

8-2001

# Alternative Methods Used by States to License Technology Education Teachers to Fill Shortages of Teachers at the Secondary School Level

Percy M. Gregory  
*Old Dominion University*

Follow this and additional works at: [http://digitalcommons.odu.edu/ots\\_masters\\_projects](http://digitalcommons.odu.edu/ots_masters_projects)



Part of the [Secondary Education Commons](#)

---

## Recommended Citation

Gregory, Percy M., "Alternative Methods Used by States to License Technology Education Teachers to Fill Shortages of Teachers at the Secondary School Level" (2001). *OTS Master's Level Projects & Papers*. 577.  
[http://digitalcommons.odu.edu/ots\\_masters\\_projects/577](http://digitalcommons.odu.edu/ots_masters_projects/577)

This Master's Project is brought to you for free and open access by the STEM Education & Professional Studies at ODU Digital Commons. It has been accepted for inclusion in OTS Master's Level Projects & Papers by an authorized administrator of ODU Digital Commons. For more information, please contact [digitalcommons@odu.edu](mailto:digitalcommons@odu.edu).

ALTERNATIVE METHODS USED BY STATES  
TO LICENSE TECHNOLOGY EDUCATION  
TEACHERS TO FILL SHORTAGES OF TEACHERS  
AT THE SECONDARY SCHOOL LEVEL

A Research Paper  
Presented to the Graduate Faculty of  
the Department of Occupational and Technical Studies  
at Old Dominion University

In Partial Fulfillment  
of the Requirement for the Master of  
Science in Occupational and Technical Studies

By  
Percy M. Gregory  
August 2001

**APPROVAL PAGE**

This research paper was prepared by Percy M. Gregory under the direction of Dr. John M. Ritz in OTED 636, Problems in Occupational and Technical Studies. It was submitted to the Graduate Program Director as partial fulfillment of the requirements for the Degree of Master of Science degree.

APPROVAL BY:

John M. Ritz  
Dr. John M. Ritz  
Advisor and Graduate  
Program Director

8-14-01  
Date

## ACKNOWLEDGEMENT

I would like to thank Dr. John Ritz and Ms. Emily E. Jones for their assistance during the course of this study. Dr. Ritz's guidance and advice were invaluable and very much appreciative in completing this research. I would also like to thank the Supervisors/Directors of Technology Education from all the states and the District of Columbia that took time out of their schedules to provide data that was used in completing this study.

Percy M. Gregory

## TABLE OF CONTENTS

	PAGE
Approval Page .....	i
Acknowledgement .....	ii
Table of Tables .....	v
Chapter	
<b>I. INTRODUCTION</b> .....	1
Statement of the Problem .....	2
Research Goals .....	2
Background and Significance .....	3
Limitations .....	4
Assumptions .....	4
Procedures .....	5
Definition of Terms .....	5
Summary and Overview .....	6
<b>II. REVIEW OF LITERATURE</b> .....	8
Alternative Certification Programs for Technology Education Teachers .....	8
Alternatives to Approved Traditional Teacher Education Program .....	9
Reasons for Teacher Shortages .....	11
Advertisement and Recruitment .....	12
Teacher Incentives .....	12
Criticism of Alternative Certification Programs .....	14

Summary .....	14
<b>III. METHODS AND PROCEDURES .....</b>	<b>16</b>
Population .....	16
Instrument Design .....	16
Methods of Data Collection .....	18
Methods of Statistical Analysis .....	18
Summary .....	19
<b>IV. FINDINGS .....</b>	<b>20</b>
Demographic Profile .....	21
Responses to Questions 1 Through 3 .....	22
Responses to Questions 4 Through 6 .....	23
Summary .....	25
<b>V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>26</b>
Summary .....	26
Conclusions .....	28
Recommendations .....	30
<b>BIBLIOGRAPHY .....</b>	<b>31</b>
<b>APPENDICES .....</b>	<b>32</b>
Appendix A. Cover Letter .....	33
Appendix B. Survey Instrument .....	34
Appendix C. Follow-up Letter .....	36
Appendix D. Survey Results Q1 Through Q3...	38
Appendix E. Survey Results Q4 Through Q6...	40

TABLE OF TABLES

	PAGE
TABLE 1. BACKGROUND DATA .....	23
TABLE 2. NUMBER OF RESPONSES FOR ALTERNATIVE CERTIFICATION .....	24

## CHAPTER I

### INTRODUCTION

Technology continues to be an intricate part of the American culture and offers many challenges in providing a competent and a technologically literate citizen. As we embrace the 21<sup>st</sup> century, coupled with the explosion of technology and the demand for more competent workers, both has contributed to the need of a new direction for technology education in the American high schools. This growing demand for technological literacy and a significant increase in enrollment of students at the high school level has contributed to the need for more technology education teachers.

