DISSERTATION

# VOCATIONAL AND ACADEMIC SECONDARY EDUCATOR'S PERCEPTIONS OF CAREER EDUCATION IN CLASS A- AAAA SCHOOLS IN WYOMING

Submitted by

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WE HEREBY RECOMMEND THAT THE DISSERTATION PREPARED UNDER OUR SUPERVISION BY HEATHER TEACH WAGONER ENTITLED VOCATIONAL AND ACADEMIC SECONDARY EDUCATOR'S PERCEPTIONS OF CAREER EDUCATION IN CLASS A- AAAA SCHOOLS IN WYOMING BE ACCEPTED AS FULFILLING IN PART REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

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ABSTRACT OF DISSERTATION

VOCATIONAL AND ACADEMIC SECONDARY EDUCATORS PERCEPTIONS OF CAREER EDUCATION IN CLASS A- AAAA SCHOOLS IN WYOMING

The purpose of this study was to determine the perceptions of academic and vocational secondary educators on career education in Class A, AA, AAA, and AAAA schools in Wyoming. To achieve this objective, five research hypotheses were posed and five null hypotheses were tested.

The independent variables were size of school ( Class A-AAAA) and teacher type (Academic and Vocational). The dependent variables on the survey included: 1) Perception towards career education as measured by six constructs, 2) Use of Career education, 3) Method of Curriculum delivery, 4) Delivery of School to Work Systems, and 5) Technology and use of alternative technology for the delivery of career education.

Two hundred and sixty-six returned surveys provided a 58% return rate: 51.5% of the respondents were vocational teachers and 48.5% were academic teachers. There were relatively equal proportions of respondents in each school size. Two-way analysis of variance procedure was used to test Ho1 and Ho5. Log Linear Analysis with cross tabulation and chi square test of significance was used to test Ho2-Ho4.

Findings indicated differences related to teacher type. Academic teachers were less likely to support career education than vocational teachers. Vocational teachers viewed teachers as the key personnel in career education. Academic teachers viewed

guidance counselors as the key personnel to assist with career education. Academic teachers perceived careers be delivered by a separate class; vocational teachers preferred infusion of career education. Vocational teachers had more competencies in using Alternative Technology when compared to academic teachers.

It was clear that there were discrepancies in the use of Tech Prep and apprenticeships amongst large and small schools. A large percentage of small schools perceived career exploration opportunities as minimal. School to work programs and access to these initiatives is markedly less in small schools versus large schools. Implications suggest that integration of academic and vocational subjects and career education are a not uniformly delivered in the State of Wyoming. Qualitative analysis revealed that community was important; computer programs widely used and schools participated in on-site visits, job shadowing, and field trips.

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# CHAPTER 1

# INTRODUCTION

## Background

Over the last three decades, career education has been a subject of discussion in relation to increased concerns regarding how to prepare students for a global economy and the transitional workplace. In contrast to earlier decades, students' movement from school to work is no longer a linear pathway; it is now far more variable and individual. A number of pathways exist that allow students several options such as entry into different labor markets, multiple program choices, and complex systems. Israel (1994) cites the U.S. Department of Labor estimates that most workers will change their careers three times and their jobs seven times in the new millennium. This fluid environment requires students to have a significantly higher level of functioning in terms of decision-making, knowledge of career options, and ability to access systems and resources. Career education, which has transitioned into school-to-work legislation, has been a major impetus in K-12 education systems that attempt to provide students with a keener understanding of the world of work.

The current career education movement, termed "school-to-work", has been spurred by a number of reports that indicate that student achievement and workforce preparation in the United States has declined in relation to other countries (Commission on the Skills of the American Workplace, 1990; Office of Technology Assessment of the

U.S. Congress, 1995; Transition from School-to-work, 1991; U.S. Department of Labor, Secretary's Commission on Achieving Necessary Skills, 1991). The School-to-Work Act of 1994 is directly related to bridging the disconnection between student achievement in school and potential rewards in the workplace (Kazis, 1993). Lynch (1999) identifies "Career Planning and Development" as one of the four themes of the 21st century high school. His work is a cry for schools "to assist students to be made aware of pathways to a good life...while engaging them in career exploration and planning that connects them more closely with the real world" (Lynch, 1999, p. 11). The extent to which this actually occurs is not yet evident in the literature.

Legislative actions, position papers, media attention, and international forums regarding the topic of career services (e.g. career counseling and career education) have been identified as vital instruments in human resource development. Despite this focus on career services, Baker and Taylor (1998) recognize that career education is still a fragmented system that has been influential for some individual educators and in some states and school systems. Under the School-to-Work Act of 1994, funding was available to states to implement systems of career education, career guidance, and work-based experiential programs. Another piece of legislation, The Carl D. Perkins Vocational Technical Education Act of 1998, requires states to deliver Section 118, which targets six areas of career development. (U.S. Department of Education, 1998). Both pieces of legislation directly approach the implementation of career education through the collaborative efforts of academic and vocational teachers. Pedraza, Pauly, and Kopp (1997) posit that it will take a decade or more to measure the success of these efforts.

This legislation is seen as an extremely ambitious agenda for change in the context of education reform initiatives in the area of assessment and standards. Some school systems are experiencing strife in attempting to provide high academic standards and assessments, as well as offering students career education in a contextual learning environment. The purpose of this chapter is to present an overview of this research project, which investigates secondary educators' perceptions of career education in various-sized schools in Wyoming. The chapter includes the following sections: a) need for the study; b) problem statement; c) research questions; d) null hypotheses; e) significance of the research; f) basic assumptions; g) delimitations; and h) definition of terms.

## Need for the Study

Gray and Herr (1998) postulate that the sociology of work has become increasingly important with technological advances and a shift toward a knowledge-based economy. A document published by the National Centers for Vocational Education Research (NCVER) entitled Legislative Principles for Career-Related Education and Training: What Research Supports (March, 1995) stated that the federal government has assumed a key role in developing and implementing career-related education and training. The proposed principles for implementing career education state:

> The increasing demand for continual learning throughout the working career implies that career-related education and training programs will be most effective if they combine academic and vocational content, integrate work-based with school-based learning, and ensure that each program can lead to more advanced programs (1995, p.8).

Making the necessary connection between learning and working in the future will be

increasingly difficult if America's workplace continues to be restructured, and if schools do not keep pace with these realities (Berryman & Bailey, 1992).

There are substantial gaps in the study of career education in the United States. For example, there is a tendency in career education to report information on some geographic areas frequently and not to report information on other areas at all (Martin, 1993). In fact, career education has been predominantly entrenched in an urban industrial structure that seems to neglect rural geographies. While some believe that career education is an outdated concept, Baker and Taylor (1998) affirm in their meta-analysis of career education that the implementation of interventions that seek to achieve career education goals or enhance school-to-work transitions has not waned. As both rural and urban educational systems continue to undergo changes, renewal, and reform, the focus will remain on trying to better prepare students for the future.

The Wyoming Department of Education is also considering students' preparation for and transition to work and careers. Through the development of statewide standards in the area of career/vocation, a grassroots effort is taking place with dialogue from academic and vocational educators on what students should know and be able to do. These career/vocational standards will be implemented in school districts during the year 2001. It is clearly articulated that the implementation of these standards allows Wyoming schools to deliver these competencies in a variety of locally controlled approaches. Nonetheless, there are questions as to whether teachers understand and accept career education, can use career education information, can determine the delivery systems of school-to-work, and are able to access alternative technology towards this end. There is

also the issue of school size in determining the capacity for implementing a range of career education initiatives in rural settings.

Three studies have led to the present research effort. Olson (1980) examined Wyoming educators' and community leaders' attitudes toward the inclusion of career education concepts in elementary and secondary curricula and assessed issues of inclusion, methods of delivery, and community involvement in education. The results of Olson's study indicated the need for local districts to survey teachers and community members on career education, to instruct educators on the elements of career education, and to set state standards for career education. No follow-up data exists on these areas for further examination.

