroll in classes in the Francis Tuttle Vocational/Technical Center's High Technology Center and Oklahoma City

Community College. The agreement allows students to receive college credit for vo-tech courses and earn an Associate Degree in Applied Science upon completion of their training. The Oklahoma State Board of Regents and the Oklahoma Department of Vocational/Technical Education participated in this agreement.

The T&I programs included in this agreement involve only post-secondary students. These full-time students attend classes six hours per day for two years (2120 hours) to complete a program. This is a change from the traditional three hour class period that is completed in two years (1060 hours). Traditional programs usually combine secondary and post-secondary students, whereas the programs in the cooperative agreement involve only post-secondary students.

Training Needs for the Present and Future Work Force

The role of vocational education is changing because of the training needs dictated by business and industry. Elizabeth Dole (1989), Secretary of Labor, United States Department of Labor, said there will be significant changes in the work force in the next decade. Over half of the new jobs created during the next decade will require post-secondary training. She stated, "Higher-skilled occupations will experience the greatest percentage of growth. Jobs for technicians, for example, will grow 38 percent by the year 2000, the Bureau of Labor Statistics predicts" (p. 18).

Maczka (1990) related that employers in the United States were spending approximately 30 billion dollars annually to train their employees on new technology. He stated,

Many of the workers who will join the labor force will be ill-suited to some of the jobs being created. More than 75% of the projected new entrants will be women, minorities and the disadvantaged. The gap between

available workers and jobs requiring higher skills will require more education and/or training. (p.51)

Griffin (1989) predicted there will be a new partnership between education, labor, business, industry and government. There will be 25 million new jobs in the United States in the next ten (10) years. Because of the shrinking work force, about seventy-five percent of these jobs will be filled by existing employees. He stated, "Three out of every four people now in the U.S. work force will be there in the year 2000 and will require retraining or upgrading to handle new technology" (p. 24). These predictions are consistent with the increase of adult learners in the Oklahoma area vo-tech schools.

The Adult Learner

The certification process for secondary T&I instructors in Oklahoma does not include courses that teach instructors about the special learning needs of the adult learner. Adult students have different motivations and needs than younger learners. Cross (1983) believed that there is some danger that the present educational system is directed toward dependent rather than independent thinkers. Cross in the summary of her book on adult learners stated, "Classroom teachers define the subject matter, assign the reading, and test for subject mastery, despite the fact that such an antiquated model is increasingly incompatible with the demands of the learning public" (pp. 249-250).

Adult learners have specific goals that result in better motivation and have acquired learning styles that address their needs. Karmos and Greathouse (1989) explained that adult students learn best in small group instruction, demonstrations, and independent learning. Wlodkowski (1985) believes that the motivation of younger adult students is primarily based on the desire for upward mobility. The motivation for older adult students relates to seeking better job opportunities in their present jobs and career improvement for those with limited opportunities on their present jobs. In Understanding and

Facilitating Adult Learning, Brookfield (1986) stated that self-directed learning capacities are the most often articulated aim of educators and trainers of adults. He described self-directed learning as "a process in which individuals take the initiative in designing learning experiences, diagnosing needs, locating resources, and evaluating learning" (p. 40).

According to Knox (1986), adults engage in learning activities primarily to improve their proficiencies. He described proficiency as the capability to perform effectively when given the opportunity. It typically entails a combination of knowledge, attitude, and skill. He believed that an understanding of the transactional and developmental process through which proficiency evolves could be helpful to those who help adults learn.

In Learning to Learn: Applied Theory for Adults, Smith (1982) stated that adults enjoy the benefits and drawbacks of their many life expediencies. Adults have a need to learn and also want to have input into what, why and how they learn.

Moon (1989) compared secondary and adult student learning growth levels in vocational programs in Oklahoma to determine if there was a difference in learning when adult students were integrated with secondary students. Moon found that adult students achieved a greater cognitive learning growth when there were only adults in the classroom. In the recommendations of the study he stated, "Present practices in program implementation and delivery strategies in Oklahoma vocational education may not currently provide for the primary educational consideration, competent student achievement levels, whether they be cognitive or affective" (p. 65). He also suggested that further study should be conducted to evaluate the practice of mixing adults and secondary students.

Summary

Certification provides a means of requiring a minimum acceptable standard for practice in a profession in order to protect the public. In the field of education, certification has become the most effective and accepted method of maintaining teaching standards. However, there is little being done nationally or in Oklahoma to certify post-secondary instructors in vocational/technical education.

The trend in T&I education indicates an increase in the post-secondary population and a decrease in the secondary student population. The outcome of this trend could cause a greater emphasis to be placed on the quality of post-secondary education.

Adult learners have different motivations and learning styles when compared to secondary students. Secondary certification in the state of Oklahoma does not adequately address the needs of the instructors of adults. There is no requirement in Oklahoma for post-secondary T&I instructors to participate in any teacher certification program. Consequently, instructors are not required to participate in any college level courses such as teaching methods or adult learner characteristics.

The most obvious potential disadvantage of requiring post-secondary certification for full-time T&I instructors is the concern that the additional educational requirements may discourage technically qualified individuals from becoming educators.

CHAPTER III

METHODOLOGY

The purpose of this study was to determine if a need existed for a Trade and Industrial Post-Secondary Certification Program for full-time instructors in Oklahoma.

The purpose of this chapter is to explain the procedure used to obtain data, describe the statistical method used in this study, define the population, explain the instrument and the method used for the analysis.

Research Design

The descriptive research method was selected for this study because it was necessary to obtain the opinions and perceptions of the post-secondary instructors and their immediate supervisors on the issues associated with the objectives of this study.

Descriptive research was described by Key (1974) as follows:

Descriptive research is used to obtain information concerning the current status of the phenomena. The purpose of these methods are to describe "what exists" with respect to variables or conditions in a situation. These methods range from the survey which describes the status quo, the correlation study which investigates the relationship between variables, to developmental studies which seek to determine change over time. (p. 126)

The objectives of this study are as follows:

1. To identify the perceptions of T&I instructors and their immediate supervisors regarding the need for a post-secondary T&I certification program.
2. To identify topics and courses perceived to be relevant for a post-secondary T&I certification program.

3. To determine if there is a significant difference between the opinions of instructors and those of their immediate supervisors regarding the need for a post-secondary T&I certification program.
4. To determine if there is a significant difference between the opinions of instructors and those of their immediate supervisors regarding the content of a post-secondary certification program.
5. To collect biographical data about the respondents to describe the population.

To accomplish the objectives of this study, survey questionnaires were completed by post-secondary instructors and their immediate supervisors. The results of the surveys were tabulated and are shown in tables. The percents, means, standard deviations and correlations were calculated to satisfy the objectives of the study.

Population

The population of this study consisted of two groups: (a) post-secondary T&I instructors and (b) their immediate supervisors. The process of identifying the population originated with a computer listing, supplied by the Oklahoma Department of Vocational/Technical Education, which provided the names of the full-time post-secondary T&I instructors, their schools and their programs. The computer print-out entitled "Full-Time Adult Teachers for School Year 1989-90" identified 33 post-secondary full-time instructors. Each school and program identified on the print-out as having full-time post-secondary T&I instructors were contacted to confirm the accuracy of the population. Numerous errors were found and a corrected list was developed. Based on inquiries, several instructors were added because of new programs and some on the original list were eliminated because of personnel changes. The updated list changed to a total

population of 60 (N = 60) full-time post-secondary instructors and eight immediate supervisors.

The schools and programs that were involved in this study were The Francis Tuttle Vo-Tech's High Technology Center in Oklahoma City, Metro-Tech's Aviation Career Center in Oklahoma City, Central Vo-Tech's Truck Driver Training Program in Drumright, Gordon Cooper Vo-Tech's Diesel Mechanic Program, Tulsa Vo-Tech's Air Park Campus and Great Plains Vo-Tech's Adult T&I Programs. Some schools that had programs with only post-secondary students enrolled were not included in this population because these programs allowed mixed secondary and post-secondary students to enroll but had no secondary students currently enrolled.