The impact of the growing need to provide this technological literate citizen has widened the gap for the need to have certified teachers available to teach these technology subjects and has put a strain on traditional postsecondary programs to provide the demand.

To assist in minimizing the gap of teachers needed and teachers available in the classroom, the nation, and states, local administrators and educators have been diligent and innovative in looking for solutions to this problem. This study is designed to look at methods considered by states



to provide a solution to help fill the shortage of teachers. That solution involves providing alternative means to license technology education teachers at the secondary school level.

#### **STATEMENT OF THE PROBLEM**

The purpose of this study was to determine if alternative methods are used by states to license technology education teachers to fill shortages of teachers at the secondary school level.

#### **RESEARCH GOALS**

With the purpose of determining if alternative methods are used by states to license technology education teachers, this study was developed with three goals in mind. They were:

1. Which states were using alternative methods to prepare licensed technology education teachers?
2. What alternative methods were used by states to license technology education teachers?
3. Were the alternative methods used judged adequate in preparing teachers for the classroom?

4. Are alternative teacher licensing programs helping states to recruit technology teachers?

#### **BACKGROUND AND SIGNIFICANTS**

This study rose from the need to determine what alternative teacher certification (ATC) programs are used to provide additional means to prepare qualified teachers for the secondary school level. The effort was to assist in supplementing the current shortage of teachers. ATC rose out of a need for more and better teachers. ATC has evolved into a program that can place teachers within any high school but initially it was started to specifically focus on shortages at inner city and outlying rural areas (<http://www.ncei.com/Alt-Teacher-Cert.htm>, 2001Feb05).

According to a 1997 National Center for Education Information (NCEI) survey, 35 states reported an increase in ATC placement of certified teachers (<http://www.ncei.com/Alt-Teacher-Cert.htm>, 2001Feb05). Since being tracked in 1983, the program has grown to over 117 programs and has licensed over 125,000 teachers.

ATC supplements traditional teacher certification programs and has the potential for providing to schools teachers with diversified and various educational background from every walk of life. Most are from careers in the military, liberal arts colleges, and former teachers

who may have switched over to corporate America. ATC provides these former teachers opportunities to upgrade their credentials. For those individuals who trained to teach years ago but never did, it allows them to get certified and like the former teachers the emphasis is to get them back into the classroom with credentials as quickly as possible.

#### **LIMITATIONS**

The following limitations were used for this study.

1. State programs used in the research consisted of all fifty states and Washington, D.C.
2. Information provided reflects only teachers in technology education at the high school level.
3. The information reflects the status of the alternative teacher certification program for the upcoming 2001-2002 school year.

#### **ASSUMPTIONS**

The results of this study were based on the following assumptions.

1. Alternate teacher certification is a useful means of providing qualified teachers to schools experiencing shortages.

2. The program is an effective means of minimizing the current teacher shortage gap.

3. Teacher shortages have caused a rise in the interest of education officials at high schools, colleges and universities, and administrators at departments of education.

4. The continued rise in legislator's interest may provide additional dollars to maintain ATC programs.

#### **PROCEDURES**

This study will collect information and data from states that provide ATC programs. The study used a survey, which was sent to the state supervisors in the field of technology education. It addresses the progress of ATC in their respective states. It also looked at ways of training ACT technology teachers, ways of improving the alternative programs, and program drawbacks.

#### **DEFINITIONS OF TERMS**

The following terms are defined to support this study.

1. ACP - Alternative Certification Programs
2. ATC - Alternative Teacher Certification
3. ATS - Assessment of Teaching Skills

4. Field-based programs - designed to allow individuals into the classrooms early in their training
5. NCATCI - National Center for Alternative Teacher Certification Information
6. NCES - National Center for Education Statistics
7. NCEI - National Center for Education Information
8. NCRVE - National Center for Research in Vocational Education
9. NEA - National Education Association

#### **SUMMARY AND OVERVIEW**

In Chapter I, the problem was defined and four research goals were established to guide the solving of the problem. The background and significant were used to define what alternative teacher certification programs were available to accelerate placement of qualified teachers in the classroom. The limitations and assumptions were intended to further focus the reader on specifically what states were used for the research and to establish some probable outcomes.

Chapter II, Review of Literature, provides an insight of relevant and important documents to support the need to conduct the research. The expectation is to identify successful alternative programs that may be helpful to

other school systems to narrow the gap of vacant classrooms and under-qualified teachers. Methods and procedures used in the research are discussed in Chapter III and the findings are contained in Chapter IV. Chapter V provides a summary of the entire research along with some recommendations.

## **CHAPTER II**

### **REVIEW OF LITERATURE**

This chapter will address the alternative certification programs as they apply to technology education teachers at the secondary level. A general discussion will be provided in terms of why these programs evolved to provide alternative methods of technology education certification for individuals desiring to teach technology subjects at the secondary school level. Other areas addressed consist of reasons for teacher shortages, means to improve shortages through advertisement and recruitment, incentives for teachers, and some criticisms of the alternative certification programs.

