## A RETENTION STUDY OF CAREER-BASED INTERVENTION TEACHERS IN OHIO

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#### **Abstract**

Teacher retention has been of interest to educational researchers for over three decades. Various reasons for teacher attrition have been cited, including student discipline and motivation problems, working conditions, low salary, and a lack of administrator support. This descriptive survey research sought to determine the present status of completers of a career-technical/vocational education teacher licensure endorsement program in Career-Based Intervention at a state-supported university. Career-Based Intervention programs are designed for middle/high school students at-risk for dropping out of school, and seek to provide work-based learning coupled with academic instruction to allow students to develop employability skills and acquire appropriate academic knowledge to graduate from high school. The study sought to determine if teachers completing the licensure endorsement program were still teaching in Career-Based Intervention programs, why they may have left, and to obtain their perceptions of the preparation program's effectiveness in working with the student population in Career-Based Intervention programs.

#### Introduction

The need for qualified teachers in America's elementary and secondary schools has been a subject of a significant number of studies in the past twenty years. In the mid-1980's two widely disseminated reports focused attention on the coming shortage of teachers (National Academy of Sciences, 1987; National Commission on Excellence in Education, 1983). Due to increasing student enrollments and the aging of the present teaching workforce, these two reports predicted a commensurate increase in demand for new teachers. These predictions have been upheld by numerous other studies, including studies which delineated the shortages in specific teaching fields, such as math, science and special education (Boe, Bobbitt & Cook, 1997; Grissmer & Kirby, 1997; Weisbaum & Huang, 2001).

Concern over teacher shortages and the retention of current teachers has given rise to continued research on the topic. In the late 1980's the National Center for Education Statistics began the Schools and Staffing Survey (SASS) in an attempt to track the phenomenon. Each year SASS sends out surveys to over 50,000 teachers in a random sample to obtain data on teacher staffing, shortages, and retention. A companion study, the Teacher Follow-up Survey, was designed to focus specifically on the reasons why teachers leave the profession. These studies continue today.

Higher standards in the public schools have affected millions of disadvantaged students who are at-risk for not graduating from high school. Educational reform, with its increased emphasis on testing, has placed more strains on educational systems trying to accommodate increasing numbers of these at-risk students. To meet the needs of these students, approximately 40% of public school districts have alternative schools and programs, approximately 50% of which involve vocational skills training (National Center for Educational Statistics, 2005).

Many of these programs are focused on students who are at risk of dropping out of school for a number of reasons including poor grades, truancy, suspension, and pregnancy (Paglin & Fager, 1997). As a result, teachers may face special challenges and concerns when teaching this population of students. The need to recruit and retain quality teachers in programs and schools with large numbers of at-risk students was recently highlighted in a report by the National Partnership for Teaching in At-Risk Schools (2005). The report described the necessity for proper pedagogical preparation to work with at-risk students, improvement of school conditions, and a focus on retention of quality teachers through various incentives.

Little is known about retention of teachers in the at-risk programs in schools that have a focus on vocational skills training. Also, while there appears to a significant amount of research on teacher attrition of beginning teachers, there is little addressing established teachers who change teaching fields. This study seeks to establish baseline data regarding the status of individuals that fit both these descriptors.

## **Literature Review and Conceptual Framework**

#### Teacher Attrition and Retention

With respect to teacher turnover, Ingersoll (2003) defined two types: teacher attrition, which refers to teachers who have left the profession entirely, and teacher migration, which denotes teachers who have transferred to teaching jobs in other districts. While teacher attrition results in a loss of an individual from the teaching profession, teacher migration also has implications for schools, as it still results in teachers that must be replaced.

Teaching is a large occupational category in the U.S., representing four percent of the entire nationwide civilian workforce (Ingersoll, 2003). However, when compared to other occupations, teachers exhibit higher rates of turnover than many other professions.

Whereas the overall average across all occupations in the U.S. is about 11% per year, the rate for teachers has been as high as 15.7% in certain years (Bureau of National Affairs, 2005).

