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## Career Paths of Career and Technical Teacher Education Graduates

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A major northeastern land-grant university has been engaged in preparing vocational technical (now career and technical) teachers through a baccalaureate degree program for 79 years. However, one of the most frequently asked questions during meetings with prospective students and their parents is, "What does one do with a degree from this program?" This study was undertaken to provide answers to that question.

### Background

The event that marks the beginning of the institution's commitment to career and technical teacher education (CTTE) took place in 1908. During that year, School of Engineering faculty members who were assigned to the Mechanic Arts program designed a two-year program of study to prepare shop teachers under the new title of Manual Training. Further expansion of the commitment occurred during the summer of 1910 when the faculty offered the first professional development session for in-service teachers of manual training. Emphasis upon preparing new teachers and upgrading the skills of in-service teachers resulted in the renaming of the Manual Arts program as the Department of Industrial Education, although it continued to be administratively housed within the School of Engineering until 1923 (Williams, 1977).

Three landmark events in the history of CTTE occurred during 1923. First, the Department of Industrial Education was transferred from the School of Engineering to the newly organized School of Education. Second, recognizing that the emerging system of secondary-level vocational education stimulated by the Smith-Hughes Act would require many new teachers, leaders of Pennsylvania's Department of Public instruction designated the college as an official agent for the training of vocational teachers in 1923. Third, the Director of Vocational Teacher Education was established as an administrative position within the office of the President (Williams, 1977).

The combined effects of the three events led to the establishment of a department clearly devoted to the preparation of career and technical education (CTE) teachers. Further, it expanded the teacher certification sub-baccalaureate career pathway by adding the pathways previously associated only with those engaged in academic education. This resulted in the awarding of the first baccalaureate degree in Industrial Education in 1926, the first master's degree in Industrial Education in 1929, and the first doctoral degree in Industrial Education in 1939 (Williams, 1977).

Throughout the 79 years of its existence, the CTTE program has sustained both the sub-baccalaureate and baccalaureate career pathways. Enrollments within the baccalaureate pathway have never approached those of the sub-baccalaureate, especially within the Trade & Industrial and Health Occupations areas of certification, and have dipped to even lower levels over the past 25 years. Commonly cited contributors to this disparity in enrollments include (a) the widely held belief that more is better, in terms of work experience, prior to entrance into the classroom; (b) the 83 individual certification titles within those two areas, which tends to reduce the number of potential openings in any one; (c) the virtually unending supply of teacher candidates who may be attracted to the classroom from business, industry, and health care; (d) the belief that content knowledge is of more importance than pedagogical knowledge; and (e) fluctuations in the numbers of secondary students enrolled in CTE programs (Curtis, 1983). The authors of this study, however, contend that there is another factor that greatly influences decisions to enroll or not to enroll in the baccalaureate degree pathway.

The sub-baccalaureate certification has retained its clear definition as a career pathway for those whom it has attracted, largely since the individuals enrolled within this route are, in general, mature adults who have been selected to fill a specific teaching position. The baccalaureate certification, however, has lost much of its clarity as a career pathway for the primary target population, 18-to 22-year-olds and their parents.

Many factors have served to cloud the vision of those who are considering enrollment or the enrollment of their progeny as they peer down the baccalaureate degree pathway. Primary is the confusion within the field itself as to what and whom they are about. This confusion about identity is also reflected in the variety of titles under which the baccalaureate program has functioned: Manual Arts, Industrial Education, Vocational Industrial Education, Occupational and Vocational Studies, and now Workforce Education and Development. In fact, between 1922 and 1944, industrial arts education and vocational industrial education were both included under the umbrella term "Industrial Education"; and no separate records were maintained (Williams, 1977).

However, the lens through which the potential students and their parents are looking at the baccalaureate route is the most important factor, since they are often attempting to focus on pathways that provide a range of career opportunities rather than a single opportunity. Rising tuition costs, coupled with news headlines of employee layoffs, have stimulated potential applicants to investigate the return that will be gained by investing in their own professional development. Likewise, news about the daily challenges of America's schools and the teaching profession has led to potential applicants' investigating whether a degree in CTE would limit their career options to life in a classroom.