Design of the Instrument

A questionnaire was developed by the researcher to determine the opinions of the participants in regard to the objectives of this study. The first draft was completed in April of 1990. It was reviewed by a panel of three experts, consisting of one post-secondary T&I instructor, one professor, and one T&I administrator. Based on their review several changes were made. Section I had the questions clarified and reorganized. This included removing the college courses and topics from Section I and developing a new Section II that listed those courses and topics. The questions in the original Section II were then moved to the new Section III which was entitled "Biographical Data."

The questionnaire consisted of four types of replies: fill-in-the-blank, yes or no, written comments and a Likert Scale. In Sections I and II of the survey, the participants were asked to respond to questions on a Likert Scale. They were instructed to circle the number that best indicated their opinions of the question. The numbers were one

through five, 1 - Disagree Strongly, 2 - Disagree, 3 - No Response, 4 - Agree, and 5 - Agree Strongly.

In Section III the questions were fill-in-the-blank questions, yes or no, and written comments. These questions provided the biographical information about the respondents. The participants were instructed that their information would be kept confidential.

Collection of Data

In August of 1990, an individual was designated as a contact at each school that was identified as having post-secondary T&I programs. A packet of surveys with cover letters (appendix A) was sent to each contact person for distribution. The cover letter explained that the surveys would be kept confidential. A list of the instructors and their immediate supervisors that were to participate in the survey was included in the packet. They were asked to explain the survey to the participants and to have them complete and return the survey in the enclosed stamped envelope addressed to the researcher.

The surveys were mailed back to the researcher during the month of August and early September of 1990. The returned surveys of the instructors totaled 51 ($n = 51$) or 85%. The eight ($N = 8$) immediate supervisors returned six ($n = 6$) surveys for a 75% return.

Statistical Method

The mean, standard deviation and percentages were calculated in order to address objectives one and two. These objectives were to identify the perceptions of the post-secondary instructors and their immediate supervisors regarding the need for a teacher certification program and the relevant courses and topics.

The mean is calculated by first adding all of the numbers in a group together. Next, the sum of the numbers was divided by the number of participants in the group. The mean score is an average value of a group of numbers. The percentage of a number was calculated by dividing a number in a group by the sum of the group of numbers.

Standard deviation is the average deviation from the mean of a group of numbers. Each number being averaged is later subtracted from the average/mean. The formula to calculate standard deviation is shown in Figure 1.

$$\sqrt{\frac{\Sigma(X-\bar{X})^2}{N}}$$

N = Number of Observations

√ = Square Root

Σ = Sum

X = Observation

\bar{X} = Mean

Figure 1 Standard Deviation Formula

To calculate the magnitude of difference between the opinions of the instructors and those of the immediate supervisors, as required by objectives three and four, the Pearson Product Moment Correlation was utilized. This statistical correlation provides a method to measure the quantifiable relationship between the responses of the post-secondary instructors and those of their immediate supervisors.

The mean responses of the instructors and their immediate supervisors were paired and correlated. The formula used to calculate the Pearson Product-Moment Correlation is shown in Figure 2.

$$r = \frac{\Sigma(X - \bar{X})(Y - \bar{Y})}{\sqrt{\Sigma(X - \bar{X})^2 \Sigma(Y - \bar{Y})^2}}$$

r = Correlation

X = Instructor's Response

\bar{X} = Instructors' Mean Score

Y = Supervisor's Response

\bar{Y} = Supervisors' Mean Score

Figure 2 Pearson Product-Moment Correlation

The following hypotheses were developed for objectives three and four

- 1 There is no significant relationship in the perceptions of full-time post-secondary T&I instructors and those of their immediate supervisors regarding the content of a post-secondary teacher certification program
- 2 There is no significant relationship in the perceptions of full-time post-secondary T&I instructors and those of their immediate supervisors regarding the need for courses and topics appropriate for a post-secondary T&I teacher certification program

To evaluate these hypotheses the researcher selected an alpha level of .05

The biographical information in Section III of the survey was organized in tables which show the number of responses to each item and the associated percentage data. These data addressed the fifth objective of this study.

CHAPTER IV

PRESENTATION OF FINDINGS

The findings of the research are presented in this chapter. The findings were derived by compiling the responses on the questionnaires that were completed by the population of full-time post-secondary T&I instructors and their immediate supervisors. The questions and statements in the questionnaire addressed the five objectives of the study. The findings are presented in conjunction with the objectives of this study.

In Sections I and II of the survey, the participants responded to questions on a Likert Scale. The numbers were one through five: 1 - Disagree Strongly, 2 - Disagree, 3 - No response, 4 - Agree, and 5 - Agree Strongly. Each statement in Section I and topics or courses in Section II of the survey have had a table developed to clearly show the characteristic of the responses of the participants. To evaluate the results of the respondents' ratings, a mean score of 1.0 to 1.5 was considered Strongly Disagree, > 1.5 to 2.5, Disagree, > 2.5 to 3.5, No Response, > 3.5 to 4.5, Agree and > 4.5 to 5.0, Strongly Agree.

When the responses vary significantly on the Likert Scale with a high standard deviation, the results cannot be accurately described using the mean scores. In the interpretation of findings, percentages of the responses in the categories "Agree" and "Strongly Agree" are sometimes combined and likewise the "Disagree" and "Disagree Strongly" are also sometimes combined to express the perceptions of the respondents.

Fifty-one instructors returned surveys for a return percentage of 85%. Six of the eight immediate supervisors returned their surveys for a return rate of 75%.

Objective One

The first objective of this study was to identify the perception of T&I instructors and those of immediate supervisors relating to the need for a post-secondary T&I certification program. Tables I through VII address this objective. The tables provide the survey statement from which the participants responded. The responses were listed under the headings of Disagree Strongly, Disagree, No Response, Agree, and Agree Strongly.

The responses to the statement provided by the instructors are listed on the upper section of the tables, and their immediate supervisors' responses are shown in the lower section of the tables. The results are shown by the number of responses and the percentage of the 51 instructors and the six immediate supervisors that participated. The mean and standard deviation were calculated using the responses previously described. Descriptive computer software (Bolding, 1984) was used in making these calculations.

The T&I instructors rated statement one on Table I agree with nearly a 65% approval rate that post-secondary instructors should have a separate certification from the T&I instructors. Their immediate supervisors' responses were evenly split with 50% disagree and 50% agree.

In Table II, both groups disagree that secondary certification was adequate for post-secondary instructors. The instructors and the supervisors rejected this statement with the lowest rating in Section I. Table II shows the instructors rated it with a mean score of 2.12 and the supervisors similarly rejected it with a mean score of 2.17. The instructors' standard deviation was 1.09 and the supervisors' was .98. The instructors disapproved with better than a 60% rating and the supervisors with a 83% rating.