This turnover is costly to individual schools and school districts. One recent national estimate of the cost of replacing public school teachers who have left the profession of teaching cast the cost at \$2.2 billion a year. Adding in the costs of teachers transferring to other positions and/or schools increased the cost to \$4.9 billion every year (Alliance for Excellent Education, 2005).

Beginning teachers are more likely to leave the profession (Harris, Camp & Adkison, 2003). Twenty-five percent leave by the end of their first year (Norton, 1999), while almost 40% have left after five years (Ingersoll, 2003). As those who stay accumulate teaching experience, they are more likely to continue in the teaching profession. These continual departures put a strain on schools, as a "revolving door" can be created, especially in poor rural or inner-city schools. With respect to career-tech/vocational education teachers, 50% have been shown to leave within six years (Heath-Camp & Camp, 1990).

Studies have delineated several reasons why teachers leave the profession. Dissatisfaction with the job, which can include such aspects as low pay and poor working conditions, has been shown to be a primary reason (Anderson & Sinha, 1999; Weisbaum & Huang, 2001). Teachers leave to pursue careers in other occupations and industries, sometimes for better pay, and sometimes for personal and/or professional advancement. In addition, the U.S. has been experiencing a "graying" of the teaching workforce in the past two decades, as many teachers have retired. However, retirements only contribute to 12% of the total number of teachers who leave. The greatest percentage (28%) leave due to school staffing cutbacks due to lay-offs, school closings, and reorganizations (Ingersoll, 2002).

Many young teachers who choose to leave within five years of beginning their teaching careers often cite a lack of preparation to cope with the challenges of teaching, particularly in public schools. The ability to deal with challenging students (behavior problems, those with a lack of motivation, special populations), along with a lack of administrative support has been defined as a primary reason. New teachers also mention a lack of opportunity for professional development and professional advancement as two other reasons for their departure.

## A Specific Vocational Work-Based Program for At-Risk Students

As in many states, Ohio has a program available in middle and high schools for students at-risk for dropping out of school. Originally called Occupational Work Experience, the program was developed in 1963 as a vocational education pilot program designed to keep disadvantaged at-risk students in school by offering instruction well-suited for the needs of students who were to enter the labor market as unskilled workers (Davis, Kister, Parks & Shoemaker, 2001). An additional program, Occupational Work Adjustment, was added

in 1968 to focus on the needs of disadvantaged students aged 14-15 and was designed to reorient and motivate these students toward education and to prepare them for the world of work. The names of these programs were changed to Career-Based Intervention in 1999 to better reflect the profession's focus on career and technical education.

According to the Ohio Department of Education (2005), Occupational Work Experience/Occupational Work Adjustment/Career-Based Intervention programs help students with barriers to career and academic success improve their academic competence, develop employability skills, implement career plans, and participate in a career pathway in preparation for postsecondary education and careers en route to high school graduation. OWE/OWA/CBI programs provide combined educational and work-based learning opportunities for students in grades seven through twelve who demonstrate academic and/or social maturity difficulties in school. The number of years a student spends in an OWE/OWA/CBI program is determined locally by the program design and the individual.

Career-Based Intervention is a license endorsement, added to an existing teaching license. Individuals desiring the endorsement must already be licensed in another teaching field. In addition, the Career-Based Intervention endorsement requires a baccalaureate degree, two years of successful teaching experience under a professional license/certificate, and one year of full-time work experience outside of education. In addition, teachers must complete a minimum of 12 quarter hours of courses focused on Career-Based Intervention to receive the endorsement. The courses consist of the following content:

- Introductory CBI Clinic Basic concepts of Career-Based Intervention programs
- Exceptional Children Introduction to working with special populations
- Instructional Strategies Classroom components of Career-Based Intervention programs
- Cooperative Education Programs Work-based learning components of Career-Based Intervention programs

Teacher preparation programs for individuals pursuing a CBI endorsement exist at the following educational institutions in Ohio:

- Kent State University
- The Ohio State University
- University of Toledo
- Wright State University

This study has connections to teacher attrition and examines this issue through the lens of teachers working with at-risk students in an educational program with work-based learning experiences as a key component. The study also has ties to teacher preparation and the skills, knowledge and dispositions needed for entry into these Career-Based Intervention programs.