### **ALTERNATIVE CERTIFICATION PROGRAMS FOR TECHNOLOGY EDUCATION TEACHERS**

It was not until the early 1990's that educators realized or began to see a significant increase in the enrollment of secondary students in vocational education classes. Prior to that time very few students focused on technical education classes. The majority of students preferred to take the traditional core subjects and college preparatory classes for post secondary education. Secondary vocational education enrollment remained low into

the early 1990's. A study by the National Center for Research in Vocational Education (NCRVE) that tracked secondary enrollment from 1983 to 1990 found that 31 states had experienced a decline (Husain, 1999, "Good News on Secondary Career and Technical Education", Techniques Magazine, Mar 99).

### **ALTERNATIVES TO APPROVED TRADITIONAL TEACHER EDUCATION PROGRAM**

The National Center for Education Information (NCEI) began polling the state directors of teacher education and certification in 1983 regarding alternatives to approved traditional teacher education program routes for getting licensed to teach (Feistritzer and Chester (2000), "Alternative Teacher Certification: A State-by-State Analysis", p. 12).

Although the alternative teacher certification movement has been around for many years, because of the low numbers of enrollments in vocational education classes, there was very little emphasis placed on these types of programs to support vocational education students. Various state studies conducted in the late 1980s concluded that an overall 50 percent drop in secondary technology education enrollment was mainly due to an increase in students'



enrollment in academic courses (Husain, 1999, "Good News on Secondary Career and Technical Education", Techniques Magazine, Mar 99).

As the nation embraced the 21<sup>st</sup> century and found solutions to the infusion of new technology breakthroughs requiring the need for a more technical society, emphases are shifting to the need for a more qualified technological workforce. The foundation for such skills would need to be embedded at the middle school and secondary levels to ensure students would have the necessary skills, primarily to enter the workforce right out of secondary school.

The U.S. Department of Education estimates that two million new teachers will be needed in America's public school classrooms over the next decade ([http://depts.washington.edu/ctpmail/states\\_summary.html](http://depts.washington.edu/ctpmail/states_summary.html), 2001Feb06). Nearly all of the states now have some type of alternative to going back to college and majoring in education in order to become a teacher. There are 115 such programs, excluding emergency and similar types of short cuts (Feistritzer and Chester (2000), "Alternative Teacher Certification: A State-by-State Analysis", p. 12).

## REASONS FOR TEACHER SHORTAGES

During the early 1990's when the need for technology education seemed to intensify, an increase in the number of students at the secondary level in technology fields were also very noticeable. By 2008, public school enrollment will exceed 54 million, an increase of nearly 2 million children over today (<http://nces.ed.gov/pubs98/98039.html>, Oct97). The need for technology education had become just as demanding for students as their traditional core subjects of the past.

Other reasons that contributed to the teacher shortage consisted of the financial draw that industry and private business have over college students. Even those students with the intent of entering the classroom, at the last moment of postsecondary studies, found it more attractive from a money perspective with fewer headaches to pursue careers outside of the classroom. Retirement, means to improve teacher/student ratio, dismissal of low to non-performance teachers, and failure to retain high quality teachers have all had an impacted on the number of available skilled and qualified teachers.

## **ADVERTISEMENT AND RECRUITMENT**

From the national to the local level, supporters of the institution of public schooling have been active in conducting advertisements through several sources to ensure information dissemination to potential teachers. Means to conduct advertisement consists of online internet service, database programs (resource of available teachers), teacher placement services, and recruitment through out-of-state avenues.

States have taken steps to recruit and attract more people with life experience, mid-career professionals, and military personnel. Additionally, alternative licensing programs emphasis the recruitment of a more culturally and ethnically diverse population. States with long standing alternative route licensure programs like New Jersey and Texas have had greater success in attracting qualified minority teaching candidates through alternative programs than via traditional means of teacher preparation (Litowitz and Sanders (1999), "Alternative Licensure Models for Technology Education", p. 2)

## **TEACHER INCENTIVES**

Due to the enormous shortage of teachers, certain states offer incentives to individuals to draw them into

the teaching profession. Many school districts offer signing bonuses, relocation stipends, hotel stays and the services of real estate agents (<http://www.washingtonpost.com/ac2/wp-dyn/A3759-2000Jul29>). Efforts to provide additional career-long compensation incentives are constantly under revision to better encourage individuals to becoming teachers and to retain quality teachers already in the system. In addition, a number of states and local districts are implementing new teacher pay schedules, which revolve around assessments of teacher knowledge and skill.