TABLE I
 PERCEPTIONS OF INSTRUCTORS AND THEIR IMMEDIATE
 SUPERVISORS REGARDING THE NEED FOR POST-
 SECONDARY T&I TEACHER CERTIFICATION

STATEMENT					
Post-secondary T&I instructors should have a separate certification program from the secondary T&I instructors.					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	19.6%	3.9%	11.7%	33.3%	31.3%
Number	10	2	6	17	16
Sample Size	Mean				Standard Deviation
51	3.53				1.47
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	50%	0%	16.6%	33.3%
Number	0	3	0	1	2
Sample Size	Mean				Standard Deviation
6	3.33				1.51

TABLE II

PERCEPTIONS OF INSTRUCTORS AND THEIR IMMEDIATE
SUPERVISORS OF THE SUFFICIENCY OF SECONDARY
CERTIFICATION FOR T&I POST-
SECONDARY TEACHERS

STATEMENT					
I think the secondary certification Program is sufficient for post-secondary T&I instructors.					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	37.2%	23.5%	23.5%	13.7%	1.9%
Number	12	12	12	7	1
Sample Size	Mean				Standard Deviation
51	2.12				1.09
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	16.6%	66.6%	0%	16.6%	0%
Number	1	4	0	1	0
Sample Size	Mean				Standard Deviation
6	2.17				.98

TABLE III

PERCEPTIONS OF INSTRUCTORS AND THEIR IMMEDIATE
SUPERVISORS REGARDING THE NEED FOR EDUCATION
COURSES FOR POST-SECONDARY T&I TEACHERS

STATEMENT					
I think educational courses are necessary to be a good instructor.					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	11.7%	17.6%	5.8%	41.1%	15.6%
Number	6	9	7	21	8
Sample Size	Mean			Standard Deviation	
51	3.31			1.27	
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	83.3%	0%	0%	16.6%	0%
Number	5	0	0	1	0
Sample Size	Mean			Standard Deviation	
6	2.33			.87	

The instructors and their immediate supervisors were split in their opinion regarding perceived the need of education courses for post-secondary T&I instructors. The instructors narrowly agreed with a 56% approval while their immediate supervisors disagreed with a rating of 83% as shown in Table III. The T&I instructors and their immediate supervisors both agreed with the statement in Table IV with the highest mean score in Section I. This statement addressed the need for technical updates as a part of post-secondary teacher certification. The instructors rated this statement with a 4.14 mean score and the immediate supervisors rated it with a 4.17 mean score. The standard deviation for the instructors was .98 and for the immediate supervisors was .78.

In Table V there was a lot of variation in the responses. The instructors responded with a three-way split: 33% agreed, 33% No Response, and 33% disagreed on whether they perceived themselves to be professional educator or a tradesperson. The supervisors narrowly rated themselves to be closer aligned with their trade rather than education. They disagreed with a rating of 50%.

The statement in Table VI transposes the question in the previous table. Thirty-eight percent of the instructors agreed and 32% disagreed that they considered themselves to be more of a tradesperson than a professional educator. The supervisors responded with 50% agreeing and 17% disagreeing. In Table VII there was a slight majority of 51% of the instructors that did not think that a post-secondary certification was necessary. However, two-thirds of the supervisors did not want a post-secondary certification.

TABLE IV

PERCEPTIONS OF INSTRUCTORS AND THEIR IMMEDIATE
SUPERVISORS REGARDING THE NEED FOR
TECHNICAL UPDATE TRAINING FOR
POST-SECONDARY T&I TEACHER

STATEMENT					
If a post-secondary certification for T&I instructors existed, I think technical update training should be included as a part of the certification.					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	1.9%	7.8%	5.8%	43.1%	41.1%
	1	4	3	22	21
Sample Size	Mean			Standard Deviation	
51	4.14			.98	
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent Number	0%	0%	16.6%	50%	33.3%
	0	0	1	3	2
Sample Size	Mean			Standard Deviation	
6	4.17			.74	

TABLE V
PERCEPTIONS OF INSTRUCTORS AND THEIR IMMEDIATE
SUPERVISORS REGARDING THEIR SELF
IMAGE AS EDUCATORS

STATEMENT					
I consider myself to be more of a professional educator than a professional tradesperson.					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	13.7%	19.6%	33.3%	29.4%	3.9%
Number	7	10	17	15	2
Sample Size	Mean			Standard Deviation	
51	2.90			1.10	
PERCEPTIONS OF THE IMMEDIATE SUPERVISOR					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	50%	33.3%	16.6%	0%
Number	0	3	2	1	0
Sample Size	Mean			Standard Deviation	
6	2.67			.82	

TABLE VI

PERCEPTIONS OF INSTRUCTORS AND THEIR IMMEDIATE SUPERVISORS
REGARDING THEIR SELF-IMAGE AS EDUCATORS

STATEMENT					
I consider myself to be more of a professional tradesperson than a professional educator.					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	1.9%	29.4%	29.4%	27.4%	11.7%
Number	1	15	15	14	6
Sample Size	Mean			Standard Deviation	
51	3.18			1.05	
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	16.6%	33.3%	16.6%	33.3%
Number	0	1	2	1	2
Sample Size	Mean			Standard Deviation	
6	3.67			1.21	

TABLE VII

PERCEPTIONS OF INSTRUCTORS AND THEIR IMMEDIATE
SUPERVISOR REGARDING THE NEED FOR POST-
SECONDARY T&I TEACHER CERTIFICATION

STATEMENT

I don't think post-secondary T&I
instructors need a teaching certification.

PERCEPTIONS OF THE INSTRUCTORS

	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	7.6%	29.4%	13.7%	19.6%	31.3%
Number	3	15	7	10	16
Sample Size	Mean			Standard Deviation	
51	3.41			1.36	

PERCEPTIONS OF THE IMMEDIATE SUPERVISORS

	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	16.6%	16.6%	66.6%	0%
Number	0	1	1	4	0
Sample Size	Mean			Standard Deviation	
6	3.50			.84	

Objective Two

The second objective was to identify topics and courses perceived to be relevant for a post-secondary T&I certification program. Tables VIII through XXVII provide the data regarding this objective. Each table lists the title of the subject immediately beneath the heading of the table. Section II of the survey utilized a Likert Scale. The responses of the participants are listed by number and percent. The survey sample, along with the mean and standard deviation, are shown in the tables as previously described in objective one. The responses of the immediate supervisors are shown below those of the instructors with the same categories of information previously described.

The highest rated course or topic was "Safety", which is shown on Table XXV with the highest mean score. The instructors agree with a mean score of 4.37 and the supervisors agree with a mean score of 4.33. The standard deviation for the instructors was .66 and for their immediate supervisors was .52.

The lowest rated course and topic by both groups was VICA Management, shown in Table XIV. The supervisors rated it with the lowest mean score of 1.83 and the instructors also rated it with a low mean score of 2.22. The standard deviation for the instructors was 1.14 and .84 for the supervisors.

In Table VIII the instructors agreed with a 60% rating that Job and Task Analysis would be beneficial in a post-secondary training program. The supervisors were split with 50% agreeing and 50% disagreeing.

TABLE VIII
TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
Job and Task Analysis					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	1.9%	5.8%	31.3%	54.9%	5.8%
Number	1	3	16	28	3
Sample Size	Mean			Standard Deviation	
51	3.57			.78	
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	50%	0%	33.3%	16.6%
Number	0	3	0	2	1
Sample Size	Mean			Standard Deviation	
6	3.17			1.33	

In Table IX the instructors and supervisors agreed that Course and Curriculum Development was beneficial to post-secondary instructors. The immediate supervisors were in 100% agreement as were 80% of the instructors.

TABLE IX
TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
Course and Curriculum Development					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	1.9%	5.8%	11.7%	62.7%	17.6%
Number	1	3	6	32	9
Sample Size	Mean			Standard Deviation	
51	3.88			.84	
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	0%	0%	66.6%	33.3%
Number	0	0	0	4	2
Sample Size	Mean			Standard Deviation	
6	4.33			.52	

In Table X, 84% of the instructors agreed that Methods of Teaching Adults was an important course or topic for post-secondary instructors. Their immediate supervisors responded with 100% agreement.

TABLE X
TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
Methods of Teaching Adults					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	1.9%	3.9%	9.8%	58.8%	25.4%
Number	1	2	5	30	13
Sample Size	Mean				Standard Deviation
51	4.02				.84
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	0%	0%	66.6%	33.3
Number	0	0	0	4	2
Sample Size	Mean				Standard Deviation
6	4.33				.87

In Table XI, shown below, the immediate supervisors were in 100% agreement on the benefit on this topic or course. The instructors also agreed with a high approval rate of 85%.

TABLE XI
TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
Characteristics of the Adult Learner					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	1.9%	1.9%	13.7%	64.7%	19.6%
Number	1	1	7	33	10
Sample Size	Mean			Standard Deviation	
51	3.96			.77	
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	0%	0%	100%	0%
Number	0	0	0	6	0
Sample Size	Mean			Standard Deviation	
6	4.0			0	

The majority of the instructors and supervisors were in agreement with the need for Tests and Measurements training. The instructors agreed with a 75% rating and their immediate supervisors rated it 83%.