## **Purpose**

The purpose of this research was to describe the current occupational status of program completers of The Ohio State University's College of Education Occupational Work Experience/Occupational Work Adjustment (OWE/OWA) and Career-Based Intervention (CBI) preparatory program. The study also sought to ascertain the perceptions of completers regarding the quality of the preparation they received in The Ohio State University's program.

With respect to the recent report by the National Partnership for Teaching in At-Risk Schools (2005), which described the importance of adequate preparation for teachers in order to work with at-risk populations, it was deemed necessary to evaluate the extent to which program completers were choosing to remain in the teaching profession and how preparatory coursework may have contributed to their retention. The feedback provided by this questionnaire was intended to allow for analysis and improvement of required coursework in order to better serve current and future students pursuing an Occupational Work Experience/Occupational Work Adjustment (OWE/OWA) and/or Career-Based Intervention (CBI) endorsement.

## **Research Questions**

The research tracked the career choices of program completers and linked their evaluations of the preparatory program with retention in the teaching field. Specifically, the study addressed four research questions:

- 1. Are program completers currently employed in the field of education?
- 2. Are program completers currently employed as OWE/OWA/CBI instructors?
- 3. What are contributing factors related to the employment status of program completers?
- 4. What are program completers' perceptions of the preparation they received prior to assuming a classroom assignment?

#### Procedure

### **Population**

The population for this study were program completers of The Ohio State University's Occupational Work Experience/Occupational Work Adjustment (OWE/OWA) and Career-Based Intervention (CBI) preparatory program between the academic years of 1995 and 2004. Mailing lists for this group were developed from departmental files with the assistance of graduate students in the department. The entire population was surveyed. As the population for this study was limited to The Ohio State University's Occupational Work Experience/Occupational Work Adjustment (OWE/OWA) and Career-Based Intervention (CBI) program completers, results of this study are limited to this group.

The initial population was comprised of 111 program completers with current OWE/OWA/CBI license endorsements. The license status of subjects was verified with the Ohio Department of Education's Center for the Teaching Profession, which allows a user to access certificate details for individuals by last name and school district. Upon investigation, it was discovered that the licenses of two subjects were not accessible, which indicated the licenses may have been suspended or revoked. Removing these subjects from the population reduced the number of subjects to 109. Eighty-nine respondents returned the survey instrument for a response rate of 81.7%.

#### Instrumentation

The questionnaire utilized was adapted from Weisbaum and Huang (2001) and reviewed by a panel of experts consisting of the current state supervisor for Career-Based Intervention, two Career-Based Intervention instructors, and a current teacher enrolled in the program and pursuing the endorsement. Suggestions were evaluated and incorporated into the instrument where appropriate.

#### **Data Collection**

The population received a cover letter, survey, and postage-paid return envelope via standard mail delivered to the home address on file with the department. The cover letter explained the purpose of the study, guaranteed participant confidentiality, explained the response tracking method, and provided contact information in the event of participant questions or concerns. Surveys were numbered to ensure confidentiality and to limit follow-up mailing attempts. The respondents' answers were assumed to be an accurate reflection of their understanding of the questions. The research instrument consisted of four sections:

- Demographic information to ascertain education-related employment data, educational attainment, etc;
- 2. Short statements related to the anticipation of leaving the teaching field and/or attrition from the field utilizing a ranking system;
- 3. Rankings of the perception of preparatory course material in relationship to 21 specific on-the-job teaching responsibilities; and
- 4. Space provided to elaborate on any questions answered or additional comments.