In an effort to provide an examination of Wyoming resources and career development services, De Vries (1998) conducted a qualitative study of career guidance and development functions at Wyoming community colleges. This study concluded that better articulation between secondary schools and colleges in Wyoming is needed. Finally, the Northwest Regional Education Laboratory (NWREL) was contracted by the Department of Employment to survey all high schools and postsecondary institutions in Wyoming. The purpose of this survey was to provide state leaders and those planning school-to-work programs with an assessment of future school-to-work needs. The authors concluded that there was a need for training in the area of school-to-work and suggested further surveys of teachers and parents to gain their perception and involvement in school-to-work activities (Wang, Owens, & McClure, 1996). No empirical research exists on secondary educators' perceptions of career education, nor an analysis that involves how size of school interacts with these variables.

Thus, the School-to-Work Act initiatives, the Carl D. Perkins Vocational and Technical Education Act, and the implementation of career/vocational standards assume a level of understanding of career education concepts, delivery of school-to-work systems, and evaluation of its efficacy on the part of administrators and staff in secondary schools, colleges, and universities. These Wyoming studies and legislative initiatives suggest the need for further inquiry into the frontline educators who are expected to provide students with career education and exploration.

## Problem Statement

This study examines the perceptions of career information, use of career education, delivery of school-to-work systems, and the way in which alternative technology is being utilized in career education amongst academic and vocational teachers in schools of varying sizes (Class A-AAAA). Legislation under the Carl D. Perkins Vocational and Technical Education Act and School-to-work Act calls for the implementation of career education. Although both pieces of legislation require outcomes that examine the extent to which career education is fulfilling the law, evidence is scant on the educators' perceptions of their ability to do so. Little evaluative and empirical information exists which substantiates the way in which frontline educators have perceived career education. Further, the present study expands the level of understanding of individuals' qualitative responses to career education in Wyoming.

## Research Questions

The intent of this study is to provide empirical research that can be utilized by educational leaders in Wyoming. It is hoped that the findings will be useful in the Wyoming Department of Education's development of career/vocational standards. Finally, it will provide additional information that districts may utilize in tandem with the established staff development process developed and disseminated by the Wyoming Department of Education. This study was designed to answer the following research questions:

1. Do the responses of academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools in Wyoming differ on items relating to perception of the role of the community, role of the school, and developmental attitudes as related to career education?
2. Do academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools in Wyoming differ in their responses to items related to the use of career education information?
3. Do the responses of academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools in Wyoming differ on items related to method of curriculum delivery for career education?
4. Do the responses of academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools differ on items related to the delivery of school-to-work systems in Wyoming?

5. Do the responses of academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools in Wyoming differ on items related to the use of alternative technology for delivery of career education?

## Null Hypotheses

In relation to the problem statement, objectives of the study, and review of literature, the following five null hypotheses were established:

Hypothesis 1:

Perceptions of career education concepts, including role of the community, role of the school, and developmental attitudes, as measured by items on Part II of the instrument do not differ by teacher classification (vocational or academic) and school size (Class A, AA, AAA, or AAAA).

Hypothesis 2:

Use of career education information as measured by items on Part III of the instrument does not differ by teacher classification (vocational or academic) and school size (Class A, AA, AAA, or AAAA).

Hypothesis 3:

Method of curriculum delivery for career education as measured by items on Part IV of the instrument does not differ by teacher classification (vocational or academic) and school size (Class A, AA, AAA, or AAAA).

Hypothesis 4:

Delivery of school-to-work systems in their communities as measured by items on Part V of the instrument does not differ by teacher classification (vocational or academic) and school size (Class A, AA, AAA, or AAAA).

Hypothesis 5:

Use of alternative technology for the delivery of career education as measured by Part VI of the instrument does not differ by teacher classification (vocational or academic) and school size (Class A, AA, AAA, or AAAA).

## Significance of the Research

Approaches to career education have evolved during the past three decades. Currently, states are examining the extent to which federal funding for career education has had efficacy in their schools, communities, and students' ability to transition from school-to-work. Rural students in particular face significant difficulties with career development. As Miller and Hahn (1995) and Rojewski (1994) revealed, student populations from rural areas often experience unique and difficult barriers to successful career preparation. Problems are due to wide gaps between rural and urban areas in the availability of school and community resources, postsecondary educational opportunities, employment options, and access to needed programs and services (Cahill & Mortland, 1993; Herzog & Pittman, 1995; Huang, 1999; Jeffery, Hache, & Lehr, 1995; William T. Grant Foundation, 1988). Information collected on education in rural areas is scant (Stern, 1994). Given the dearth of research on rural areas, the present study seeks to expand the body of knowledge on career education by examining a rural state. It is further recognized that the abilities and knowledge of secondary teachers who potentially deliver career education is a significant issue in rural areas that may require educators to perform several roles. Teachers' views can be examined through a comprehensive statewide survey.

Several studies on career education in Wyoming have focused on the role of community members, college staff, and guidance counselors. The present study has been designed to provide information to assist Wyoming with data and recommendations related to academic and vocational secondary teachers' perspectives on career education in Class A-AAAA schools. This contributes to the literature by expanding the vision into frontline educators' perceptions of their capacity, interests, and use of career education in the classroom. The intent of this research is to conduct a viable empirical study that will provide this geographical area with information that can be used in the implementation of further programs related to career education. In addition, it is intended to present the information in a readable format that will allow a wide range of stakeholders to access and understand the data presented.

The findings of this study will be useful in providing information on how career education is perceived, implemented, and approached by educators in Class A, AA, AAA, and AAAA schools in Wyoming. This should be helpful to the School of Education at The University of Wyoming in their examination of pre-service curricula that may or may not include career education as a component. School-to-work, Workforce Development, and Department of Education staff can use the information generated by this study to identify deficiencies in career education knowledge where staff development and in-service training efforts may be prioritized. Policymakers, stakeholders, and state and regional government officials will benefit by gaining empirical data that can be used to discern whether changes in program delivery should occur, increased dissemination of information is needed, or if discrepancies exist among large and small schools in Wyoming. This research may also assist in targeting school-to-work programs that have

the potential for expansion. With limited resources and funding levels, this research can also provide insight to the level of alternative technology used for career education in Wyoming, which has implications for further development of this methodology. It is desired that this research will contribute a substantial empirical study to the populace of Wyoming that may be of critical importance to the further development of the youth of Wyoming.

## Basic Assumptions

The following assumptions were made for this study:

1. The concepts of career development are recognizable by Wyoming secondary academic and vocational teacher populations from schools selected for this study. Wyoming secondary teacher populations can identify the ways career education can be implemented.

2. Wyoming secondary educators, both academic and vocational, understand the concept of alternative technology delivery.

3. More can be learned about academic and vocational secondary teachers' perceptions of career education in Class A, AA, AAA, and AAAA schools.

4. More can be learned about models of school-to-work delivery in rural states.

## Delimitations

The following delimitation's were made with respect to the research:

The study is limited to the viewpoints of academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools in Wyoming. Secondary educators in other locations may have a different set of perceptions. The researcher was interested in vocational and academic secondary educators and program delivery of career education in

Class A, AA, AAA, and AAAA public schools in Wyoming. This study was further limited by the time during which data on career development was gathered, which was the winter of 2000.

## Definition of Terms

The following terms and definitions were used in this study and are provided for clarity and consistency. Some of these terms have been taken from the National Vocational Guidance Association's clarification of career terminology, while others are career terminology used by educators, counselors, and others as cited (Sears, 1982). In this research, the terms school-to-work, school-to-career, work-based learning, and career education are synonymous. They are defined separately below, as each term is important to differentiate the time period of its development:

**Career** - The totality of work one does in one's lifetime. Super's (1976) definition of career also provides insight into the concept: "Career is the course of events that constitutes a life."