TABLE XII
TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
Tests and Measurements					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	3.9%	3.9%	15.6%	60.7%	15.6%
Number	2	2	8	31	8
Sample Size	Mean				Standard Deviation
51	3.8				.89
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	16.6%	0%	83.3%	0%
Number	0	1	0	5	0
Sample Size	Mean				Standard Deviation
6	3.67				.82

In Table XIII, shown below, the instructors and supervisors both agreed on the need for training in the area of Organization of Instruction Material. The supervisors strongly agreed with a 100% rating and the instructors agreed with a rating of 80%.

TABLE XIII

TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
Organization of Instruction Material					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	1.9%	5.8%	13.7%	64.7%	15.6%
Number	1	3	7	33	8
Sample Size	Mean			Standard Deviation	
51	3.88			.79	
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	0%	0%	66.6%	33.3%
Number	0	0	0	4	2
Sample Size	Mean			Standard Deviation	
6	4.33			.52	

VICA Management was the lowest rated course or topic by both groups. Sixty-seven percent of the supervisors and 57% of the instructors rejected its benefit for post-secondary instructors. The mean score for the supervisors was 1.83 and for the instructors it was 2.22.

TABLE XIV
TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
VICA Management					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	37.2%	19.6%	29.4%	11.7%	1.9%
Number	19	10	15	6	1
Sample Size	Mean				Standard Deviation
51	2.22				1.14
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	50%	16.6%	33.3%	0%	0%
Number	3	1	2	0	0
Sample Size	Mean				Standard Deviation
6	1.83				.84

Table XV provides the result of the perception of the instructors and their immediate supervisor regarding the course or topic of Educational Psychology. The instructors and their supervisors were split on their ratings. A narrow majority of the instructors agreed while two-thirds of the supervisors disagreed.

TABLE XV
TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
Educational Psychology					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	11.7%	9.8%	27.4%	45%	7.8%
Number	6	5	14	23	4
Sample Size	Mean				Standard Deviation
51	3.25				1.13
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	66.6%	33.3%	0%	0%
Number	0	4	2	0	0
Sample Size	Mean				Standard Deviation
6	2.33				.52

A topic or course on Audio Visuals were agreed upon by both groups. The instructors rated it 63% and their immediate supervisors rated it 67%. The standard deviation of both groups was less than one.

TABLE XVI
TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
Audio Visuals (Media)					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	5.8%	7.8%	23.5%	52.9%	9.8%
Number	3	4	12	27	5
Sample Size	Mean			Standard Deviation	
51	3.53			.99	
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	16.6%	16.6%	66.6%	0%
Number	0	1	1	4	0
Sample Size	Mean			Standard Deviation	
6	3.5			.84	

The course or topic of Educating the Handicapped received varied responses from both groups. The rating of the instructors was almost a three-way split, with 33% disagreeing, 35% giving No Response, and 31% agreeing. Half of the supervisors rate it with No Response.

TABLE XVII

TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
Educating the Handicapped					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	9.8%	23.5%	35.2%	29.4%	1.9%
Number	5	12	18	15	1
Sample Size	Mean			Standard Deviation	
51	2.9			1.01	
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	16.6%	16.6%	50%	16.6%	0%
Number	1	1	3	1	0
Sample Size	Mean			Standard Deviation	
6	2.67			1.03	

Both groups agreed that Human Relations was needed for post-secondary instructors. The rating consisted of sixty-four percent of the instructors and 67% of the supervisors.

TABLE XVIII
TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
Human Relations					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	5.8%	5.8%	23.5%	56.8	7.8%
Number	3	3	12	29	4
Sample Size	Mean				Standard Deviation
51	3.55				.94
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	16.6%	16.6%	50%	16.6%
Number	0	1	1	3	1
Sample Size	Mean				Standard Deviation
6	3.67				1.03

The instructors and the supervisors agreed that Competency-Based education would benefit post-secondary T&I instructors. The instructors rated it with a 68% majority, while the supervisors rated it agree a 67% rating.

TABLE XIX

TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
Competency-Based Education					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	3.9%	1.9%	25.4%	54.9%	13.7%
Number	2	1	13	28	7
Sample Size	Mean			Standard Deviation	
51	3.73			.87	
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	16.6%	16.6%	16.6%	50%
Number	0	1	1	1	3
Sample Size	Mean			Standard Deviation	
6	4.0			1.26	

The instructors and their immediate supervisors both agreed that School and Industrial Relations was beneficial for post-secondary instructors. As shown in Table XX the instructors agreed with a rating of 71% and the supervisors rated it 83%.

TABLE XX
TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
School and Industrial Relations					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	3.9%	3.9%	21.5%	49%	21.5%
Number	2	2	11	25	11
Sample Size	Mean			Standard Deviation	
51	3.8			.96	
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	16.6%	0%	83.3%	0%
Number	0	1	0	5	0
Sample Size	Mean			Standard Deviation	
6	3.67			.82	

The course or topic entitled History and Philosophy of Vocational Education, was rejected by supervisors with a 67% disagree rating. The instructors rated it very close to a three-way split, with most also rating it disagree.

TABLE XXI

TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
History and Philosophy of Vocational Education					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	13.7%	23.5%	29.4%	31.3%	1.9%
Number	7	12	15	16	1
Sample Size	Mean			Standard Deviation	
51	2.8			1.08	
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	66.6%	33.3%	0%	0%
Number	0	4	2	0	0
Sample Size	Mean			Standard Deviation	
6	2.33			.52	

In Table XXII, the instructors and the supervisors both rated Cooperative Education as No Response. The standard deviation for both groups was less than one which indicates that the responses did not vary much.

TABLE XXII
TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
Cooperative Education					
PERCEPTIONS OF INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	5.8%	15.6%	45%	27.4%	5.8%
Number	3	8	23	14	3
Sample Size	Mean			Standard Deviation	
51	3.12			.95	
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	16.6%	50%	33.3%	0%
Number	0	1	3	2	0
Sample Size	Mean			Standard Deviation	
6	3.17			.75	

The instructors agree that Public Relations would be beneficial for post-secondary instructors. However, the supervisors were split over its value. In Table XXIII, the mean score of three and the standard deviation of 1.10 is shown for the instructors.

TABLE XXIII
TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
Public Relations					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	5.8%	11.7%	25.4%	49%	7.8%
Number	3	6	13	25	4
Sample Size	Mean				Standard Deviation
51	3.41				1.0
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	50%	0%	50%	0%
Number	0	3	0	3	0
Sample Size	Mean				Standard Deviation
6	3.0				1.10

The instructors disagree that the topic or course History and Philosophy of T&I would be of benefit. The supervisors split with 50% rating it disagree and 50% rating it No Response. The mean score of each group was in the Disagree or Strongly Disagree categories.

TABLE XXIV
TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
History and Philosophy of T&I					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	11.7%	29.4%	33.3%	23.5%	1.9%
Number	6	15	17	13	1
Sample Size	Mean			Standard Deviation	
51	2.75			1.02	
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	16.6%	33.3%	50%	0%	0%
Number	1	2	3	0	0
Sample Size	Mean			Standard Deviation	
6	2.33			.82	

The highest rated course or topic was Safety, which is shown on Table XXV with the highest mean score. The instructors agree with a mean score of 4.37 and the supervisors agree with a mean score of 4.33. The standard deviation for the instructors was .66 and for their immediate supervisors was .52.

TABLE XXV
TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE Safety					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	1.9%	7.8%	41.1%	49%
Number	0	1	4	21	25
Sample Size	Mean			Standard Deviation	
51	4.37			.66	
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	0%	0%	66.6%	33.3%
Number	0	0	0	4	2
Sample Size	Mean			Standard Deviation	
6	4.33			.52	

The instructors and their immediate supervisors both agreed that Shop Organization and Management was of benefit in training post-secondary instructors. The instructors rated it with a 72% approval rate and the supervisors with a 67% approval. The mean scores for both groups were approximately 3.80.