Approximately two weeks after the initial mailing, all non-responders received a second mailing of the same contents with an updated cover letter. Several surveys were returned due to incorrect addresses. Utilizing the Internet address search function located at http://www.whitepages.com and The Ohio State University Alumni Association directory were referenced to acquire updated addresses. A third and final mailing was conducted approximately two weeks after the second using school addresses for the remaining non-respondents. No further attempts were made after these three rounds.

## **Findings**

Findings are reported for each research question under corresponding headings. Specific comments made by respondents are included where appropriate.

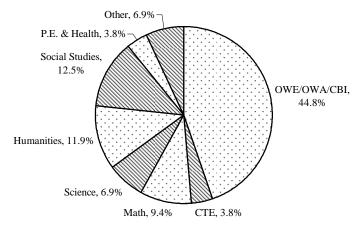
### Question 1: Are program completers currently employed in the field of education?

Of the 89 respondents, 80, or 89.9% of respondents, indicated employment in the education field. The remaining nine respondents, comprising the residual 10.1%, were not employed in an education related field.

For demographic purposes, respondents employed in education also indicated their educational attainment upon assuming an OWE/OWA/CBI teaching position. Thirty-six, or 45%, had acquired a bachelor's degree upon the commencement of an OWE/OWA/CBI teaching assignment. Forty-four (55%) of this segment, held master's degrees upon assuming OWE/OWA/CBI responsibilities. Twenty-two respondents, or 27.5%, have completed bachelor's degrees. In addition 54, or 67.5% of respondents, had completed master's degrees.

## Question 2: Are program completers currently employed as OWE/OWA/CBI instructors?

Sixty-seven respondents were still teaching in a classroom. Thirty (44.8%) were employed as OWE/OWA/CBI teachers. The other 37, or 55.2%, served as classroom teachers in areas other than OWE/OWA/CBI and represent a wide array of subject areas. Figure 1 provides a visual representation of the subject areas taught by the respondents. Respondents presently in the education field, but not in the classroom, were employed in a variety of educational positions, such as substitute teachers, tutors and administrators.



*Figure 1.* Respondent Teaching Subject Areas. The figure depicts the present subject area being taught by OWE/OWA/CBI completers.

Respondents employed in education also reported all positions held in the last five years. Sixty-nine respondents (86.3%) indicated employment as a classroom teacher. Sixty-eight respondents (85%) noted employment as an OWE/OWA/CBI teacher in this time span. Three respondents, representing 3.8% of the total, had served in school administration. Specifically, five respondents (6.3%) had acted as special populations educators.

With respect to teacher mobility, respondents indicated a wide range of number of positions held. Over the last five years, 16 respondents (20%) reported holding a single job, 45 respondents (56.3%) indicated holding two jobs, and 15 (18.8%) denoted holding three or more different jobs in the field of education.

# Question 3: What are contributing factors related to the employment status of program completers?

The majority of all respondents currently in the education field did not anticipate exiting the field of education in the next five years. Sixty-four percent indicated this response.

Only three respondents (3.8%) cited dissatisfaction with the job as justification for planning to leave the field. No respondents who had already left the field of education cited job dissatisfaction as their rationale.

More than one-fourth of the respondents no longer teaching OWE/OWA/CBI indicated program closure as the primary reason they were no longer teaching the subject. Many expressed frustration at having completed the endorsement requirements, and having begun to teach OWE/OWA/CBI, only to have the program discontinued. A sampling of teacher comments on this topic included "The school district cut all electives due to budget cuts."; "After I struggled to become CBI certified – the district eliminated the position!"; "I was staff reduced due to funding and was subsequently placed in special education."; "The CBI program at my school was dropped."; "I am no longer teaching this program because my school district no longer offers it".

Of those planning to exit the field, 81.5% cited retirement as the reason for this career shift. Additionally, all respondents who had already left the field of education had done so through retirement. All retirements had occurred since the year 2000. This coincides with reported years of experience, as the least experienced retiree respondent amassed 22 years of service. However, despite many years in the field, few were spent teaching OWE/OWA/CBI. Two thirds of retirees spent less than three years teaching OWE/OWA/CBI. Six years was the longest time spent in an OWE/OWA/CBI teaching position.