**Career Counseling** - A focus on programs or strategies that assist individuals in maintaining and enhancing career development within their current employing organization, towards contemporary issues, or transitions regarding the concept of work.

**Career Development** - The total constellation of psychological, sociological, education, physical, economic, and chance factors that combine to shape the career of any given individual throughout the lifespan.

**Career Education** - A term placing more of an emphasis on the teaching/ learning process than do most comprehensive career guidance programs. The key persons needed for success in career education are classroom teachers, whereas the school counselor is

the key person in career guidance. School-to-careers and school-to-work systems in the U.S. have career education as one component.

**Career Information** - Information related to the world of work that can be useful in the process of career development, including educational, occupational, and psychosocial factors related to working (for example, availability of training, nature of the work, and status of workers in differing occupations).

**Class A School** - Designation by enrollment size according to the Wyoming High School Activities Association listing at the time this study was conducted. A schools were determined by Average Daily Membership (ADM). In rank order of highest to lowest ADM the $51^{st}$-$75^{th}$ were classified as A. Indicated by the term Class A or small school for the purposes of this research (Appendix D).

**Class AA School** - Designation by enrollment size according to the Wyoming High School Activities Association listing at the time this study was conducted. AA schools were determined by ADM. In rank order of highest to lowest ADM the $39^{th}$- $50^{th}$ schools were classified as AA. Indicated by the term Class AA or small school for the purposes of this research (Appendix D).

**Class AAA Schools** - Designation by enrollment size according to the Wyoming High School Activities Association listing at the time this study was conducted. AAA schools were determined by ADM. In rank order of highest to lowest ADM the $13^{th}$-$38^{th}$ were classified as AAA. Indicated by the term Class AAA or large school for the purposes of this research (Appendix D).

**Class AAAA Schools** - Designation by enrollment size according to the Wyoming High School Activities Association listing at the time this study was conducted. AAAA

schools were determined by ADM. In rank order of highest to lowest ADM, the first 12 schools in the comprehensive listing were considered AAAA. Indicated by the term Class AAAA or large school for the purposes of this research (Appendix D).

**Curriculum "Add-On"** - A method where a certain number of minutes are set aside per class to teach career education.

**Curriculum Delivery** - The curriculum method for implementing career education in Wyoming. These are defined as infusion method, separate class method, and curriculum "add-on" method.

**Infusion Method** - A method of integrating career education into all subject areas (math, English, social studies, science, vocational education, etc.)

**Rural** - The National Center for Education Statistics defines rural as communities with fewer than 2,500 inhabitants or fewer than 1,000 inhabitants per square mile.

**Rural Educators** - Secondary teachers involved in teaching students in sparsely populated, agrarian, economically challenged, and isolated areas.

**School-to-Work** - Legislation passed in 1994 that provides for career guidance and counseling, career pathways, and business partnerships towards preparing students for work, additional training, or post-secondary programs. Also referred to as school-to-careers.

**Separate Class Method** - A method of teaching career education in a class unto itself.

**Survey Participants** - Secondary educators, both vocational and academic, located in Wyoming.

**Vocational Education** - Education designed to prepare people for working life and to develop attitudes, knowledge, and specific skills in certain areas of activity.

**Work** - Conscious effort (other than that having its primary purpose either coping or relaxation) aimed at producing benefits for oneself or others.

**Work Based Experience** - A school-to-work model that affords students an opportunity for "on-hands" experience in a particular work setting under adult supervision on-site and at school.

# CHAPTER 2

# REVIEW OF THE LITERATURE

## Introduction

The objective of this study is to determine the perceptions of academic and vocational secondary educators of career education in Class A, AA, AAA, and AAAA schools in Wyoming. The purpose of this chapter is to summarize the studies that have been conducted involving career education and to provide sound historical and geographical referents for the present study. This chapter provides the context of the study. Computer searches were conducted through databases such as EBSCO, ERIC, PsychLit, Dissertation Abstracts International, and websites related to school-to-work systems in order to obtain a background of the constructs used in this study. The E-library electronic website subscription was also accessed for on-line full-text documents. Descriptors used to search these sources related to career education, rural education, Wyoming's educational reform, career development, school reform, school-to-work, career counseling, secondary education, and career guidance.

Professional journals such as *Career Development Quarterly, Guidance and Counseling, Journal of Counseling and Development, Educational Review, Measurement & Evaluation in Counseling and Development, The School Counselor, Educational Review, Journal of Counseling Psychology, Community College Journal of Research and Review, Psychological Reports,* and *Canadian Journal of Counseling and Development*

were among the resources used in this study. The online Research Center *E-Library* was subscribed to and also accessed for background information on the topic of school-to-work and European approaches to career education. The Archives Department for Wyoming assisted in uncovering early career education work developed by the Wyoming Department of Education. Dr. Miriam Manley, a researcher at the Center for School Improvement in Jackson Hole provided insight through her work on *The Governor's Pilot Distance Learning Project in Wyoming Schools* that involved a career development course. The Wyoming Technology and Data Unit assisted in securing the vocational and academic sample population of secondary educators.

The Wyoming High School Activities Association compendium of school activities provided the classification of schools as Class A, AA, AAA, and AAAA. Several doctoral dissertations were identified that provided useful information towards the survey development of this study. Monographs, special reports, and newsletter reports were also referred to for current perspectives on Career Education and Vocational Guidance. The following books provided significant assistance in the literature review: Workforce Education: The Basics, and Counseling in a Dynamic Society: Contexts and Practices for the 21st Century. A review of this information was synthesized and is organized into the following sections: a) defining career education; b) issues leading to career education; c) historical context of career education; d) national reports: The United States; e) comprehensive school reform; f) Wyoming's education system and reform legislation; g) career education in Wyoming; h) school-to-work in Wyoming; i) career education and rural areas; and j) summary.

## Defining Career Education

Career education has been defined in a number of ways since its early foundations in the 1930s. The current terms most typically used for these efforts are school-to-work or school-to-careers. For many, these terms have negative connotations in that they can be misleading by implying a one-time transition to employment. Further, they seem to be associated with entry-level work as opposed to a career pathway. In contemporary cultures, the school as a social institution has taken over many of the functions formerly performed in the home. According to Super's (1957) early work on psychology and careers, the process of vocational exploration has specific phases to assist the individual with emerging in the adult world as an effectively functioning adult. These phases of developing a vocational concept were described as follows:

1. Formal Exploration - the curriculum in junior high school where students can try a variety of subjects, ranging from the various shops to foreign language, so that a wise choice of high school curricula can be made.
2. Orientation Courses - courses offered during the first year or two of each level of education beginning in junior high school; such courses include self-analysis, in which students conduct a study of themselves in order to better understand the educational and occupational opportunities that may be open to and appropriate for them.
3. Activities - clubs, special projects, volunteer work, or activities without formal commitment that have indirect exploratory value.

4. Informal Exploration - exploration of the self and one's role in the world of work that goes on not only in formal activities but also in social groups.
5. New Models - through both curriculum and related activities, the school also provides new roles for the child and adolescent who pattern behaviors after these new models; adequate role models in school or elsewhere in the community, combined with appropriate aptitudes and personality traits, allow individuals to develop new personality integration (Super, 1957, p. 42).

Super's phases speak of a multi-layered approach in which systemic concepts are built onto one another and allow for the integration of theoretical and applied knowledge of careers.

Hansen's analysis of the term "career education" revealed a variety of definitions and terminology as evidenced in several works (Briggs & Green, 1974; Hansen, 1977; Herr, 1973; Hoyt, 1975; Marland, 1974; Super, 1976). One early definition offered by Marland is that the term career education can mean, in relationship to different contexts and purposes, at least the following:

1. An effort to diminish the separateness of academic and vocational education.
2. An area of concern which has some operational implications for every educational level or grade from kindergarten through graduate school.
3. A process of insuring that every person exiting the formal educational structure has job employability skills of some type.
4. A direct response to the importance of facilitating individual choice-making so that occupational preparation and the acquisition of basic academic skills can be coordinated with developing individual preferences.