A number of states are attempting to provide more guidance and financial support to school districts, in part to support statewide professional development and in part to stimulate particular kinds of professional development opportunities for teachers. In addition, many states are mandating that districts target specific areas for teachers' professional learning, as well as insisting that districts pay explicit attention to the professional development function in district accreditation, assessment, or goals. Several states are attempting to allot more time for teachers to take advantage of professional development opportunities.

## **CRITICISM OF ALTERNATIVE CERTIFICATION PROGRAMS**

In general, alternative certification programs have drawn criticism from some educators who say that some states may be lowering standards for new teachers. Others argue that the alternative certification programs do not provide enough training and support to potential teachers (<http://washingtonpost.com/ac2/wp-dyn/A50332-2001Jan11>). Alternative certification policy failed to recruit a significant number of experienced personnel from other occupations, and a large number of fresh college graduates took advantage of AC policy to circumvent the traditional teacher education program (Shen, fall 1997, "Educational Evaluation and Policy Analysis", Vol. 19, No. 3). The study also stated that a lower percentage of alternative certified teachers treated teaching as a lifelong career than did traditional certified teachers.

## **SUMMARY**

Alternative routes to teacher certification for the purpose of placement of quality teachers in the classroom have grown in recent years, especially in the field of technology education. Recognizing that there are those who may share views of criticism for these type programs, the positive implications outweigh the negative. As the United

States continues to forge forward into the 21<sup>st</sup> century and the need for more technically competent skilled workers in the workplace continue to increase, educational institutions will be challenged to fill the shortages. Alternative teacher certification, as it may not be a cure-all, will continue to be an effective tool available to educators to prepare and place quality teachers in the classroom.

## **CHAPTER III**

### **METHODS AND PROCEDURES**

The following chapter contains the methods and procedures that were used within this study. The study's focus was to determine if alternative methods are used by states to license technology education teachers to fill shortages of teachers at the secondary school level. The most reflective way to determine if alternative methods are used to license technology education teachers were to conduct a descriptive study using a survey questionnaire.

### **POPULATION**

The research goals indicate that there will be only one source of information used to answer the statement of the problem. The total population used to answer all four of the research questions was fifty-one. It consisted of technology education supervisors/directors of the 50 states and the District of Columbia.

### **INSTRUMENT DESIGN**

Each state and the District of Columbia supervisors/directors responsible for technology education were sent a survey questionnaire (Appendix A) to solicit information

regarding alternative teacher licensing methods. The instrument was designed to ascertain information and data that were used to answer questions in support of the stated research problem. The four goals used to accomplish this task consist of the following:

1. Which states were using alternative methods to prepare licensed technology education teachers?
2. What alternative methods were used by states to license technology education teachers?
3. Were the alternative methods used judged adequate in preparing teachers for the classroom?
4. Are alternative teacher licensing programs helping states to recruit technology teachers?

Data collection consisted of the survey instrument that used two different types of questionnaire items to collect the information and data. Section 1 consisted of open formed items to permit some explanation. The purpose of these questions was to establish some commonality among the states and the District of Columbia. Section 2 consisted of close-formed items formatted using the Likert Scale model. Possible responses ranged from strongly agree, agree, uncertain, disagree, to strongly disagree. The purpose of these questions was to access from the



supervisors/directors perspective, the effectiveness of alternative certification programs.

#### **METHODS OF DATA COLLECTION**

A sample of the accompanied cover letter to the survey questionnaire that went to the fifty-one participants is enclosed at Appendix B. Through the support of the Department of Occupational and Technical Studies at Old Dominion University, surveys were mailed out to each addressee with a follow-up e-mail message reminding them of forwarding survey's to the researcher's address. The survey consisted of open and closed form questions with the intent of establishing commonality among states and to determine alternative licensing trends.

#### **METHODS OF STATISTICAL ANALYSIS**

The survey questionnaire was designed with closed and open form questions to ensure depth in information obtained. The types of statistical analysis that were conducted on the collected information and data were displayed in tables with emphasis on percentiles, frequency, and means.

## **SUMMARY**

This chapter outlined the methods and procedures used to collect the information and data needed to answer the statement of the problem and the research goals. A survey was developed, distributed, collected and analyzed in order to determine the alternative methods used by states to license technology education teachers to fill shortages at the secondary level. Results from this chapter (Chapter III) are recorded and reported in Chapter IV, Findings.

## CHAPTER IV

### FINDINGS

The intention of this chapter was to inform the reader of the information resulting from the survey conducted during the research. The problem of this study was to determine if alternative methods are used by states to license technology education teachers to fill shortages of teachers at the secondary school level. Data were gathered in two distinct sections.

Within Section 1, background data were solicited from state Supervisors/Directors of Technology Education concerning the number of technology education teachers that taught at the secondary level. Question 1, asked that states provide the number of teachers that taught technology education at the secondary level during 2000-2001 school year. Question 2, asked of the total number of technology education teachers that taught at the secondary level during 2000-2001 school year, how many were licensed. The final question in Section 1, required a yes or no response on whether or not alternative method(s) are being used by individual states to license technology education teachers. Those that responded with a "yes" were asked to

forward a copy of their alternative certification program along with the survey.