A broad spectrum of experience levels is represented among the respondents still in the education field, as represented in Table 1. The aforementioned "graying" of the workforce is evidenced by results showing 35.1% of respondents on the cusp of retirement with 21 years or more of service in the field.

Table 1. Respondents' Years Experience in the Field of Education

	Years Experience						
	1-5	6-10	11-15	16-20	21-25	26-30	31+
Number	1	12	24	14	8	11	9
Percent	1.3	15	30	17.5	10	13.8	11.3

# Question 4: What are program completer's perceptions of the preparation they received prior to assuming a classroom assignment?

The majority of respondents deemed the OWE/OWA/CBI preparatory courses at The Ohio State University to be "adequate" in all of the 21 teaching responsibilities surveyed. Of particular interest were perceptions regarding preparation to educate special population students, engage in involvement with business and/or industry, provide career counseling, and facilitate remediation. With respect to the education of special populations, 43.8% of all respondents considered the preparation received to be "adequate" while 23.6% deemed their preparation "inadequate." Table 2 depicts the perceptions of all respondents on this dimension of preparation.

Table 2. Perceptions of Preparation to Educate Special Populations

	Preparation Rating						
_		Not					
	None	Inadequate	Adequate	Excellent	Applicable		
Number	7	21	39	17			
Percent	7.9	23.6	43.8	19.1			

Respondents who had little experience with special populations perceived a definite need for information to work with these students. On this topic respondents included comments such as "I taught college prep biology for 23 years prior to taking the CBI position. The type of student I am now dealing with is very different."; "Administrators feel the at-risk CBI student creates discipline problems and lowers test scores"; "OWE/OWA is the best device to help a school reach some students".

Preparation for involvement with business and/or industry was deemed "adequate" by 44.9% of all respondents, while 22.5% thought it "inadequate." Table 3 portrays the perceptions of respondents on this preparatory dimension.

Table 3. Perceptions of Preparation for Involvement with Business and Industry

	Preparation Rating					
		Not				
	None	Inadequate	Adequate	Excellent	Applicable	
Number	7	20	40	18		
Percent	7.9	22.5	44.9	20.2		

Teachers commented on their preparation in this area with statements such as "I greatly appreciate having learned the importance of safety training and how to write a training plan."; "As a CBI teacher, you should have some business experience!"; "Teaching CBI is not really covered in a traditional preparation program. The contact with business is a key."

With respect to career counseling, 48.3% of all respondents deemed preparation to be "adequate" and 19.1% "inadequate." Table 4 displays the perceptions of respondents on this dimension of preparation.

Table 4. Perceptions of Preparation for Career Counseling

	Preparation Rating					
		Not				
	None	Inadequate	Adequate	Excellent	Applicable	
Number	8	17	43	15		
Percent	9	19.1	48.3	16.9		

Respondents commented on the need for information in this area through observations such as "I believe the district in which I teach needs to add vocational programs in the schools, not cut the programs. There are a fair amount of students that are not going to college."; "We as educators should be training students to become employed as well as preparing them for college."

Preparation to offer academic remediation was thought "adequate" by 47.2% of all respondents, and "inadequate" by 20.2%. Table 5 depicts respondents' perceptions of their preparation on this dimension.

Table 5. Perceptions of Preparation for Remediation

	Preparation Rating						
					Not		
	None	Inadequate	Adequate	Excellent	Applicable		
Number	10	18	42	11			
Percent	11.2	20.2	47.2	12.4			

Respondents stressed the need for remediation knowledge with such statements as "My school district used CBI as a tutor program for math"; "For four years I taught remediation for math, citizenship, etc. geared towards passing the Ohio Graduation Tests"; "It (CBI) was mainly used to help prepare CBI students for proficiency tests."