5. A way of increasing the relevance or meaningfulness of education for greater numbers of students than is currently true.
6. A design to make education an open system so that school leavers, school dropouts, and adults can re-affiliate with it when their personal circumstances or job requirements make this feasible.
7. A structure with desired outcomes that necessitate cooperation among all elements of education as well as among the school, industry, and community.
8. A form of education for all students (Marland, 1974, p. 90-91).

In 1995, a national task force along with the Chief State School Officers agreed upon a mutual definition of career education as:

> Essentially an instructional strategy aimed at improving the educational outcomes by relating teaching and learning activities to the concept of career development. Career education extends the academic world to the world of work. In scope, career education encompasses educational experiences beginning with early childhood and continuing throughout the individual's productive life. A complete program of career education includes awareness of the world of work, broad orientation to occupations (professional and nonprofessional), in-depth exploration of selected clusters, career preparation and understanding of the economic system of which jobs are a part, and placement for all students (Marland, 1974, p. 105-106; Zunker, 1990, p. 227).

While career education can be addressed by a variety of approaches throughout a curriculum, Goldhammer and Taylor (1972) describe what they deem as an interlocking curriculum that incorporates all elements of career education:

> Career education incorporates a view of the curriculum as an integrated and cumulative series of experiences designed to help the student achieve increasing power to make relevant decisions about all his life activities and increasing still in performance of his life roles. An integrated curriculum suggests that instead of experiences being presented in independent, separate, subject-matter modules, there is an attempt to relate all experimence to some central objectives. Each area of study or experience should contribute

> to the improvement of the student's capabilities. The total curriculum can thus be viewed as having a cumulative impact on the learner. Each successive learning can be built upon the previous experience, the level of accomplishment of the student and his revealed need... Each new experimence should be a step toward the learner's next stage of development, particularly with respect to his achieving increased capability to make relevant decisions about his life career and his acquiring increased skill in the areas related to his life roles. Particular emphasis should be placed upon his skill development and use of the tools and techniques of learning as well as those related to occupational competence (p. 110).

This reflects the perspective that career education is not a stand-alone concept but one that must be embraced by all those involved in the curriculum. The question remains, why career education and why an emphasis on this approach to learning? Reinhart (1979) suggests that a developmental perspective towards career education lies in the meaningfulness of work and its relationship to the individual. Work reflects a self-identity in attempting to answer the question of who one is. Since work structures and regulates activities, it also generates answers to such questions as: How much freedom do I have? How much authority will I enjoy? Because work sets parameters for social interaction, it also provides answers to the questions of who will be one's friends and what is one's value to others. The answers to these work- or career-related questions have personal meaning and important psychological and sociological implications for each person. Therefore, career education is helpful in assisting individuals to find fulfillment in life and conceive the world of work in a broad and inclusive way.

Fuller and Whealon (1979) in their classic text on career education entitled *Career Education: A Lifelong Process* describe career education as "a way to provide people with the training to enter and succeed in a career whenever they decide to leave the formal educational process in a humane way as to ensure that each person achieves a modicum

of economic independence and a personal sense of worth" (p. 55). Whealon continues to describe the process as the desire to relate abstract academic experiences to actual fieldwork. These early definitions emerged from vocational legislation in support of career education initiatives. Common threads towards defining career education emerge in the examination of its evolution.

In 1982, the Career Education Incentive Act was repealed and the federal division of career education began phasing out. This law, which initiated career education concepts, processes, and materials, was a federal incentive to provide such an approach in school curricula. Brolin (1993) recognizes that career education proponents view an individual's career as more than his or her occupations. This model suggests that career education includes all the productive work activities engaged in during a day and throughout a life. The components of this model include:

1. Interfaces with education and work.
2. A K-12+ effort that involves all possible school personnel.
3. Career education as an infusion concept integrated in both academic and vocational courses.
4. Career education does not replace traditional courses, but requires a focus on the how and why of learning.
5. Career development as occurring in stages of awareness, exploration, preparation, and assimilation.
6. A substantial experiential component that allows students to try career-related behaviors.

7. A focus on the development of life skills, affective skills, and general employability skills.

8. Requirements that the school works more closely with the family and community resources, creating a partnership to reinforce support of the objectives (Brolin, 1993, p. 4-5).

These eight components are representative of a holistic perspective that is more often found in many European school-to-work systems and among U.S. models working with individuals with disabilities.

Why then is career education not widely implemented in schools? Several reasons have been articulated. These reasons include significant pressures in education reform, with career education being viewed as more work; difficulty for individuals to change; a lack of funds, extra pay, or recognition for changing; the lack of empirical evidence that career education makes a difference; and that the linkages often require educators to openly share their approaches with a broader audience than just students, which leads to issues of comfort and flexibility. Moreover, issues of resistance can be due to the inability of the state to implement career education due to geography, culture, political dominance, and issues of access to funding. Terry and Hargis (1992) also suggest that the initial focus on career education initiatives in the 1970s was primarily viewed as alternative education. The concept of career education for "all students" has been an ongoing transition.

Hamilton and Hamilton (1994) prefer the term "career opportunity system," which emphasizes the distinction between finding work and entering a career path. According to Katzman (1995), career education is defined as:

> Offering a longitudinal development program designed to connect careers, education, and work for all throughout the life span. Career education is defined as empowering and enabling individuals, institutions, employers and community towards the advancement of these components: basic academic and employability skills; career awareness, exploration, and decision-making; career and work emphases in classrooms and throughout education; private sector partnerships; relationships of education/work with informed choice; nonbiased, non stereotyping and freedom of career choice; and work as a meaningful part of a total lifestyle. Career education is considered sequential with gradually widening concentric exposure to careers, education, and work and the effects and interactions with the life of the individual. Career education is preventive in directing attention towards positive, constructive, continuous, growth, satisfaction and productivity (p. 8-9).

Thus, for Katzman, career education is seen as work for which the student and educator are responsible and which is lifelong, ongoing, and constructive in nature. The definition of career education used in this study is based on Katzman's model, although the developmental aspect will be viewed from the secondary level's delivery system. The National Guidelines Competencies and Indicators at the secondary school level are noted by Splete and Stewart (1990) (see Table 1).

TABLE 1.

National Guidelines Competencies and Indicators (Splete & Stewart, 1990)

| COMPETENCY | DESCRIPTION |
|---|---|
| Competency I | Understanding the influence of a positive self-concept |
| Competency II | Skills to interact positively with others |
| Competency III | Understanding the impact of growth and development |
| Competency IV | Understanding the relationship between educational achievement and career planning |
| Competency V | Understanding the need for positive attitudes towards work and learning |
| Competency VI | Skills to locate, evaluate, and interpret career information |
| Competency VII | Skills to prepare to seek, obtain, maintain and change jobs |
| Competency VIII | Understanding how societal needs and functions influence the nature and structure of work |
| Competency IX | Skills to make decisions |
| Competency X | Understanding the interrelationship of life roles |
| Competency XI | Understanding the continuous changes in male/female roles |
| Competency XII | Skills in career planning |

Since this study examines the perceptions of secondary educators of career education, it is important to understand the basic skills and attitudes students need to master to make decisions about secondary and post secondary education, the work world, or about seeking further training. It is widely recognized in the literature that counselors who typically provide career guidance are only one component of career education.

## Issues Leading to Career Education

Several issues have prompted the support of career education at this time, primarily those recognizing the need for a greater emphasis on connecting the school-to-work transition. The United States and many developing countries face serious problems in human resource development (Lawrence, 1990). Rising inequalities in wages, which started in the 1970s, have not changed and in an effort to understand this phenomenon the role of education has been examined (Scott & Bernhardt, 1999). As learning-intensive economies emerge, educators and educational systems are exploring ways to prepare students for the world of work.