The notion that someone would anticipate career options to determine a career choice incorporates the decision and development theories of career development. Decision theory assumes that individuals attempt to make rational career decisions by predicting the outcomes and weighing the risks of costs and benefits (Gelatt, 1962). When a potential baccalaureate candidate asks, "What can I do with this degree?", the student is collecting data to assess the potential risk of choosing that career (Gray & Herr, 1998).

The developmental theory of Ginzberg, Ginsburg, Axelrod, and Herma (1951) maintains that an individual's career decision is made through a developmental process. The career decision is a result of a series of decisions made over time. Each decision throughout the process is related to the decisions that precede and follow it. The final decision is a compromise that optimally matches the developing individual to the circumstances of the moment, i.e., an individual's career decision at the end of an educational program may be influenced by the development or personal growth gained throughout the period of study. Therefore, a potential CTE degree applicant may find relief in choosing an educational program that offers multiple career pathways to its graduates.

### **Statement of the Problem**

A potential CTTE baccalaureate degree applicant's enrollment decision is influenced by the predicted return on his or her investment in education, as measured by the career flexibility afforded by a CTE teaching degree. Therefore, there is a need to identify and document the career paths traveled by those who have completed the degree program.

### **Methodology**

This study explored and documented the flexibility of career paths afforded by a degree in CTTE. The study was designed to provide the actual career paths followed by graduates of the career and technical teacher preparation program.

As identified by the Alumni Association, the population for this study included all living graduates of the CTTE program. The mailing list provided by the Alumni Association included 390 individuals who had completed their baccalaureate degree within the industrial education, industrial arts education, trade and industrial education, technical education, health occupations education, home economics education, and family and consumer sciences designations.

The survey instrument developed for this study contained items requesting information detailing both the work history and the continuing education in which the alumni had engaged since leaving the university. Specifically, participants were asked to report information on their first through fourth jobs, including (a) geographic location, (b) job title, (c) work sector (public education, private education, business, government, or community agency), and (d) education population (elementary, middle, secondary, technical or community college, and college or university).

The surveys were mailed during the late spring of 2001. Participation was encouraged by the inclusion of a university souvenir and a request for volunteers to serve as mentors for current and future degree candidates. Follow-up postcards were also used to remind the participants of the importance of returning their survey. As a result, 208 surveys were returned via the provided self-addressed postage-paid envelopes, producing a 53.33% return rate. Unfortunately, 11 of the surveys were returned with a note reporting the death of the alumnus, leaving the data from 197 surveys to be included in the analysis via descriptive statistics.

### **Findings**

*Job Titles of Graduates*

This study asked the participants to report the job titles they held in the first, second, third, and fourth jobs after completion of their CTE degree. The respondents reported 63 different job titles. Administrators identified their specific job titles. Nonadministrative and noninstructional positions may be categorized in three areas: business development, human resource development, and trade and industrial positions.

Many of the respondents reported the industries in which they worked without listing a job title. The industries included architectural sales, automotive manufacturing, civil service, client service, cooperative education, customer service, flight training, government comprehensive programs, government interviewer, industrial relations, marketing, network television, sales, infantry, and self-employed.

This study asked respondents to report about their career history. In addition to the job titles, respondents reported the work sector and population served by their work. Geographic location of their employment was not reported.

*First Job After Completion of the Degree*

Table 1 shows the distribution of respondents' first jobs by job title. Almost three out of four respondents (74.11%) noted their first job title was instructor. Employment sector differed by job title in the first job. Among those who were instructors in their first job, 89.73% said that job was in public education. Far fewer first job administrators (27.78%) said they worked in public education; in fact, two thirds of the first job administrators identified their first employment as in the business (38.89%) or government (27.78%) sectors.

Instructors also served different populations than administrators in their first jobs. Approximately two thirds (67.81%) of the instructors worked with secondary education, and more than one fifth (21.23%) of the instructors worked with technical or community college populations. More than half of the administrators did not identify a population served.

*Second Job After Completion of the Degree*

Of those responding, 33 (16.75%) indicated that they had not had a second job at the time of this study. Among those who did offer information about their second job, 76 reported being instructors (42.68% of respondents reporting second jobs), compared to 146 in the first job (74.11% of respondents reporting first jobs). In addition, 50 (30.49%) respondents said they were administrators in their second jobs, compared to 18 (9.14%) in the first job; and 10 more respondents said they had other employment in their second jobs than the number who were doing other work in their first jobs. The respondents indicated that their second jobs were distributed more evenly between instructor, administrator, and other.