#### Conclusions

With reference to the research questions posed by the study, the following conclusions are reached:

### Research Questions 1, 2 and 3

- 1. Are program completers currently employed in the field of education?
- 2. Are program completers currently employed as OWE/OWA/CBI instructors?
- 3. What are contributing factors related to the employment status of program completers?

While the vast majority of the individuals surveyed for this study are still employed as classroom teachers, most are not employed as OWE/OWA/CBI teachers. This underutilization of the OWE/OWA/CBI endorsement may stem from several possible sources. Respondents may have acquired an endorsement only to find little opportunity to use it. Others may have left their OWE/OWA/CBI teaching assignment due to the special challenges associated with working with an at-risk population of students. Still others may have secured an OWE/OWA/CBI assignment that was later eliminated due to budget cuts or restructuring. Several respondents reported program cutbacks and the elimination of OWE/OWA/CBI positions from their schools. This is consistent with Ingersoll (2002), who reported the greatest percentage of teachers leaving the field do so in response to reductions in school staffing due to lay-offs, school closings, and reorganizations. Interestingly, the elimination of OWE/OWA/CBI programs would appear to run counter to the findings and recommendations of the recent report by the National Partnership for Teaching in At-Risk Schools (2005) which described the need for more of these types of programs.

Regarding those respondents in the field of education, another intriguing finding was the numbers of teachers who held more than one teaching position in the past five years. Fifty-six percent of the respondents reported having held two different teaching jobs in that time period, while 18.8% reported having held three or more different teaching jobs. Given the fact that several respondents noted the closure of programs as a reason they were no longer teaching OWE/OWA/CBI, this would again seem to support Ingersoll's (2002) discussion around school reorganization as a cause for teacher mobility, or it may point to some "job-hopping" behavior on the part of teachers.

Both teachers still in teaching and those who had left evidenced professional development, namely in the form of a graduate (Master's) degree. Several of these individuals have used the advanced degree to move into an administrative position. Three of the respondents used the OWE/OWA/CBI coursework as part of a Master's degree in Education. Finally, of those individuals no longer in teaching, retirement was listed as the primary reason for exit, a finding consistent with other studies (Anderson & Sinha, 1999; Weisbaum & Huang, 2001).

## **Research Question 4**

4. What are program completers' perceptions of the preparation they received prior to assuming a classroom assignment?

With respect to the respondents' preparation to teach an OWE/OWA/CBI program, it appears the biggest concern for these individuals is working with special populations, i.e., those at-risk for dropping out of school. Some teachers may have received little training in working with this group as part of their initial teacher preparation, and may have little practical experience in this area prior to taking an OWE/OWA/CBI position. Since OWE/OWA/CBI programs have historically targeted this group, the demographic make-up of these programs is almost exclusively at-risk students. Hence, the respondent's concern, and desire for perhaps more preparation in this area, is understandable. The same may be true for the area of involvement with business and/or industry. Since many new OWE/OWA/CBI teachers come from academic disciplines (math, science, etc.), they may have little in the way of orientation to the world of work, and establishing relationships with the business community may be a new responsibility for them. This same shortcoming may also be true for another noted area, career counseling.

#### Recommendations

Based on the findings and conclusions of this study, the following recommendations appear warranted:

Expansion of the study to the other institutions in Ohio that have provided the OWE/OWA/CBI licensure endorsement program. Some themes have emerged in this study with respect to the status of OWE/OWA/CBI programs in middle and high schools, and it may be useful to see if these patterns are true in other parts of the state. Respondents in the study were unanimous in their support of OWE/OWA/CBI programs and stressed the need for more programs of this type, not less.

A larger study that examines dropout rates in schools with OWE/OWA/CBI programs versus those schools without OWE/OWA/CBI programs. If indeed these programs can make a difference, a study of this type may help determine the effectiveness of a vocational work-based program for at-risk students. At present, it appears a number of programs have been dropped from middle and high schools, ostensibly due to budget constraints. Now may be an opportune time to locate schools with/without OWE/OWA/CBI programs to perform a comparative study to judge the merits of such programs. In addition, at present, Ohio has several charter schools with OWE/OWA/CBI programs, and individuals teaching the subject area in charter schools are exempt from the requirement to have the endorsement. The charter schools with OWE/OWA/CBI programs without a fully credentialed instructor could also be part of this analysis.