Section 2 consisted of questions to establish individual supervisor/director's position regarding shortage of technology education teachers within their state. These questions were assessed using the Likert scale, which provided five choices per question ranging from strongly agree to strongly disagree. Question 4, asked supervisor/director's opinion in regard to whether there is a shortage of technology education teachers in their state. Question 5, asked if alternative method(s) are being used, whether or not they are adequate in preparing teachers for the technology education field. Question 6, the final question asked if alternative teacher licensing programs are helping in recruiting technology teachers that may already be teaching.

#### **DEMOGRAPHIC PROFILE**

Overall, the survey was sent to 51 individuals (states and the District of Columbia supervisors/directors). Those that have responded to the survey consist of 18 states, which account for 35% of the population.

### Responses to Questions 1 Through 3

The background data questions that were asked consisting of Questions 1, 2, and 3 of the survey indicated that most states were being diligent and innovative in seeking alternative solutions to the shortage of technology education teachers. Question 1, which dealt with the total number of technology education teachers that taught at the secondary level during 2000-2001 school year, ranged from 5 in Hawaii to 3000 in New York. Question 2, that addressed the number of technology education teachers that taught at the secondary level during 2000-2001 school year, found the majority of individual states reported a range of 80 to 100% of teachers were licensed to teach. One state reported that it was unknown as to the number that was licensed and another state reported only 67% were licensed.

When asked in Question 3, are alternative method(s) used by your state to license technology education teachers, 63% of state responses indicated yes. One state indicated that alternative methods to be licensed were available, but limited numbers of potential teachers used them. While another state indicated that uncertified teachers were not being tracked. See Table 1.

<b>TABLE 1</b>				
<b>Background Data</b>				
	Total Number of Teachers That Taught	Total Number of Teachers That Were Licensed to Teach	Are Alternative Methods Used to License Teachers	
			Yes	No
TOTAL	10,701	6116	12	6
NOTE: All reference is to technology education teachers during school year 2000-2001. Total that responses were 18, one respondent provide no comments to this section of the survey.				

### **Responses to Questions 4 Through 6**

Question 4, asked is there a shortage of technology education teachers in your state. Of the nineteen states responding to the question, all agreed that shortages did exist. Seventy-four percent strongly agreed and 26% simply indicated they agreed that a shortage of technology education teachers at the secondary school level does exist.

Question 5, asked if alternative method(s) are being used to license/certify technology teachers in your state, and are they adequate in preparing teachers for technology education programs. One state strongly agreed that alternative methods are being used and adequate in preparing teachers for technology education. Forty percent of states indicated that they simply agreed, twenty-seven percent were uncertain, twenty percent disagreed and one state strongly disagreed that alternative methods are

adequate in preparing technology education teachers. One state director indicated that they are in the planning stages of implementing such a program. See table 2.

<b>TABLE 2</b>						
<b>Number of Responses for Alternative Certification</b>						
Response	Q4	%	Q5	%	Q6	%
Strongly Agree	14	74	1	7	1	7
Agree	5	26	6	40	7	50
Uncertain	0	0	4	27	2	14
Disagree	0	0	3	20	3	21
Strongly Disagree	0	0	1	7	1	7
Total Responding	19		*15		**14	
Note: * - 4 states provided no answer to this question						
** - 5 states provided no answer to this question						

Fourteen of the nineteen states responded to Question 6, which asked whether or not alternative teacher licensing programs are helping supervisors/directors at the state level to recruit technology teachers already teaching. Only one state strongly agreed that alternative teacher licensing programs were helping at the state level to recruit already teaching technology education teachers. However 50% agreed that it provided some help in recruiting such teachers. Fourteen percent were uncertain of the help

the program provided, 21% disagreed that it provide any help and one state strongly disagreed that alternative method(s) provide any help in recruiting technology education teachers that are already teaching.

### **Summary**

Information resulting from the survey indicated that alternative methods to certify technology education teachers at the secondary level do exist. States recognize the growing need to have a more technically based society. Supervisors/Directors for technology education at the state level appear to be fully aware of issues surrounding the need of qualified teachers as part of the fix in this process. It also appeared that they are aware of the backlog that can occur with traditional four-year academic institutions in awarding such degrees.



## **CHAPTER V**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

This chapter summarizes the previous chapters and establishes conclusions based upon the data and information collected. A summary will first be presented to provide the reader with a description of the problem, desired goals and procedures used in the study. The data and information collected will then be used to answer the original problem statement and research goals and then to draw conclusions. Recommendations will then be made based on the data collected and the author's conclusions.