As more respondents took administrator positions, the distribution of administrators across employment sectors changed, as shown in Table 1. The proportion of administrators in public education for their second job was much greater than the percentage of administrators who worked in public education in their first job. There was only a slight increase in the number of administrators who worked in those sectors during their second job.

**Table 1**

*Distribution of Job Titles of CTTE Degree Graduates*

Job Titles
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<u>Sector</u>	<u>Adm</u>	<u>Instr</u>	<u>Trnr</u>	<u>Other</u>	<u>No Res</u>	<u>Total</u>
<i><u>First job</u></i>						
Public education	5	131	2	2	0	140
Private education	0	10	0	2	0	12
Business	7	0	4	18	0	29
Government	6	5	0	5	0	16
Other/unknown	0	0	0	0	0	0
Total	18	146	6	27	0	197
<i><u>Second job</u></i>						
Public education	34	60	3	2	0	99
Private education	0	4	0	1	0	5
Business	10	1	3	17	0	31
Government	5	5	1	11	0	22
Other/unknown	1	0	0	6	33	40
Total	50	70	7	37	33	197
<i><u>Third job</u></i>						
Public education	31	39	3	2	0	75
Private education	0	4	0	1	0	5
Business	14	1	5	11	0	31
Government	2	3	0	1	0	6
Other/unknown	0	0	0	3	77	80
Total	47	47	8	18	77	197
<i><u>Fourth job</u></i>						
Public education	24	16	0	0	0	40
Private education	1	2	0	0	0	3
Business	4	0	2	9	0	15
Government	5	0	0	3	0	8
Unknown	1	0	0	3	136	140
Total	35	18	2	15	136	206

The majority of second job instructors (57.14% of responding second job instructors) and second job administrators (54% of responding second job administrators) said they worked with a secondary education population in their second job. No other student population came close to the number of instructors working with secondary students in their second job. However, the distribution of administrators according to the population they served in their second job was more even than the distribution of instructors. Slightly more than one fourth (26%) of administrators indicated they did not serve a student population at all in their second job, and 15% said they served a technical or community college population.

### *Third Job After Completion of the Degree*

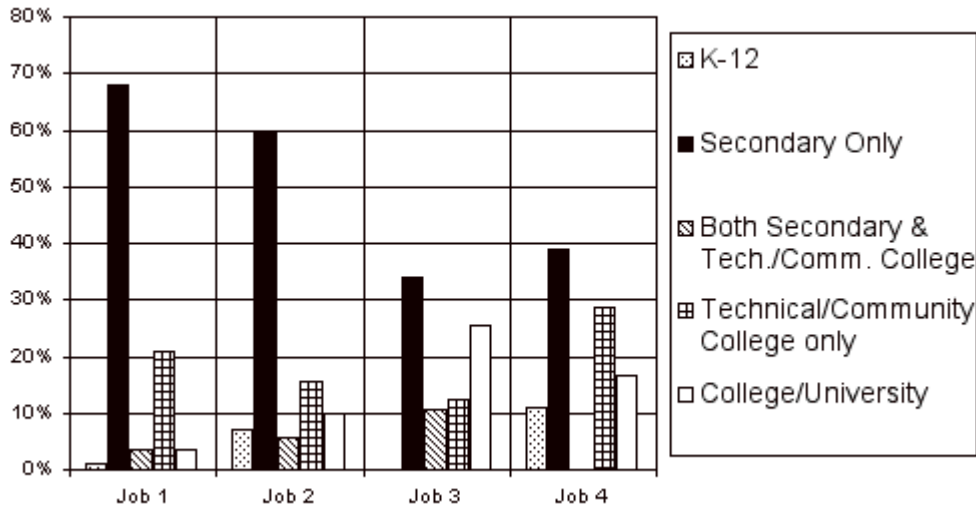
Of the 197 total respondents, 77 (39.09%) indicated that they had not had a third job at the time of this study. Among those who did offer information about their third job, there was an equal number of instructors and administrators (47, 39.17% of those who had a third job). Three of the administrators said they were state-level directors of CTE. Far fewer respondents took an instructor position in their third job than those who were instructors in either their first or second jobs (see Figure 1). Responses indicated a shift in population served by graduates who were instructors in their third job, as compared to their first and second jobs. While more

than one third of the instructors (34.04%) worked with a secondary education population in their third job, 25.53% worked with a college or university population; and another 12.77% worked with a technical or community college population.