Hoyt's (1977) paper, entitled *A Primer to Career Education*, represented the first comprehensive conceptual statement on career education. Hoyt notes conditions calling for educational reform and career education's relation to this. He substantiates:

- Too many persons leaving our educational system are deficient in the basic academic skills required for adaptability in today's rapidly changing society.
- Too many students fail to see meaningful relationships between what they are being asked to learn in school and what will they do when they leave the educational system.

• American education, as currently structured, best meets the educational needs of a minority of persons. It has not given equal emphasis to meeting the educational needs of the vast majority of students.

•American education has not kept pace with the rapidity of change in the post-industrial occupational society.

• Too many persons leave the educational system unequipped with the vocational skills, the self-understanding, and career decision-making skills essential for making a successful transition from school-to-work.

• The general public, including parents and the business-industry labor community, has not been given an adequate role in the formation of educational policy.

• Post high school education has given insufficient emphasis to educational programs at the sub-baccalaureate degree level (p. 1).

The intent of this Office of Education policy paper was to assist state education agencies and local school systems as they pursued the development of career education.

One key issue related to heightened interest in career education is the globalization of economic competition. All individuals, no matter where they are located, are in competition with counterparts in the U.S.A., Europe, and the Pacific Rim. The call to assist in the development of youth that will be entering this labor market in the next few years is of significant importance. Lester (1992) states that "governments concerned with problems of school-to-work transition need to promote a learning culture as a means of promoting career development...as this implies the intelligent use of career counseling" (p.17).

A second reason for the renewed interest in career education is that legislators, policy makers, school reformers, and corporate employers have noted the importance of improving the transition through which students move from education to work (Marshall & Tucker, 1992; Sar Levitan's Center for Social Policy Studies on A Generation of Challenge, 1997; Hackney, 1990; William T. Grant Foundation Commission on Work, Family and Citizenship, 1988). During several decades, the transitions of "employment bound youth," or students who do not finish high school, have not held such scrutiny. Those youth make up the majority of secondary school students who may or may not be currently served by career education approaches and interventions (Gray, 1995; Gray & Herr, 1999). U.S. policy is emerging that clearly articulates increased accountability for serving these populations as well as clear empirical measures of research-based interventions that demonstrate results. The notion of work in Europe and cultural differences have also been studied (Super & Sverko, 1995). This comprehensive study recognizes the disparity and differing values towards work that only complicates the equation in an increasingly diverse U.S. population. At present, this is another challenge to the potential delivery of career education. Scott and Bernhardt (1999) recognize that the striking increase in wage inequality and wage stagnation have raised concerned about mobility of workers in a post-industrial economy. This has particular implications for education, training, and school-to-work policy. Thus, the challenge is to examine at the micro-level the delivery of career education in order to examine what is working well and what areas are in need of development for maximum efficacy.

A third reason for the emergence of interest in career education has been changes in the educational system itself. While a dichotomy of academic and vocational curricula

remains, more students are being prepared for the world of work in both educational tracks. School subjects that formally did not relate to real-world application are being brought to the center through integration of curriculum and application of theory. Inconsistencies between schools and the real world have emerged, including issues of: 1) schools focusing on individual performance whereas most non-school settings emphasize socially shared performance; 2) school models which emphasize unaided thought whereas work settings usually make available and even require the use of cognitive tools; 3) school emphasizing symbolic thinking to the exclusion of the objects and situations that aid formulation and solution in real life and at work; and 4) schools that attempt to inculcate general skills and knowledge whereas effective performance outside school focuses on situation-linked knowledge and skills (Resnick, 1987).

An evolution has also taken place in the role of the school in the community. Once entities of their own, schools are now being held more accountable for the delivery of learning. Alignment of business and industry towards providing materials, experiences, and support of local educational initiatives have moved to the center. This collaboration between the educational system and the community has linked the world of work to the classroom. Career education has been one attempt to reform the education system. Reich (1991) suggests that the vast majority of American children are still subjected to a standardized education designed for a standardized economy. According to Reich, the average American child in the 1990s is ill-equipped to compete in a high-value global economy because of a lack of analysis in the basic skills of abstraction, systemic thinking, experimentation, and collaboration. Career education as defined previously consists of many of these competencies or experimentation in the decision-making process. Ries

(1999) posits that the most vital element of career and life success is emphasizing at the secondary level employability, adaptability, and promotability skills with good work skills and basic English and math.

## Historical Context of Career Education

Several historical movements have been designed to reform the opportunities for students moving from school to work. The school reform philosophy of John Dewey in the early 1900s emphasized "learning through occupations" (Goldberger & Kazis, 1995). According to Gutek (1997), Dewey's major contribution was his opposition of the dichotomy that separated the school from society. He considered schools a part of society rather than isolated from it. The educational context at this time was quite traditional, so Dewey's concepts of curricular innovation and educational expertise were seen as exceedingly progressive. Yet his vision of creating learning situations that encouraged collaborative social interaction was a forerunner of today's career education system that attempts to link school, work, and community. Hansen (1977), Marland (1974), and Herr (1973) all have concurred that there is a relationship between Dewey and career education. In Hansen's (1977) review of Dewey's major works, she concluded that the processes Dewey was describing were in fact a "solid undergirding for the career education concept which evolved in the late 1970s" (p. 23). In Dewey's (1916) own statement about the dangers of separating academic and vocational studies he stated:

> There must not be one system for the children of parents who have more leisure and another for the children of those who are wage-earners...a division of the public school system into one part that pursues traditional methods, with incidental improvements, and another which deals with those who go into manual labor means a plan of social predestination totally foreign to the spirit of democracy.
> A democracy that proclaims equality of opportunity as its ideal

> requires an education in which learning and social application, ideas and practice, work and recognition of the meaning of what is done, are united from the beginning and for all (p. 316).

In the final analysis, Dewey sought to maximize the students' experience and the conditions of the process of inquiry through quality educational experiences. As Dewey declared, "education through occupations consequently combines within itself more of the factors conducive to learning than any other method" (1916, p. 309).

Some research indicates that concern about the transition from school to work in America goes back even further than Dewey with the Land Grant College movement of the mid-1800s. It was evident though that in the early 1900s through Dewey's work and others that the focus had shifted to the secondary schools. The most powerful criticism came from businessmen, industrialists, and educational leaders who contended that public secondary instructional programs were not useful in daily life nor did they contribute to success in future occupations (Law, Knuth, & Bergman, 1992).

The increasingly industrial society of the 1920s, coupled with increased immigration, sparked the testing movement that sought to match individuals with occupations that had not formerly existed. The National Career Development Association, founded in 1913, established guidelines for quality career information and sought to improve the development and dissemination of information (Drier, 1993). During the Depression, national reports that studied youth revealed "youth trying somehow to find adequate satisfaction in such colleges they will never enter, a system of vocational training that too frequently trains them for jobs they will never find, and colleges of 'liberal' arts that develop cultural tastes that quickly become atrophied in a chaotic society which denies the means of their satisfaction" (Bell, 1938, p. 6). The concept of young people in this

study sought to emphasize lack of economic security as the most serious problem confronting their generation as well as inherent inequities in systems that precluded many from entry. This fact also could be true when applied today.

This time period was pivotal in realizing that there was an evident lack of equality of opportunity between social classes with regard to entry into employment and education, as well as ability to access recreation. Even with strides in federal initiatives of accountability, reform efforts, and funding to supplement services to fill these gaps, echoes of yesterday still persist. Super and Wright (1941) suggested a paradigm shift in their research in which the transition from school to work should command more attention than the transition from high school to college since it affects a larger percentage of the population. Later researchers such as Gray and Herr (1995), Hansen (1977), and Hoyt (1975) would concur with this early viewpoint. Yet it was not until the turbulent 1960s that some questioning and significant study of overlooked populations occurred. Reports such as the William T. Grant Foundation's (1988) *The Forgotten Half* speak to this lingering issue.