TABLE XXVI

TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
Shop Organization and Management					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	3.9%	3.9%	19.6%	52.9%	19.6%
Number	2	2	10	27	10
Sample Size					Standard Deviation
51	Mean				.94
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	16.6%	16.6%	33.3%	33.3%
Number	0	1	1	2	2
Sample Size					Standard Deviation
6	Mean				1.17

The second highest rated item was the topic or course entitled Technical Updates/Conferences/Courses, which is shown in Table XXVII. The instructors rated it with a mean score of 4.22 with a mean of 4.33 for their immediate supervisors. The standard deviation for the instructors was .92 with .52 for the supervisors.

TABLE XXVII

TOPICS AND COURSES PERCEIVED BY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS TO BE
RELEVANT TO A POST-SECONDARY T&I
CERTIFICATION PROGRAM

TOPIC OR COURSE					
Technical Updates/Conferences/Courses					
PERCEPTIONS OF THE INSTRUCTORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	1.9%	1.9%	15.6%	33.3%	47%
	1	1	8	17	24
Sample Size	Mean			Standard Deviation	
51	4.22			.92	
PERCEPTIONS OF THE IMMEDIATE SUPERVISORS					
	Disagree Strongly	Disagree	No Response	Agree	Agree Strongly
Percent	0%	0%	0%	66.6%	33.3%
Number	0	0	0	4	2
Sample Size	Mean			Standard Deviation	
6	4.33			.52	

The instructors and their immediate supervisors provided other courses or topics they considered to be pertinent and beneficial to post-secondary instructors. These courses listed in Table XXVIII were written by the survey respondents. Some of the courses or topics listed are included in the secondary certification program, while others address courses that are specific to the needs of post-secondary instructors.

TABLE XXVIII
COURSES OR TOPICS SUGGESTED BY
THE SURVEY PARTICIPANTS

-
1. Legal Considerations in the Classroom
 2. How to Handle Adults that aren't in School to Learn
 3. Technical Courses
 4. Test/Measurements and Evaluation
 5. A.G.C. Construction Craftsman
 6. Hygiene
 7. Motivational Skills
 8. Methods of Instruction
 9. Retraining the Adult
 10. The Adult After 40 Years of Not Being a Student
 11. The Adult Fresh Out of High School
 12. Educating Parolees
 13. How to Handle the Problem Adult
 14. Effective Counseling
-

Objective Three

The third objective was to determine if there was a significant relationship between the opinions of instructors and those of their immediate supervisors regarding the need for a post-secondary T&I teacher certification program.

Table XXIX provides the statistical data that are associated with this objective. The mean score for the instructors was 3.227 with a standard deviation of .6192. The mean score for the supervisors was 3.12 with a standard deviation of .7442.

The correlated value was .7955 with a significance of .0321. Since this was less than the alpha of .05 stated in the hypothesis, it was confirmed that no significant relationship existed between the perception of the full-time post-secondary T&I instructors and those of their immediate supervisors.

TABLE XXIX
 CORRELATION BETWEEN RESPONSES OF INSTRUCTORS
 AND RESPONSES OF SUPERVISOR REGARDING
 THE NEED FOR A POST-SECONDARY
 TEACHER CERTIFICATION

Instructors		
Number of Questions	Mean Score	Standard Deviation
7	3.227	.6192
Supervisors		
Number of Questions	Mean Score	Standard Deviation
7	3.120	.7442
Correlation	Significance	
.7955	.0321	

Objective Four

The fourth objective was to determine if there was a significant relationship between the opinions of the instructors and those of their immediate supervisors regarding the content of a teacher post-secondary certification program. The courses and topics that were listed in Section II of the survey were used to provide this information.

The data in Table XXX provide the calculations to satisfy this objective. The mean score for the instructors was 3.52 with a standard deviation of .5442. The mean score for the supervisors was 3.441 with a standard deviation of .7988.

The correlation was .9373 with a significance of .0001. The hypothesis stated an alpha of .05 to accept the hypothesis. Since $r = .001$ the hypothesis was accepted.

TABLE XXX

CORRELATION OF OVERALL RESPONSES OF INSTRUCTORS AND
SUPERVISORS REGARDING COURSES AND TOPICS THAT
SHOULD BE CONTAINED IN A POST-SECONDARY
T&I TEACHER CERTIFICATION PROGRAM

Instructors		
Number of Questions	Mean Score	Standard Deviation
20	3.520	.5442
Supervisors		
Number of Questions	Mean Score	Standard Deviation
20	3.441	.7988
Correlation		Significance
.9373		.0001

The courses and topics in Table XXXI are ranked in the order of the mean score ratings of the instructors and their supervisors from the surveys. Courses and topics that have the same mean scores will also have the same number preceding it.

TABLE XXXI
COURSES OR TOPIC RANKED IN THE ORDER
OF THE SURVEY RATING

INSTRUCTORS	IMMEDIATE SUPERVISORS
(1) Safety	(1) Safety
(2) Technical Updates/ Conferences/Courses	(1) Technical Updates/ Conferences/Courses
(3) Methods of Teaching Adults	(1) Methods of Teaching Adults
(4) Characteristics of the Adult Learner	(1) Organization of Instructional Materials
(5) Course and Curriculum Development	(1) Course and Curriculum Development
(5) School and Industrial Relations	(2) Characteristics of the Adult Learner
(5) Organization of Instructional Material	(2) Competency Based Education
(5) Shop Organization and Management	(3) Shop Organization and Management
(5) Tests and Measurements	(4) Tests and Measurements
(6) Competency Based Education	(4) School and Industrial Relations
(7) Job and Task Analysis	(4) Human Relations
(8) Human Relations	(5) Audio Visual (Media)
(9) Audio Visual (Media)	(6) Job and Task Analysis
(10) Public Relations	(6) Cooperative Education
(11) Educational Psychology	(7) Public Relations

TABLE XXXI (Continued)

INSTRUCTORS	IMMEDIATE SUPERVISORS
(12) Cooperative Education	(8) Educating the Handicapped
(13) Educating the Handicapped	(9) Educational Psychology
(14) History and Philosophy of Vocational Education	(9) History and philosophy of Vocational Education
(14) History and Philosophy of T&I	(9) History and Philosophy of T&I
(15) VICA Management	(10) VICA Management

Objective Five

The fifth objective was to collect biographical data about the respondents to describe the population. Table XXXII provides the instructors' responses to questions one through four of Section III of the survey. The findings show that 92% of the post-secondary instructors do not have a secondary teaching certificate and 62% have not completed a T&I college course. Eighty-one percent of the respondents' schools do not require them to participate in T&I education courses and 64% of the instructors have not taken the NOCTI examination.

The supervisors' responses to the same questions are shown on Table XXXIII. Fifty percent of the supervisors had secondary teaching certificates, and 67% had completed T&I college courses. Fifty percent state that their schools require their instructors to participate in T&I education courses and 67% had taken the NOCTI examination.

Table XXXIV shows the level of education for both groups. All of the supervisors had completed their Baccalaureate Degree and 3 had completed their Master's Degree. Four percent of the instructors had earned their Masters, 18% had completed their Baccalaureate Degree, 33% had earned their Associate Degree and 45% had high school educations.

Table XXXV shows the number of years that the instructors have taught adults and secondary students. The average number of years that the instructors had taught adult students was 5.7 years, compared with that of 1.3 years they had taught secondary students. Only four of the 51 instructors had taught secondary students over a year. Fifty-three percent of the instructors had taught five years or less.