Responses from 16 graduates (34.04%) who were administrators in their third job said they did not serve a student population. Over half of the respondents (25, 53.19%) reported working in secondary education. Four third-job administrators (8.51%) reported working in technical or community colleges.

Only eight respondents said they were trainers in their third job (6.67% of those who said they had third jobs). Third-job trainers worked in the public education and business sectors.

Figure 1. Career Mobility of Instructors



Three trainers did not report the sector of their third job. The remaining 18 people who reported having a third job characterized their work as other jobs. They worked in business (11 graduates, 61.11%), public education (two graduates, 11.11%), private education (one graduate, 5.56%), and government (three graduates, 16.67%).

*Fourth Job After Completion of the Degree*

Only 35.53% of those who responded to the survey reported an employment history that extended to a fourth job. Exactly 50% of those who did have a fourth job were administrators. Another 25.71% of those who had a fourth job said they were instructors. Almost as many (21.43% of those who had a fourth job) described their fourth job title as something other than administrator, instructor, or trainer. Only 2.86% of the respondents indicated that their fourth job title was trainer.

Most of the respondents whose fourth job title was administrator (24 respondents, 68.57% of the fourth job administrators) reported working in the public education sector. The rest of the administrators worked in all sectors except in community agencies. Of the fourth-job administrators, 15 (42.86%) said they worked with secondary education populations. Almost one in four (22.86%) of the fourth-job administrators reported that their administrative work was in technical or community colleges. The same percentage reported working as administrators with populations "other" than elementary education, middle schools, secondary education, technical or community colleges, or colleges or universities.

The public education sector employed 16 of the 18 (88.89%) respondents who said their fourth job title was instructor. The other two respondents who reported a fourth job title as instructor said they worked in the private sector. Seven (38.89%) of the 18 instructors said

they were teaching secondary education populations, and five (27.78%) of the 18 fourth-job instructors said they were working with technical or community college populations.

Only two people who reported four jobs in their employment history identified themselves as trainers in the fourth job. Both of them said their fourth job trainer position was in the business sector. An additional nine respondents said they worked in business, but identified their job title as something other than administrator, instructor, or trainer.

### **Discussion**

An examination of the living population of undergraduate alumni of the university's Workforce Education and Development Program shows that the careers of people with CTTE degrees may begin in secondary classrooms; but the total career experience is not limited to the secondary classroom. One way to examine the data is to look at the job titles people hold as they move from job to job. Only 13.71% of the total respondents stayed in their original position. Almost three of every four graduates (74.11%) began their career as instructors. Less than half as many (70) reported being instructors in their second job, but 17.14% of those who were instructors in their first job took another instructor position at some point later in their career. Only 6.60% of those who began their career as instructors were instructors in their fourth jobs. These data cannot be used to say whether being an instructor for the first job keeps instructors in the profession, because the survey did not ask teachers how long they stayed in any one position. However, the data seem to indicate that people who begin their career as instructors and later choose to move avail themselves of career flexibility and labor market advantage to develop beyond their initial experiences.

In addition, the instructor data show that graduates who choose to teach do not limit their experiences to the secondary classroom. Figure 1 shows that instructors who practice job mobility moved from secondary to postsecondary classrooms, including both the technical or community college level and the college or university level. Therefore, the CTTE baccalaureate degree may be the beginning of a pipeline that supplies technical postsecondary instructors and CTE teacher educators.

The data also indicate that the CTTE program is a source for leadership and policy development. Almost half (47.21%) of the CTTE program graduates surveyed held an administrator position at least once in their career; 63.67% of those were in local and/or state level public education, 19.33% were in business, and 12% were in government. Most of those who had been administrators held their administrative post in either their second or third postbaccalaureate job experience. Of the respondents who said they had been public education administrators (32.99% of all respondents), seven in ten said their administrative experience was in secondary education exclusively. Another 18.09% of the administrators (8.54% of all respondents) said they had worked exclusively in technical/ community college administration. Therefore, the CTTE baccalaureate degree may be the initial step in supplying CTE leaders to meet the demand in secondary and postsecondary education technical institutions.