During World Wars I and II, substantial work was completed in the areas of aptitude and ability assessment. Programs were developed to assist GIs returning from war with their career exploration. In the 1960s and 1970s, major legislation was passed supporting the use of career information to assist individuals with linking school-to-work. In 1966, a special Advisory Council on Vocational Education was appointed by the Secretary of Health, Education, and Welfare. The resulting law passed by Congress allowed entities to compete for grants to fund exemplary and innovative occupational preparation. Federal financial backing of career education, along with the formation of the U.S. Office

of Career Education in 1974, helped to establish career education at the forefront of public education. During this time period, Hoyt (1977) synthesized some of the evaluation studies on career education and concluded that:

1. The available evidence is generally more positive than negative with respect to the worth and effectiveness of career education.

2. A good deal of mixed evidence exists. The common pattern is to find some evidence that career education helped and some that career education made no difference. It is unusual to find any evidence that it produced any negative results.

3. There exists huge variability in what is described as the career education "treatment" from study to study. In many instances it is impossible to know, from the descriptions provided, what that "treatment" was (p. 27).

Hoyt describes the essential difficulty inherent in the concept of career education, which is also a threat to its sustainability. Due to its incomplete definition, variation in definitions, and a lack of consensus on what the movement is trying to accomplish, career education is difficult to study conclusively. This period, while prolific in its attempts to define and articulate career education, presented sizeable problems with respect to valid and reliable approaches to measuring "student outcomes."

The career education movement of the 1970s sought to increase educational productivity by following the basic rules used for increasing work productivity. Hoyt (1999) stated these rules included: 1) show the worker (student) the importance of work; 2) reward work when it occurs, even when it is not done perfectly; 3) introduce a variety of methods and procedures for attaining goals; and 4) emphasize and reward the practice of good work habits. Yet these efforts led to many trying to build occupational

competencies rather than general employability skills and career exploration. These efforts became cost-prohibitive and have led to many budgets that eliminate these efforts.

With the emergence of advanced technologies in the 1980s, the effectiveness of education and the competitiveness of the United States economy in relation to international markets was of concern. Yet, career education programs lost significant ground in the early 1980s when the Career Education Implementation Incentive Act was repealed. The federal involvement was only intended as "seed money" to encourage the development and expansion of the movement. The intent was to develop career education models that could be integrated with the regular educational program. In reality, without the infusion of federal funds, career education programs lost ground and momentum as a separate educational priority.

The Carl D. Perkins Act of 1984 (Perkins I) addressed this urgency in career education development by initiating a specific funding stream to support these efforts by states. This money was a categorical funding stream intended to secure states' participation in counseling and career guidance programs at the local level. In the Carl D. Perkins Act of 1990 (Perkins II), this categorical money was eliminated as a set-aside, suggesting that states should still provide these services but that they would be the ones to emphasize to what extent this would take place.

According to Brown (2000), official federal support in the United States for career education began in 1974; although funding intensity has varied over the subsequent 20 years, career education continues to receive emphasis in the nation's schools. In 1991, the Secretary of Labor and members of the Secretary's Commission on Achieving Necessary Skills (SCANS) completed an initial examination of changes in the world of work and

how schools prepare students for their life roles in work, family, community, and leisure. The report revealed common competencies that would assist students in bridging the gap between their learning experiences in schools and the reality of the workplace. In this report, skills competencies that schools must afford students ample opportunities to achieve through curricular offerings. The core competencies approach a wider range of skills needed for students' entry into the workforce than ever before (see Table 2).

TABLE 2.

Five competencies member of the SCANS skills identified as necessary in a high performance workplace (US Department of Labor, 1991)

| CATEGORY | DESCRIPTION |
|---|---|
| Resources | Workers schedule time, budget funds, arrange space, or assign staff. |
| Interpersonal Skills | Competent employees are skilled team members and teachers of new workers; they serve clients directly and persuade co-workers individually or in groups; they negotiate with others to solve problems or reach decisions; they work comfortably with colleagues from diverse backgrounds; and they responsibly challenge existing procedures and policies. |
| Information | Workers are expected to identify, assimilate, and integrate information from diverse sources; they prepare, maintain, and interpret quantitative and qualitative records; they convert information from one form to another and are comfortable conveying information, orally and in writing, as the need arises. |
| Systems | Workers should understand their own work in the context of the work of those around them; they understand how parts of systems are connected, anticipate consequences, and monitor and correct their own performance; they can identify trends and anomalies in system performance, integrate multiple displays of data, and link symbols with real phenomena. |
| Technology | Technology is everywhere, demanding high levels of competence in selecting and using appropriate technology, visualizing operations, using technology to monitor tasks, and maintaining and troubleshooting complex equipment. |

Concerned about the level of preparedness of American youth for changing workplaces, Congress passed the School-to-Work Opportunities Act in 1994. The goal of this act was to facilitate the creation of a universal, high-quality school-to-work transition system that linked classroom learning and workplace learning (Bailey & Hughes, 1999).

As Berryman and Bailey (1992) stated "Economic and educational institutions face virtually the same challenge. That challenge is to organize their activities, whether learning or production, to capture the power of the fact that human beings are naturally sense making, problem solving, and environmentally interactive. This means that educators and employers have to reconceptualize human potential, thought, and action " (p. 12). Schools need to have real-world settings through which students can develop and pursue meaningful career and education plans after high school. School programs that include career education opportunities and school-to-work programs have great potential for preparing youth with competencies. These programs may include information about which careers to consider, how to make choices regarding career options, and what factors influence these choices. Hoyt (1999) states that there is a great need for career education and that secondary teachers should focus on presenting a myriad of career options as well as teaching soft skills such as workplace ethics, interviewing techniques, and teamwork skills.

Finch (1999) notes that three key components of the modern movement into the labor market are comprehensive career awareness and planning, high academic standards for all students, and structured work-based learning opportunities. The Green Paper highlighted four particular developments that are critical to reshaping education and training in the

global environment: 1) the best foundation of knowledge and skills; 2) a shift from teaching to learning, including a new emphasis on self-directed learning using new technologies; 3) an emphasis on learning by doing, particularly within the workplace; and 4) retraining and upgrading skills, rather than de-skilling or unemployment (Commission of the European Communities, 1996, pp. 18-19). The paper called for a discourse of change and new approaches to the development of students for working life. Moreover, Goal Six of the National Education Goals under Goals 2000 underscored the importance of students' ability to understand careers and the workplace in stating: "By the year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy" (Goals 2000, Sec. 102[6]).

According to the Community Training and Assistance Center (1998) the components of the School-to-Work Initiative are:

1. Authenticity - Will students tackle problems or questions that might actually face an adult at work or in the community?
2. Academic Rigor - Will the program lead students to acquire and apply knowledge related to one or more disciplines or content areas?
3. Applied Learning - Will the work require students to develop organizational and self-management skills?
4. Active Exploration - Will students engage in extensive field-based work?
5. Adult Connections - Will students meet/observe adults who have relevant expertise and experience?
6. Assessment Practices - Will students have opportunities to review exemplars of similar work products? (Community Training and Assistance Center, 1998, p. 3-4)

These characteristics and principles are representative of the targeted effort to prepare students through school-to-work initiatives. There are many who still argue that the greatest hope for students' increased movement in the workplace remains in the increased emphasis on academics as a basis for functioning in entry level positions, education, or

training which they seek after high school. There is clearly a need to improve career planning and preparation at all ages and levels, from pre-school through adulthood (Charland, 1996; Feller, 1996; Gray & Herr, 1998; Maddy-Bernstein, 1999). The question remains whether the foundations and systems created are sustainable enough to continue to provide students with information and experience regarding careers when the funding stream is exhausted. Leaders in this area are uncertain whether programs will be sustained without funding or will leave a "quilt" of patchwork programs that lack the systemic thrust of school-to-work's original intent.