TABLE XXXII
BIOGRAPHICAL INFORMATION ABOUT
THE INSTRUCTORS

QUESTION		
Do you have a Secondary Teaching Certificate?		
	YES	NO
Number	4	47
Percent	7.8%	92%
QUESTION		
Have you ever completed any T&I college courses?		
	YES	NO
Number	19	32
Percent	37.2%	62.7%
QUESTION		
Are post-secondary instructors required by your school to participate in T&I education courses		
	YES	NO
Number	9	38
Percent	19%	80.8%
QUESTION		
Have you ever taken the NOCTI or another occupational competency examination		
	YES	NO
Number	18	32
Percent	36%	64%

TABLE XXXIII
BIOGRAPHICAL INFORMATION ABOUT THE
IMMEDIATE SUPERVISORS

QUESTION		
Do you have a Secondary Teaching Certificate?		
	YES	NO
Number	3	3
Percent	50%	50%
QUESTION		
Have you ever completed any T&I college courses?		
	YES	NO
Number	4	2
Percent	66.6%	33.3%
QUESTION		
Are post-secondary instructors required by your school to participate in T&I education courses		
	YES	NO
Number	3	3
Percent	50%	50%
QUESTION		
Have you ever taken the NOCTI or another occupational competency examination		
	YES	NO
Number	4	2
Percent	66.6%	33.3%

TABLE XXXIV

EDUCATION LEVEL OF THE POST-SECONDARY INSTRUCTORS
AND THEIR IMMEDIATE SUPERVISORS

INSTRUCTORS				
	High School	Associate Degree	Baccalaureate Degree	Master's Degree
Number	23	17	9	2
Percent	45%	33.3%	17.6%	3.9%

IMMEDIATE SUPERVISORS				
	High School	Associate Degree	Baccalaureate Degree	Master's Degree
Number	-	-	4	2
Percent	-	-	66.6%	33.3%

TABLE XXXV

POST-SECONDARY INSTRUCTORS' NUMBER
OF YEARS OF TEACHING ADULT

<u>5</u>	0-1 year	<u>1</u>	8	<u>0</u>	15
<u>8</u>	2	<u>1</u>	9	<u>0</u>	16
<u>7</u>	3	<u>5</u>	10	<u>0</u>	17
<u>2</u>	4	<u>4</u>	11	<u>1</u>	18
<u>5</u>	5	<u>0</u>	12	<u>0</u>	19
<u>4</u>	6	<u>3</u>	13	<u>1</u>	20
<u>2</u>	7	<u>1</u>	14	<u>1</u>	over 20

INSTRUCTORS NUMBER OF YEARS
OF TEACHING SECONDARY STUDENTS

<u>47</u>	0-1 year	<u>1</u>	8	<u>0</u>	15
<u>1</u>	2	<u>0</u>	9	<u>0</u>	16
<u>0</u>	3	<u>0</u>	10	<u>0</u>	17
<u>1</u>	4	<u>0</u>	11	<u>0</u>	18
<u>0</u>	5	<u>0</u>	12	<u>0</u>	19
<u>0</u>	6	<u>0</u>	13	<u>0</u>	20
<u>1</u>	7	<u>0</u>	14	<u>0</u>	over 20

AVERAGE YEARS OF TEACHING
ADULTS = 5.7 YEARS
SECONDARY=1.3 YEARS

Table XXXVI shows the number and percentage of the instructors that have technical certifications. The majority (65%) had technical certification. A list of their certifications are given in this table.

TABLE XXXVI

TECHNICAL CERTIFICATIONS HELD BY
POST-SECONDARY T&I INSTRUCTORS

	YES	NO
Number	33	18
Percent	64.7%	35.2%

TYPES OF CERTIFICATIONS

- (1) Master Mason
 - (2) Airframe & Powerplant License (10)
 - (3) Commercial Pilot
 - (4) IA License
 - (5) ASE (2)
 - (6) Certified Welder
 - (7) Ratings and Specialized Training
 - (8) Certified Manufacturing Technologist (3)
 - (9) Military Instructor
 - (10) Oklahoma CDL & Private Pilot Certificate
 - (11) AGC Certificate
 - (12) Helicopter Commercial Instrument Pilot License
 - (13) DME, PP, and NASA Instructor
 - (14) FCC Ticket
 - (15) PTDDDC - Defensive Driving Course
 - (16) Defensive Driving Instructor
 - (17) Master Automotive Service Tech ASE
 - (18) State Master Plumber - State Master Mechanical
-

CHAPTER V
SUMMARY, FINDINGS, CONCLUSIONS,
AND RECOMMENDATIONS

This chapter briefly reviews the study, the major findings, and the conclusions that are based on the findings. The recommendations for addressing post-secondary certification/training is presented. In addition, a recommendation for further research is given.

Summary

The purpose of this study was to determine if a need existed for a trade and industrial post-secondary teacher certification program for full-time instructors of adults in Oklahoma.

This study had the following objectives:

1. To identify the perceptions of T&I instructors and their immediate supervisors regarding a post-secondary T&I certification program.
2. To identify topics and courses perceived to be relevant for a post-secondary T&I certification program.
3. To determine if there is a significant difference between the opinions of instructors and those of their immediate supervisors regarding a post-secondary T&I certification program.

4. To determine if there is a significant difference between the opinions of instructors and those of their immediate supervisors regarding the content of a post-secondary certification program.
5. To collect biographical data about the respondents to describe the population.

To accomplish the purpose and objectives of this study, a review of literature was performed and a survey was utilized. The survey had three sections. The first section provided statements that addressed objective one. Section II of the survey satisfied objective two by providing a means to determine the courses and topics that the participants of the survey considered important for post-secondary instructor training. By comparing the responses of Sections I and II, the third and fourth objectives were satisfied. The questions in Section III provided the biographical information that was required for objective five.

The review of literature discussed many concerns relating to certification and how it affects post-secondary certification. Certification provides a means of requiring a minimum acceptable standard for practice in a profession in order to protect the public. The education profession has accepted the certification process as the most effective method of maintaining teaching standards.

The trend in T&I education indicates an increase in the post-secondary population and a decrease in the secondary student population. This trend should cause greater importance on the quality of post-secondary education.

The motivations and learning styles of the adult learners differ from secondary students. The secondary teacher certification program in Oklahoma specifically addresses the needs of high school instructors. There is no requirement in Oklahoma for post-secondary T&I instructors to participate in any teacher certification program. There

is not a uniform requirement for instructors to participate in any college level courses that address the needs of the adult learner.

Studies cited in the review of literature warns that a requirement for post-secondary teacher certification may discourage technically qualified individuals from becoming educators.

Findings

Adult learners differ significantly in motivation and in learning styles compared to secondary students. Post-secondary instructors and their immediate supervisors do not think the secondary certification meets the needs of adult educators. However, a narrow majority of post-secondary instructors do not think a post-secondary teacher certification is needed. A majority of the instructors considered educational courses to be necessary to become a good instructor and place a higher emphasis on technical training. They agreed that most of the topics and courses in the survey would be beneficial for them and rated Safety, Characteristics of the Adult Learner and Technical Update Training the highest. The lowest rated courses and topics were VICA Management, Educating the Handicapped, and History and Philosophy of T&I and Vocational Education.

The supervisors were in general agreement with the instructors on most matters with a few exceptions. One area of disagreement was the need for education courses to be good instructors. The majority of the supervisor disagreed with the need for education courses and also disagreed with the benefit of Educational Psychology for post-secondary educators.

There is no significant relationship in the perceptions of full-time post-secondary T&I instructors and their immediate supervisors regarding the contents of a post-secondary certification program. There was also, no significant relationship in their perceptions

regarding the courses and topics appropriate for a post-secondary T&I certification program.

There is a clear trend showing the post-secondary student population growing and the secondary student population decreasing in vocational/technical education. Also fifty percent of the new jobs in the next decade will require post-secondary training.

All teachers in Oklahoma public school system are required to become certified except post-secondary instructors. Traditional classroom teachers are required to have a certification when they are employed. Vocational educators are hired primarily on the basis on their occupational experience. Secondary vocational teachers earn their certification after they are employed.