### **SUMMARY**

The purpose of this study was to determine if in fact, alternative methods are used by states to license technology education teachers to fill shortages of teachers at the secondary school level. During the initial phase of research to this problem, included was a review of current professional literature to gain a better understanding and appreciation to conducting this study. Early research, particular in the 90's, indicated a growing need to provide a more technological literate society to keep pace with the ongoing technological advancements. In return, such demands have placed a strain on traditional postsecondary

programs to close this gap. Thus, part of the solution involves providing alternative means to license technology education teachers at the secondary school level.

With the purpose of determining if alternative methods are used by states to license technology education teachers, this study was developed with four goals in mind. The first goal was to determine which states were using alternative methods to prepare licensed technology education teachers. The second goal was to determine what alternative methods were used by states to license technology education teachers. The third goal was to determine if the alternative methods used were judged adequate in preparing teachers for the classroom. The fourth and final goal was to determine if alternative teacher licensing programs are helping states to recruit technology teachers.

To accomplish these goals, a survey instrument was developed and mailed to each state and the District of Columbia's Supervisor/Director of technology education. The total population used to answer the research problem and four research goals was fifty-one.

## CONCLUSION

The first goal was to determine which states were using alternative methods to prepare licensed technology education teachers. Sixty-one percent reported that alternative methods were being used to license technology education teachers.

The second goal asked the question of what alternative methods were used by states to license technology education teachers. The results of the survey indicate that several states refer to licensing as a provisional vocational certification that is not part of a university program but a local program. Another state referred to their alternative program as an "Applied Technology Education License for Technology Education". It stipulates that the program will only be used for individuals whom districts have already hired because they could not find qualified and endorsed individuals already having a secondary education license in another subject.

The third goal was to determine whether or not the alternative method(s) used were judged adequate in preparing teachers for the classroom. Six of the thirteen states that responded to this question agreed that the alternative method being used is adequate. Twenty-three percent were uncertain, twenty-three percent disagreed and

one state strongly disagreed that the alternative method(s) to licensing technology education teachers were adequate. One state indicated that although there is an increase in the number of individuals pursuing alternative certification, adequacy remains to be a problem either in quantity of teachers or quality of preparation.

The final goal was to determine if alternative teacher licensing programs were helping states to recruit technology teachers. Fifty-one percent of states responding to this question either strongly agreed or simply agreed that alternative licensing programs helped in recruiting technology teachers. Seventeen percent were uncertain and seventeen percent disagreed with one state strongly disagreeing that alternative licensing programs helped in recruiting technology education teachers.

One state indicated that other factors contribute to the shortage of certification of educators along with the growing increase in the size of enrollment. This state also quoted, if wages increase, if universities updated curriculums, "if parents helped to direct young people into teaching, we might work to a supply situation. We need 25 to 50% more in salary for teachers nationally."

## RECOMMENDATIONS

Based on the survey findings and the conclusions of this study, the following recommendations are made by the author:

1. Those responsible for promoting technology education and oversee resources need to continue placing emphasis on the importance of having available qualified individuals to meet the growing needs of a technological society.
2. Supervisors/directors at the state level continue to re-vamp programs that promote growing technology needs today and well within the 21<sup>st</sup> century.
3. Supervisors/directors at the state level mandate better tracking methods for alternative certification.
4. All individuals within the technology education sphere continue to promote technology education at all levels of academics and into the mainstream along with other traditional subjects.
5. The national association for the preparation and support of technology education teachers should produce and update guidelines to be followed for the preparation of technology teachers through alternative means.

## BIBLIOGRAPHY

Department of Education (DOE) (Feb 2001). [On-line]  
Available: [http://depts.washington.edu/ctpmail/states\\_summary.html](http://depts.washington.edu/ctpmail/states_summary.html).

Husain (1999). Good News on Secondary Career and Technical Education, Techniques Magazine, Mar 99.

Litowitz and Sanders (1999). Alternative Licensure Models for Technology Education (p. 2).

National Center for Education Information (NCEI)  
Alternative Teacher Certification 2000. [On-line]  
Available: by title search, <http://www.ncei.com>.

National Center for Education Statistics (NCES) (Oct 97).  
[On-line] Available: <http://nces.ed.gov/pubs98.98039.html>.

Shen (1997) Educational Evaluation and Policy Analysis,  
Vol. 19, No. 3.

Washington Post (Jul 2000). [On-line] Available:  
<http://www.washingtonpost.com/ac2/wp-dyn/A3759>.

## APPENDICES

- Appendix A: Cover Letter
- Appendix B: Survey Instrument
- Appendix C: Follow-up Letter (via e-mail)
- Appendix D: Survey Results Q1 through Q3
- Appendix E: Survey Results Q4 through Q6

## Appendix A

### Cover Letter

Date:

Supervisor/Director Address

Dear \_\_\_\_\_:

The technology education profession continues to face the challenge of training and preparing students to be competent, technologically literate citizens. The growing need to train and prepare students has increased the demand for qualified and licensed teachers in the technology area and has put a strain on traditional postsecondary programs to satisfy this demand.