Consideration of a statewide revision of licensure endorsement standards for these programs. An examination of respondent comments pointed to a need for more preparation and information with respect to working with at-risk populations and business and industry professionals. Additionally, career counseling was identified as an area where more information was desired. Given the increasing numbers of at-risk students in schools (National Partnership for Teaching in At-Risk Schools, 2005), the constantly changing needs of the workplace, and the multiplicity of career pathways, it is

reasonable to assume this information may need stronger emphasis in present and future CBI licensure endorsement preparation programs.

## References

- Alliance for Excellent Education. (2005). Teacher attrition: A costly loss to the nation and to the states. Washington, DC: Author.
- Anderson, M.A., & Sinha, R. (1999). Business teaching as a career in the United States. *NABTE Review*, 26, 28-33.
- Boe, E. E., Bobbitt, S. A., & Cook, L. H. (1997). Whither didst thou go? Retention, reassignment, migration, and attrition of special and general education teachers from a national perspective. *Journal of Special Education*, *30*, 371-389.
- Bureau of National Affairs. (2005). *BNA's quarterly report on job absence and turnover*. Bulletin to Management, 56. Washington, DC: Author.
- Davis, J., Kister, J., Parks, D., & Shoemaker, B. (2001). *Ohio career-technical and adult education:* A state vocational education history. Columbus, OH: Ohio Association for Career and Technical Education.
- Grissmer, D., & Kirby, S. (1997). Teacher turnover and teacher quality. *Teachers College Record*, 99, 45-56.
- Harris, S., Camp, W.E., & Adkison, J. (2003). New structures and approaches for teacher education: Do they make a difference in teacher retention? New Orleans,
   LA: Paper presented at the Annual Meeting of the Association of Colleges for Teacher Education. (ERIC Document Reproduction No. 472 813)
- Heath-Camp, B., & Camp, W.G. (1990). Induction experiences and needs of beginning vocational teachers without teacher education backgrounds. *Occupational Education Forum*, 19(1), 6-16.
- Ingersoll, R. M. (2003). Who controls teachers' work? Power and accountability in America's schools. Cambridge, MA: Harvard University Press.
- Ingersoll, R.M. (2002). *The teacher shortage: A case of wrong diagnosis and wrong prescription*. The National Association of Secondary School Principals. NASSP Bulletin.Retrieved August 2, 2005 from http://www.findarticles.com/p/articles/mi\_qa3696/is\_200206/ai\_n9095340
- National Academy of Sciences. (1987). *Toward understanding teacher supply and demand*. Washington, DC: National Academy Press.
- National Center for Educational Statistics. (2005) *The condition of education 2000–2005*. Washington, DC: Author.
  - ©2005 Journal of Career and Technical Education, Vol. 22, No. 1, Fall, 2005 Page 67

- National Commission on Excellence in Education. (1983). A nation at risk: The imperative for educational reform. Washington D.C.: Author.
- National Partnership for Teaching in At-Risk Schools. (2005). *Qualified teachers for at-risk schools: A national imperative*. Washington, DC: Author.
- Norton, M. (1999). Teacher retention: Reducing costly teacher turnover. *Contemporary Education*, 70(3), 52-55.
- Ohio Department of Education. (2005). *Career-based intervention*. Retrieved August 2, 2005 from http://www.ode.state.oh.us/ctae/teacher/cbi/
- Paglin, C., & Fager, J. (1997). *Alternative schools: Approaches for students at risk*. Portland, OR: Northwest Regional Educational Laboratory.
- Weisbaum, K.S., & Huang, D. (2001). *IISME teacher retention and program impact* 1985-2000. Cupertino, CA: Industry Initiatives for Science and Math Education.

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