Ninety-two percent of the post-secondary T&I instructors that responded to this study's survey do not have any type of teacher certification. The majority of those post-secondary instructors are not required by their schools to participate in T&I educational courses, and the majority have not participated. The results of the survey also indicated that a majority of the post-secondary T&I instructors and their immediate supervisors in Oklahoma are opposed to a teacher certification program for post-secondary T&I instructors. Despite this, both the instructors and supervisors rated most of the courses or topics in Section II of the survey as being beneficial for them to be better instructors.

Post-secondary T&I instructors have relatively little teaching experience. Fifty-three percent of them have five years or less teaching experience, with an average of 5.7 years for the surveyed population. This is probably due to the recent growth of post-secondary programs.

Conclusions

Based on the findings the following conclusions are made.

1. It is the researcher's opinion that many qualified instructors will leave education if a post-secondary T&I certification is required, unless incentives are included that would encourage them to participate. This is based on many factors which include the costs of college courses and the significant amount of time required to complete a certification/degree program. Another factor that may discourage individuals from entering and remaining in education is the general perception of low standards of professional educators. This may account for the majority of the supervisors in this study that considered themselves to be professional tradepersons rather than profession educators.

2. There is an ambivalence in the perception of the post-secondary instructor's need for a post-secondary certification and the need to improve their teaching skills. The majority of the instructors do not want a certification program, yet they see how the majority of the courses and topics rated on the survey as a benefit to their skills as teachers/instructors.

3. There is clearly a need for a means to provide upgrade training for post-secondary instructors.

4. There is a shift in priorities occurring in vocational education in Oklahoma. Present trends indicate that there will be a growing demand in this decade for post-secondary training and a decreasing demand for secondary training.

5. Presently there are no adequate incentives, requirements or programs in Oklahoma for post-secondary instructors to upgrade their teaching skills.

6. Post-secondary T&I instructors place a very high emphasis on maintaining their technical qualifications.

Recommendations

Based on the conclusions the following recommendations are being made.

1. Organize a task force to consider a post-secondary certification program and/or professional improvement program for trade and industrial instructors. This committee would include representatives from post-secondary instruction, supervision and administration in post-secondary education, business and industry, State Department of Vocational and Technical Education, and Oklahoma State University and Central State University. This task force's goals would be to develop a program that will upgrade post-secondary educators teaching skills. The program would focus on the needs of the vocational/technical educator of adult students. It would also take into account the importance of upgrading technical competency as well as learning the skills to be an effective teacher.

2. The State Department of Vocational and Technical Education should encourage and endorse student membership in professional organizations. VICA does not provide professional affiliations, professional services or the association with industry that professional organizations are capable of providing.

3. A copy of this study be submitted to the Director and the T&I Supervisor of the Oklahoma State Department of Vocational Education.

The following recommendation is offered for further study.

A nation wide comparison of post-secondary certification requirements to determine if common concerns emerge.

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APPENDIX A

SURVEY

SURVEY

This is a three-part survey on the topic of certification for post-secondary Trade and Industrial (T&I) instructors. The information you provide will be kept confidential. Please, do not sign this survey.

SECTION I: In this section, please circle the number that best indicates your opinion about the statement.

	<i>Disagree Strongly</i>	<i>Disagree</i>	<i>No Response</i>	<i>Agree</i>	<i>Agree Strongly</i>
(1) Post-secondary T&I instructors should have a separate certification program from the secondary T&I instructors.	1	2	3	4	5
(2) I think the secondary certification program is sufficient for post-secondary T&I instructors.	1	2	3	4	5
(3) I think educational courses are necessary to be a good instructor.	1	2	3	4	5
(4) If a post-secondary certification for T&I instructors existed, I think technical update training should be included as a part of the certification.	1	2	3	4	5
(5) I consider myself to be more of a professional educator than a professional tradesperson.	1	2	3	4	5
(6) I consider myself to be more of a professional tradesperson than a professional educator.	1	2	3	4	5
(7) I don't think post-secondary T&I instructors need a teaching certification.	1	2	3	4	5

SECTION II: In the following questions, assume there is a certification program for post-secondary instructors, rate the following college courses and topics. Please, circle the number that best indicates your opinion of which courses and topics that would benefit you as an instructor.

	<i>Disagree Strongly</i>	<i>Disagree</i>	<i>No Response</i>	<i>Agree</i>	<i>Agree Strongly</i>
(1) Job and Task Analysis	1	2	3	4	5
(2) Course and Curriculum Development	1	2	3	4	5
(3) Methods of Teaching Adults	1	2	3	4	5
(4) Characteristics of the Adult Learner	1	2	3	4	5
(5) Tests and Measurements	1	2	3	4	5
(6) Organization of Instruction Material	1	2	3	4	5
(7) VICA Management	1	2	3	4	5
(8) Educational Psychology	1	2	3	4	5
(9) Audio Visuals (Media)	1	2	3	4	5
(10) Educating the Handicapped	1	2	3	4	5
(11) Human Relations	1	2	3	4	5
(12) Competency Based Education	1	2	3	4	5
(13) School and Industrial Relations	1	2	3	4	5
(14) History and Philosophy of Vocational Education	1	2	3	4	5
(15) Cooperative Education	1	2	3	4	5
(16) Public Relations	1	2	3	4	5
(17) History and Philosophy of T&I	1	2	3	4	5
(18) Safety	1	2	3	4	5
(19) Shop Organization and Management	1	2	3	4	5
(20) Technical Updates/Conferences/Courses	1	2	3	4	5

Write in any other course(s) or major topics that should be included for teaching adult students. _____

SECTION III: This section asks biographical questions about each participants educational background.

Directions: Mark an "X" in the appropriate blank.

YES NO

1. ___ ___ Do you have a Secondary Teaching Certificate?
2. ___ ___ Have you ever completed any T&I college courses?
3. ___ ___ Are post-secondary instructors required by your school to participate in T&I education courses?
4. ___ ___ Have you ever taken the NOCTI or another occupational competency examination?
5. Mark an "X" in front of the highest level of education you have completed.

- ___ High school diploma or an equivalent.
- ___ Associate Degree or a post-secondary trade school.
- ___ Baccalaureate Degree.
- ___ Master's Degree.
- ___ Doctorate Degree.

6. Mark an "X" in front of the job that you perform.

- ___ Administrator
- ___ Instructor

7. Mark an "X" in front of the answer that best states the years you have taught adults only.

- | | | |
|--------------|--------|-------------|
| ___ 0-1 year | ___ 8 | ___ 15 |
| ___ 2 | ___ 9 | ___ 16 |
| ___ 3 | ___ 10 | ___ 17 |
| ___ 4 | ___ 11 | ___ 18 |
| ___ 5 | ___ 12 | ___ 19 |
| ___ 6 | ___ 13 | ___ 20 |
| ___ 7 | ___ 14 | ___ over 20 |

8. Mark an "X" in front of the answer that best states the years you have taught secondary students only?

<input type="checkbox"/>	0-1 year	<input type="checkbox"/>	8	<input type="checkbox"/>	15
<input type="checkbox"/>	2	<input type="checkbox"/>	9	<input type="checkbox"/>	16
<input type="checkbox"/>	3	<input type="checkbox"/>	10	<input type="checkbox"/>	17
<input type="checkbox"/>	4	<input type="checkbox"/>	11	<input type="checkbox"/>	18
<input type="checkbox"/>	5	<input type="checkbox"/>	12	<input type="checkbox"/>	19
<input type="checkbox"/>	6	<input type="checkbox"/>	13	<input type="checkbox"/>	20
<input type="checkbox"/>	7	<input type="checkbox"/>	14	<input type="checkbox"/>	over 20

9. Mark an "X" in the in the appropriate blank that indicates if you have any professional certifications other than in education?

YES NO If you marked yes, what are they?

Other Comments: _____

Thank you for taking the time to complete this questionnaire. Your participation in this survey is truly appreciated.