Discussion about CTTE graduates would not be complete without discussing the graduates whose career path went outside the K-16 education system. The 38 job titles (see Figure 1) of the graduates who work in business or industry demonstrate the breadth of careers available to individuals with CTTE degrees. The business sector was a starting point for the career of 14.72% of the graduates who responded. Review of those first job titles may indicate that the baccalaureate degree did not prohibit graduates from pursuing technical work experience in their career areas.

### **Conclusions**

This study sought to investigate the career paths of alumni of the university's career and



technical education baccalaureate program in order to provide an answer to the question, "What does one do with a CTE degree?" Caution should be applied when generalizing the information of this university's alumni population to other populations.

Candidates for undergraduate enrollment who are trying to predict the return on their investment of time, effort, and money in a CTE baccalaureate degree and teaching credential can be assured that successful completion of the CTTE program will not put them on a dead-end career path. Graduates of the CTTE program should expect to have more than one job throughout their career. The direction of their career mobility will be determined by individual interest, if that interest is instruction or administrative work in the education, government, or business sector with adolescents or adult populations. This information can be useful for faculty and administrators who either recruit CTE teacher candidates or who are concerned about the popularly predicted shortage of CTE instructors.

Likewise, the high degree of career mobility that comes with the CTTE degree seems to be the first step in a variety of pathways available in the workforce education profession. The CTTE degree was a starting point for CTE postsecondary instructors, CTE school administrators, CTE policy makers, and CTE teacher educators.

Many CTTE program graduates whose career path took them into a third or fourth job moved from the secondary to the postsecondary education population, both as instructors and as administrators. This example suggests that the university's CTTE undergraduate program should not be overlooked as a source for postsecondary technical faculty. Human resource departments and vice presidents of technical postsecondary education institutions can benefit from healthy enrollment of the CTTE undergraduate program. Many graduates moved on to secondary and postsecondary education administration positions after experience as secondary instructors. Therefore, perhaps the solution to a potential shortage of technical school administrators must be addressed by focusing recruitment efforts on the front end of the supply pipeline, undergraduate enrollment.

The results of this study also suggest that employment in professional leadership positions is not limited to local school administration. Three of the program graduates reported holding the position of state director of career and technical education, a position for which the job demand is limited to one job per each of the 50 states. This example illustrates that the university's CTTE degree provides a strong foundation for career positions that can impact education reform and the total career and technical education field.

Finally, a perpetual workforce of well-qualified instructors is dependent on a supply of well-qualified teacher educators. The career paths of these CTTE alumni reveal that teacher preparation at the college or university level is an option for instructors with a career of multiple jobs. It is not the intent of the authors to suggest that the CTTE baccalaureate degree prepares individuals solely for a professional leadership or postsecondary and higher education instructional position. Clearly, such positions require an appetite for lifelong learning and commitment to continued and increasingly complex experiences. However, this study of CTTE baccalaureate alumni shows that this degree is a foundation upon which to build the desire to develop as a professional and the door to many CTE career paths.

### *Implications for Further Study*

While this study confirmed prior anecdotal evidence that individuals with CTTE degrees were not limited to a career in the vocational technical classroom, it emphasized the wide reach of the university's CTTE alumni into CTE leadership roles, particularly in postsecondary CTE. This data may be more valuable if it could be compared to other benchmarks. For example, the study was limited to the living population of only one university's undergraduate degree completers. It may be valuable for CTE teacher preparation departments at universities to know whether this case is typical. Therefore, further research across the U.S. could expand



this study to include a survey of individuals who completed CTTE degree programs.

Value could be added to this study of the career paths of CTTE degree holders if further research examined the career paths of individuals who earned the legal credential to teach in CTE without the baccalaureate degree. Such a study could be used to confirm or dispute the merit of completing the degree.

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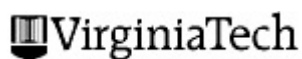
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