Throughout the literature, it is recognized that the nation's continued prosperity will depend upon a people able to perform technological work and able to adjust to ever-changing or disappearing jobs and careers. During the past 20 years, the skills needed to succeed have changed while systems delivering education have remained consistent. Most high school graduates do not have the skills required by high-wage employers; a high school diploma is no longer entrance to the middle class (Murnane, 1996). As Pope (2000) substantiates, technological changes affect the most current cycle of career development in that those who have access to the internet, facsimile transmission, or communication devices will be able to tap into the most current information regarding jobs. Within the context of the historical events exist specific reports that afford a glimpse into research, policy, and critical analyses of career development and career education and its importance to students' decision-making in current labor markets.

## National Reports: The United States

National school reform initiatives in the United States have sought to improve the quality of education in order for students to compete in this environment. While career

preparation varies greatly from country to country, the attention placed on the school-to-work transition in the United States is attributed to a growing appreciation for the systematic and effective school-to-career systems of other advanced democracies. There are still substantial gaps in the study of career education in United States. Gray and Herr (1998) postulate that the sociology of work has become increasingly important with technological advances and a shift toward a knowledge-based economy. Analyzing the acceptance of career education is an important foundation from which to build a comprehensive picture of global workforce education.

A significant issue is the concept of competition. Hackney (1990) states that nations are no longer separate entities. If we do not prepare individuals to participate in the economic development and growth of the United States and its global partners, we have failed. In fact, there are commonalties between the United States and Europe in that many consumers of the process see the educational systems as failing to transition students from school-to-work. Osipow's (1995) studies of career development reveal that it is important for students to be able to evaluate their various roles in career choice and development and the relationship they have to a global perspective.

Initiatives in the United States address several aspects of the educational process, including the application of high standards for student achievement, accountability, and staff development. Legislative bodies, school boards, communities, and funding entities have initiated heightened accountability requirements for the results of these initiatives. Globally, the education establishment, parents, potential employers, and students realize that they must also rely on the educational system to provide students with basic skills along with guidance toward a career decision and requisite training. In both the U.S. and

Europe, the public at large view the concept of student preparation for the path from school to work as critical.

Several national reports in the United States support the career education concept. The subject of career education has moved to the center of attention in terms of the vital role of career development in today's increasing international markets that demand skilled employees. The responsibility of governments in guiding students toward a career decision and funding these initiatives is being reconsidered (Shafer, 1996). Mainstream education is usually the first route to preparing students for the future workplace in a competitive global economy. In 1983, the National Commission on Excellence in Education made headlines by declaring the United States "a nation at risk" towards school reform which embraces a larger population than was previously occurring. This formative document sought to "demand attention towards the link between economic growth and the skills and abilities of people who contribute to that growth, and to help develop education policies to meet the economic challenges ahead" (Carnegie Forum on Education and the Economy, 1986, p. iii).

The Hudson Institute commissioned a report entitled Workforce 2000, which presented the career development policies of Bush and Clinton. An influential study conducted by the W. T. Grant Foundation's Commission on Work, Family and Citizenship (1988), *The Forgotten Half*, revealed the challenges facing adolescents and youth as they enter the world of work and responsibility. Policy priorities that were based on results of this study as well as highly successful European policies and systems for skills preparation involved connections between school and work (Jennings, 1995). This research solidifies academic knowledge as the foundation on which individual

employability is built. The Secretary's Commission on Achieving Necessary Skills (SCANS) (1991) documented aptitudes and abilities that center on interpersonal skills that are essential as students move in the workplace. Table 2 provides specific description of the skill areas they identified as necessary for competing in the workforce.

A major survey supportive of the need for career education and career development is the *Learning to Work: The National Career Development Association Gallup Survey.* (Hoyt & Lester, 1995). A summary of findings revealed that the majority of Americans felt that youth needed help in making a successful transition from school to work and that most secondary schools were not doing enough to help students choose careers. The 1993 Gallup Poll's findings regarding educational reform held many significant findings. This poll sponsored by the National Career Development Association revealed that adults felt that high schools were not doing a sufficient job in three areas: (1) preparing students for the workplace; (2) providing occupational information; and (3) helping students choose a career. Gallup also reported that, as a result of this, expectations are changing and interest is growing towards assisting students in the transition from school to the workplace (Hoyt & Lester, 1995) (see Table 3).

TABLE 3.

Gallup Poll: Findings with respect to "careers" in high school education reform

| Subject | Percent in Support of |
|---|---|
| More should be done in helping students choose careers | 51% |
| More should be done to help students acquire job skills | 60% |
| More should be done in helping students developing skills related to jobs existing in their communities | 54% |
| More should be done in placing former students into jobs | 64% |
| More should be done is helping students learn how to use career information | 57% |
| More should be done to help students attain job-getting skills | 58% |
| More should be done in preparing students for college | 37% |

Halperin (1998) examined a national longitudinal survey that studied cohorts of white men in the United States from 1966-1981 and more recently from 1979-1994. This study revealed that the transition to permanent employment is taking longer, youth who do not go to college are more likely to experience periods of unemployment and rely on part-time jobs longer, and that those attending college are more likely to work. Further, it was revealed that expectations for skills and education are beyond the ability of school and work institutions to meet the requirements of a global economy. For many, this has created a movement toward individual responsibility and individual ability to compete.

In a report on the rapidly changing labor market, the reports mentioned represent federal efforts to increase the skill levels of American workers so that workers might be better prepared to enter, survive, thrive, and advance in the rapidly changing labor market

(Brandeis University, 1995). Global competition, the internet, and widespread use of technology all suggest that the economy of the 21st century will create new challenges for employers and workers (Twenty-first Century Skills for Twenty-first Century Jobs, 1999). In an attempt to meet some of these expectations, comprehensive school reform has been initiated in many schools that seek to afford students these skills.

## Comprehensive School Reform

School reform has made significant shifts through the years. During the 1960s and 1970s school reform consisted of fixing problem areas and infusing them back into the whole system. The 1980s shifted focus into assisting schools with "whole school" approaches. This may seem to be a bleak equation, so as government programs cease to exist, concerns in careers and human capital theory will be ever present. In the 1990s, comprehensive school reform directly takes into account that change in schools can only happen when teachers, parents, and administrators believe in it. This concept of a shared vision is still evolving in many states. This section will address the components of school reform and its relationship to career education.

According to the Mid-continent Regional Educational Laboratory (1999), a comprehensive school reform program includes the following eight components:

1. effective, research-based instructional methods and strategies;
2. high-quality and continuous teacher and staff professional development;
3. measurable goals for student performance and benchmarks for assessing progress which are aligned with state and local content standards and benchmarks;
4. a clearly articulated vision and direction whose goals are met through strong leadership and support within the school;

5. meaningful involvements of parents and the local community

6. implementation of a plan for the evaluation of school reforms and student results achieved;

7. coordination of available resources and the effort to seek external support as needed; and

8. a comprehensive design that assures all aspects of these components are aligned (p. 3)

Educational reform movements withstanding the issues and components are more isolated than appearances reveal. Grootings (1985) recognizes that there is a complex situation of growing mismatch between qualifications, expectations, and aspirations of young people and job possibilities open to them. Adamski and Grootings' (1989) findings on educational reform, careers, and work revealed two issues: 1) challenges in utilizing technology effectively in career development; and 2) the need to develop educational programs that establish closer links between education and work. Central concepts of government flexibility, marginalism, and beauracratic links were also listed as hurdles. Yet the most successful school-to-career systems exhibit two characteristics: 1) high basic skill for all children; and 2) extensive youth apprenticeships or other forms of work-based learning (Mendel, 1995). While high basic skills for all children are evident in most school reform, the connectivity towards a systematic emphasis on work experiences is questionable.