National, state, and local administrators and educators have been diligent and innovative in seeking alternative solutions to the shortage of technology education teachers. As such, the purpose of this survey is to determine if alternative method(s) are being used by states to license technology education teachers to fill shortages at the secondary school level. Your opinion, based on your position and experience regarding this matter, would be beneficial and appreciated. Your strategies for alternative preparation of teachers will be shared with the profession so that all may benefit; however, your name will remain confidential.

Thank you for your time and cooperation in this matter. We look forward to your input. Survey results should be sent to Percy Gregory. The researcher may be reached at [gregorypm@monroe.army.mil](mailto:gregorypm@monroe.army.mil). If you have questions or would like to discuss this survey Percy can be reached via phone at (757) 788-2980 or via FAX at (757) 788-4124.

Sincerely,

Percy M. Gregory  
Graduate Student  
Old Dominion University  
Fort Monroe, Virginia 23651

John M. Ritz  
Professor and Chair  
Occupational and Technical  
Studies  
Old Dominion University  
Norfolk, Virginia 23529



## Appendix B

---

### Alternative Methods Used by States to License Technology Education Teachers

---

State: \_\_\_\_\_

**Purpose:** This survey contains a list of questions concerning qualifying technology education teachers for secondary schools and how states are addressing the problem of teacher shortages in technology education. The data collected in this survey will serve as indicators of the effectiveness of alternative methods employed to license technology education teachers in order to fill shortages at the secondary school level.

#### Section 1 - Background Data

Please indicate the exact numbers requested below as they apply to the 2000-2001 school year. If exact numbers are not available, provide approximate numbers.

1. What is the total number of technology education teachers that taught at the secondary level during 2000-2001 school year?
2. Of the total number of technology education teachers that taught at the secondary level during 2000-2001 school year, how many were licensed to teach?
3. Are alternative method(s) being used by your state to license technology education teachers? If yes, please provide a copy of the alternative license/certification requirements.

**Section 2 - Please indicate your position regarding the following statements. Place an "X" in the appropriate circle to indicate your response.**

4. There is a shortage of technology education teachers in your state.

- Strongly agree
- Agree
- Uncertain
- Disagree
- Strongly disagree

5. If the alternative method(s) are used to license/certified technology teachers are they adequate in preparing teachers for the technology education program.

- Strongly agree
- Agree
- Uncertain
- Disagree
- Strongly disagree

6. Alternative teacher licensing programs are helping you to recruit technology teachers teaching.

- Strongly agree
- Agree
- Uncertain
- Disagree
- Strongly disagree

***Thank you for taking the time to complete this survey.***

## Appendix C

### Follow-up Letter (via e-mail)

**From:** Gregory, Percy M MAJ  
**Sent:** Thursday, July 19, 2001 1:22 PM  
**To:** srookard@state.de.us; bell\_c@mercury.k12.dc.us;  
crowley@mail.doe.state.fl.us; rbarker@doe.k12.ga.us;  
cgreen@pte.state.id.us; rengstro@smtp.isbe.state.il.us;  
gsteele@ideanet.doe.state.in.us; rod.thompson@ed.state.ia.us;  
hlacy@kde.state.ky.us; joshee@mail.doe.state.la.us;  
mfriday@msde.state.md.us; ydriver@doe.mass.edu;  
levandej@state.mi.us; duanestrans@state.mn.us;  
lbasham@mde.k12.ms.us; dmiller1@mail.dese.state.mo.us;  
dmichalsky@state.mt.us; bphelps@nde4.nde.state.ne.us;  
mwallace@nac.net; kardila@sde.state.nm.us;  
tshown@dpi.state.nc.us; pd\_dieffende@ode.ohio.gov;  
hhally@okvotech.org; Ed.Uecker@state.or.us;  
gonzalez\_e@de.prstar.net; ride1562@ride.ri.net;  
tdapolito@mail.state.tn.us; trgrimsl@tmail.tea.state.tx.us;  
mrobinso@usoe.k12.ut.us; dwebster@doe.state.vt.us;  
gwillcox@iris.org; rfieldman@ospi.wednet.edu;  
amcdanie@access.k12.wv.us; kenneth.starkman@dpi.state.wi.us;  
yvonne.davis@state.me.us  
**Cc:** Gregory, Percy M MAJ  
**Subject:** Survey

Dear Supervisor/Director:

The information below were sent to each of you by mail around 18 June 01. Accompany this letter was a survey that I am asking you to complete as part of my graduate research paper in education. If you like, you may read through the letter below but I would really appreciate it, if you would complete the survey that is attached and re-send it to me. If you have already did so and mailed the self-addressed envelop back to me than disregard this e-mail and please accept my apology for any inconvenient that I may have caused you. Thanks, Percy!!!