APPENDIX B

UNSOLICITED SURVEY COMMENTS

UNSOLICITED COMMENTS

- (1) Is a certification requirement for my benefit or further bureaucracy?
- (2) I believe adult education is very important part of our vocational and technical system. I feel the state needs more full-time adult programs. When students are in a program, the schools make the programs fit the secondary student and not the adults. If an adult instructor needs a certification, will the schools put high school students in adult programs? I think they will. So in the end we will have fewer adult programs.
- (3) Glad for the opportunity to express my opinion.
- (4) No certification for adult instructors.
- (5) Most technical instructors could if necessary enter the job market with little trouble. I believe that if they were faced with achieving a certification or leaving education, they would and could leave education.
- (6) I think schools should subsidize the expense of taking required college courses.
- (7) Do not require adults instructors to be certified.
- (8) Some people have the talent for classroom presentation, given they have the technical expertise in their field. Some don't. Certification will not improve the learning environment.
- (9) Post-secondary instructors are generally experienced adults, who have excelled in their field, These people are constantly searching for new challenges. Every new class is a new challenge.
- (10) I feel that technical competence should be placed ahead of technical certificates. Many secondary instructors have teaching certificates but have absolutely no teaching competence.
- (11) We teach 12 months. It would be difficult to get a teaching certificate. I would prefer seminars and training courses from industry.
- (12) I don't like the idea of a certificate that is for adult only or secondary only. If I move to another district, my opportunities are limited with a restricted certification. I'd rather be able to teach both adults and secondary with only a minimum of additional courses. My experience is what technical competency of the instructor is far more important than the educational competency.

APPENDIX C

COVER LETTERS

August 16, 1990

Dear _____,

I recently spoke with _____ on the phone about the post-secondary instructors in the Diesel Mechanics Program at Gordon Cooper participating in a graduate study survey that I am working on at Oklahoma State University. He suggested that I send the survey to you in order to have them completed by him, _____, _____, and you. I sincerely appreciate your help in this matter.

The study is entitled "A Needs Assessment For A Post-Secondary Certification for Full-Time Trade and Industrial Vocational Instructors in Oklahoma". The survey should only be completed by T&I instructors who teach adult students and their immediate supervisors. Their opinions are necessary in order to accurately address the objectives of this study.

I realize that this survey may not address all the concerns that relate to the certification of instructors of adult students. Therefore, I want to encourage the participants to state their opinions in the comment section of the survey. The information they provide will be kept confidential.

Please return to me, in the enclosed envelope, the completed surveys and a list of names of the participants.

Thank you very much for your assistance.

Sincerely,

Malcolm Fowler

August 16, 1990

Dear __,

I appreciate your assistance with my graduate study survey. I am enclosing 11 surveys to be completed by the instructors at the Aviation Center. The study is entitled "A Needs Assessment For A Post-Secondary Certification for Full-Time Trade and Industrial Vocational Instructors in Oklahoma". The survey should only be completed by T&I instructors who teach adult students and their immediate supervisor. Their opinions are necessary in order to accurately address the objectives of this study.

I realize that this survey does not address all the concerns that relate to the certification of instructors of adult students. Therefore, I want to encourage the participants to state their opinions in the comment section of the survey. The information they provide will be kept confidential.

The following is a list of the participants that are included in this survey. If there are any others that are not on this list, they may also participate. Please return to me, in the enclosed envelope, the completed surveys and a list of names of the participants.

Immediate Supervisor

Instructors

Thank you very much for your assistance.

Sincerely,

Malcolm Fowler

August 16, 1990

Dear _____

I appreciate your assistance with my graduate study survey. I am enclosing 21 surveys to be completed by the instructors and their immediate supervisors at the Air Park. The study is entitled "A Needs Assessment For A Post-Secondary Certification for Full-Time Trade and Industrial Vocational Instructors in Oklahoma". The survey should only be completed by T&I instructors who teach adult students and their immediate supervisor. Their opinions are necessary in order to accurately address the objectives of this study.

I realize that this survey does not address all the concerns that relate to the certification of instructors of adult students. Therefore, I want to encourage the participants to state their opinions in the comment section of the survey. The information they provide will be kept confidential.

The following is a list of the participants that are included in this survey. If there are any others that are not on this list, they may also participate. Please return to me, in the enclosed envelope, the completed surveys and a list of names of the participants.

Immediate Supervisors

_____	_____	_____
Instructors		
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Thank you very much for your assistance.

Sincerely,

Malcolm Fowler

August 16, 1990

Dear _____,

I appreciate your assistance with my graduate study survey. I am enclosing 8 surveys to be completed by the instructors and you at Great Plains Vo-Tech. The study is entitled "A Needs Assessment For A Post-Secondary Certification for Full-Time Trade and Industrial Vocational Instructors in Oklahoma". The survey should only be completed by T&I instructors who teach adult students and their immediate supervisor. Their opinions are necessary in order to accurately address the objectives of this study.

I realize that this survey does not address all the concerns that relate to the certification of instructors of adult students. Therefore, I want to encourage the participants to state their opinions in the comment section of the survey. The information they provide will be kept confidential.

The following is a list of the participants that are included in this survey. If there are any others that are not on this list, they may also participate. Please return to me, in the enclosed envelope, the completed surveys and a list of names of the participants.

Immediate Supervisors

Instructors

Thank you very much for your assistance.

Sincerely,

Malcolm Fowler

August 14, 1990

Dear _____,

I appreciate your assistance with my graduate study survey. I am enclosing nine surveys to be completed by the truck driver training instructors at Central Vo-Tech. The study is entitled "A Needs Assessment For A Post-Secondary Certification for Full-Time Trade and Industrial Vocational Instructors in Oklahoma". The survey should only be completed by T&I instructors who teach adult students and their immediate supervisor. Their opinions are necessary in order to accurately address the objectives of this study.

I realize that this survey may not address all the concerns that relate to the certification of instructors of adult students. Therefore, I want to encourage the participants to state their opinions in the comment section of the survey. The information they provide will be kept confidential.

The following is a list of the participants that are included in this survey. If there are any others that are not on this list, they may also participate. Please return to me, in the enclosed envelope, the completed surveys and a list of names of the participants.

Immediate Supervisor

Instructors

Thank you very much for your assistance.

Sincerely,

Malcolm Fowler

VITA

Malcolm N. Fowler

Candidate for the Degree of

Master of Science

Thesis: A NEED ASSESSMENT FOR A POST-SECONDARY
CERTIFICATION FOR FULL-TIME TRADE AND
INDUSTRIAL VOCATIONAL INSTRUCTORS IN OKLAHOMA

Major Field: Trade and Industrial Education

Biographical:

Personal Data: Born in Cadiz, Kentucky, July 20 1946, the son of Malcolm T. and Rhea E. Fowler. Married to Patricia Kahler on January 23, 1982.

Education: Graduated from Alton High School, in Alton, Illinois in June of 1964; received Bachelor of Science in Occupational Education from Southern Illinois University at Carbondale in 1977; completed requirements for the Master of Science degree at Oklahoma State University in December, 1990.

Professional Experience: Served in the United States Army from June, 1964 to June, 1967, obtained the rank of Sergeant E-5, held positions of Supervisor, Assistant Director, Engineer, Assistant Supervisor, Technician, and Operator at Illinois Power Company from October, 1967 to May, 1982, Vice-President, Care Management Corporation in Oklahoma City, from May, 1982 to February, 1985; Instructor of Automated Technology at Canadian Valley Vo-Tech, El Reno, Oklahoma from March, 1985 to June, 1986; Instructor of Instrumentation and Control at Francis Tuttle Vo-Tech from June, 1986 to present.

Professional Organizations: Instrument Society of America, District 8 Vice-President-Elect, Greater Oklahoma Section of the Instrument Society of America, Delegate; Francis Tuttle Student Section of the Instrument Society of America, Faculty Advisor, American Vocational Association, Oklahoma Vocational Association, Vocational Clubs of America.

Publications: Co-author of a technical book and Technical Consultant of a technical book.