Letter As Sent:

The technology education profession continues to face the challenge of training and preparing students to be competent, technologically literate citizens. The growing need to train and prepare students has increased the demand for qualified and licensed teachers in the technology area and has put a strain on traditional postsecondary programs to satisfy this demand.

National, state, and local administrators and educators have been diligent and innovative in seeking alternative solutions to the shortage of technology education teachers. As such, the purpose of this survey is to determine if alternative method(s) are being used by states to license technology education teachers to fill shortages at the secondary school level. Your opinion, based on your position and experience regarding this matter, would be beneficial and appreciated. Your strategies for alternative preparation of teachers will be shared with the profession so that all may benefit; however, your name will remain confidential.

Thank you for your time and cooperation in this matter. We look forward to your input. Survey results should be sent to Percy Gregory. The researcher may be reached at gregorypm@monroe.army.mil. If you have questions or would like to discuss this survey Percy can be reached via phone at (757) 788-2980 or via FAX at (757) 788-4124.

Sincerely,

Percy M. Gregory  
Graduate Student  
Old Dominion University  
Fort Monroe, Virginia 23651

John M. Ritz  
Professor and Chair  
Occupational and  
Technical Studies  
Old Dominion University  
Norfolk, Virginia 23529



Survey.doc

## Appendix D

### Survey Results Q1 through Q3

STATE	Question #1	Question #2	Question #3	
	No. of Tech Teachers, School Year 2000-2001	How Many Licensed To Teach	Is Alternative Method(s) Being Used	
			Yes	No
ALABAMA				
ALASKA				
ARIZONA				
ARKANSAS				
CALIFORNIA				
COLORADO				
CONNECTICUT	720	720	Y	
DELAWARE				
DIST. OF COLUMBIA				
FLORIDA				
GEORGIA				
HAWAII	5	5		N
IDAHO				
ILLINOIS	1636	1101	Y	
INDIANA				
IOWA				
KANSAS	500	500		N
KENTUCKY				
LOUISIANA				
MAINE				
MARYLAND				
MASSACHUSETTS				
MICHIGAN				
MINNESOTA	450	425	Y	
MISSISSIPPI				
MISSOURI	775	775	Y	
MONTANA				
NEBRASKA				
NEVADA	75	60		N
NEW HAMPSHIRE	205	205	Y	
NEW JERSEY				
NEW MEXICO				
NEW YORK	3000	*	Y	
NORTH CAROLINA				
NORTH DAKOTA	112	112	Y	
OHIO				
OKLAHOMA	230	210	Y	
OREGON				

PENNSYLVANIA	2025	1800		N
RHODE ISLAND				
SOUTH CAROLINA	75	75		N
SOUTH DAKOTA	82	82	Y	
TENNESSEE				
TEXAS				
UTAH	378	350	Y	
VERMONT				
VIRGINIA				
WASHINGTON				
WEST VIRGINIA				
WISCONSIN	** No Comment			
WYOMING	233	233		N

\* - New York is uncertain of the number of licensed teachers.

\*\* - Wisconsin responded to the survey but provided no data to questions 1 through 3.

Appendix E

Survey Results Q4 through Q6

STATE	Question#4					Question #5					Question #6				
	SA	A	UNC	D	SD	SA	A	UNC	D	SD	SA	A	UNC	D	SD
ALABAMA															
ALASKA															
ARIZONA															
ARKANSAS															
CALIFORNIA															
COLORADO															
CONNECTICUT	1						1					1			
DELAWARE															
DIST. OF COLUMBIA															
FLORIDA															
GEORGIA															
HAWAII	1														
IDAHO															
ILLINOIS	1							1				1			
INDIANA															
IOWA															
KANSAS	1														
KENTUCKY															
LOUISIANA															
MAINE															
MARYLAND															
MASSACHUSETTS															
MICHIGAN															
MINNESOTA		1							1				1		
MISSISSIPPI															
MISSOURI	1								1					1	
MONTANA															
NEBRASKA															
NEVADA		1													
NEW HAMPSHIRE		1					1					1			
NEW JERSEY															
NEW MEXICO	1								1						1
NEW YORK	1							1				1			
NORTH CAROLINA	1						1				1				
NORTH DAKOTA	1						1					1			
OHIO															
OKLAHOMA	1							1				1			

STATE	SA	A	UNC	D	SD	SA	A	UNC	D	SD	SA	A	UNC	D	SD
OREGON															
PENNSYLVANIA	1														
RHODE ISLAND															
SOUTH CAROLINA		1					1							1	
SOUTH DAKOTA	1									1		1			
TENNESSEE															
TEXAS															
UTAH		1						1					1		
VERMONT															
VIRGINIA															
WASHINGTON															
WEST VIRGINIA															
WISCONSIN	1								1					1	
WYOMING	1						1								