Stern, Bailey, and Merritt (1996) studied how learning-intensive economies have begun to change the relationship between education and work. The researchers identified three main elements of which education systems should consist. These elements are: 1) skill standards; 2) workplace learning; and 3) strong links between employers and

schools. The United States reform movement of higher standards may assist in the transition of students into the work world by providing a significant academic base.

Two issues that will be addressed and which relate to this study are standards and staff development. Since *Nation at Risk* (1983) was published by the National Commission on Excellence in Education, U.S. School reforms have centered on educational standards. National policymakers have attempted to improve the U.S. education systems by setting new policies that call for the creation of content standards. Almost every state has since defined its own version for most core subject areas. The United States reform movement of higher standards and integration of academic and vocational subjects may assist in the transition of students into the work world. In the United States, it is evident that there has been and still is a disconnection between student achievement in school and potential rewards in the workplace (Kazis, 1993). Raizen (1995) notes that many industrialized countries have national policies to prepare non-college bound youth for their transition into the workplace. Although these systems are not without error, this uniform approach seems to serve more individuals.

Changes are occurring in the United States at the state level, supported by a national thrust towards standards. Wyoming, as stated previously, is still in the process of identifying its final academic standards and will be approaching career and vocational options during July of 2000. Items related to staff development are particularly key in education reform. While new methods of teaching and content areas can be identified, a critical factor is the level of ownership on the part of the administrators and teachers. Training in new methods must be offered so teachers can learn how to use them effectively and support must be provided in the form of resources and follow-up training.

Staff development is an issue in this research, as is academic and vocational teachers' perceptions of career education since this subject area is not required in most pre-service teacher preparation programs. Career education is a curriculum that teachers usually pursue through in-services, grants, or other training opportunities.

## Wyoming's Education System and Reform Legislation

### Geographic Area

Wyoming is a state that supports a population of 454,000 independent residents and is spread over 98,000 square miles, with approximately 4.6 residents per square mile. There are 23 counties in Wyoming and 98 incorporated cities and towns. The largest city, Cheyenne (which is also the state capital) has a population of 50,008. The smallest town, Lost Springs, has a population of 4. The size and rural nature of the state create tremendous challenges. Rural and small towns make up 70% of the state. According to the U.S. Department of Education's Schools and Staffing Survey (1993-94), 84% of Wyoming's Public schools are in small town/rural areas. This ranks Wyoming 7$^{th}$ among all states in rural nature. Policy makers must account for the problems of isolation and distance, small schools, diverse economic needs, and low population density. Wyoming has 48 school districts, 402 schools, and serves 99,859 students in grades K-12. Wyoming has a history of decentralization and local control.

Wyoming's dominant industry/economic base is agriculture and ranching. Other large industries include mining, retail trade, services, local government, construction, and tourism. Ninety-one percent of Wyoming's businesses employ less than 25 employees (Wyoming School-to-Careers Implementation Grant, 1998).

Educational Reform in Wyoming

State educational reform efforts have been underway since 1990 in Wyoming. In 1990, the Wyoming State Board of Education adopted Rules and Regulations for Accreditation. In this document, the Wyoming State Board of Education set forth a blueprint for the development of local standards and standards-based assessment that would be the driving force in a comprehensive, systematic school improvement process. Under these rules, districts are required to address career options and applied coursework (DeLuca, 1996). In June of 1997, the Wyoming Legislature reviewed and adopted the State Board of Education's (SBE) common core of knowledge and skills, which became state law with some modifiations. The Wyoming Legislature codified a "basket" of educational goods and services constituting the proper education to which Wyoming students are entitled. It is comprised of a defined common core of knowledge and skills, largely based upon subject areas defined by the State Department of Education and school districts under a process that began in 1990. Under W.S. 21-9-101(b)(I) and (iii) the common core of knowledge includes career/vocational education.

Wyoming is currently in the process of implementing many of these standards. While the state law dictates that career/vocational education be delivered, the State Board of Education and its regulations career options and districts are required to meet the requirements of both. The projected date for the development of the career options standards is July 2001. Through a grassroots effort of geographic representation, teachers and counselors at the local level will come together to develop the core competencies or standards that all students should achieve in vocational/career options. Like many states, Wyoming is moving toward the following agendas:

Raising academic expectations for all students while integrating more applied and contextual learning into the classroom.

Documenting student achievement through testing or performance assessment that leads to academic and skills certificates.

Providing meaningful learning and career exploration opportunities for students in the workplace where they can apply their knowledge in real-world setting.

Coordinate state services and archive a unified vision or set of goals for education.

Include employers, parents, and the community in unprecedented roles as partners in the education process.

Building joining programs among K-12 education and two- and four-year college campuses (DeLuca, 1996).

According to Gamble (1997), despite these efforts to rethink schooling, Wyoming continues with fairly rigid factory-model schools--using bells and short periods, with disconnected curriculum and counting units until graduation. A Wyoming Supreme Court ruling in 1995 sought to design the best educational system by identifying a proper education. According to the Wyoming Transitional Plan for the Carl D. Perkins Vocational and Technical Education Act of 1998, the Wyoming State Legislature specified that standards would be developed in vocational and career areas due to the fact that some educators questioned whether these standards were included. These vocational/career options will set forth uniform career competency standards and assessments to measure student achievement in this content area. It is projected that one of the systemic processes to ensure that career options and career education are an integral part of the educational system is to link with school improvement plans and accreditation. This research seeks to assess vocational and academic teachers'

competency in the topic area of career education/options prior to implementation and definition of these standards among Class A-AAAA schools in Wyoming.

The Governor of Wyoming and the State Superintendent have powerful roles in initiatives that connect learning and work. An evident challenge will be to draw in a variety of partners charged with preparing local plans for career education through applied learning and career exploration. The emphasis remains on local partnerships that have the main responsibility for student career exploration and student development in this area. Some of the areas that the present research seeks to address are to understand teachers' perceptions and understanding of the concept of career education across various size schools in Wyoming. According to Hamilton (1999), one of the struggles with reform is the challenge of designing educational improvement in a geographically large state that has been designated a "small state" for purposes of educational funding. The result is that state resources are stretched to the limit.

Despite the relative novelty of connecting learning and work as an educational reform in Wyoming, some progress has been made. Wyoming's receipt of federal funding in many areas (Carl D. Perkins, Tech Prep, and School-to-Work) has assisted in establishing the main mechanisms for collaborative support of these career-oriented initiatives. In March 2000, Section 118 of the Carl D. Perkins Act was reestablished under the Wyoming Department of Education to solidify career plans and career education to all students. Issues that remain, however, are public support, teachers' knowledge base, and effective models of implementation. The present research seeks to clarify how these perceptions play a part in understanding, implementation, and utilization of career

education among teacher types (vocational or academic) and school classification (Class A, AA, AAA, or AAAA).

As related to educational reform, Wyoming collects a great deal of data for federal and state reporting requirements. While there is a well-developed educational data collection system in place, data that relates currently to career education is only available per district as related to pre-employability and employability measures on the Carl D. Perkins Vocational Assessment (CPVA). Wyoming might want to examine the data from this study to monitor short- and long-term issues related to how career education is developed and delivered among small and large schools in the state.

## Career Education in Wyoming

The earliest comment on career education in Wyoming is a statement by Dr. Dean P. Talagan, of the Wyoming State Department of Education. Dr. Talagan states that

> Career education is one of the key purposes of education. It is a concept through which we instill a sense of self-identity and self-awareness within each student. It is individualized and geared to the 168-hour living week, not just the 40-hour workweek. This concept motivates children to want to learn and makes them capable of economically supporting themselves and their families (Hoyt, 1975, p. 56).

This vision of career education speaks to its integrated role into life and ways that it can enrich individuals or diminish them. Thus, a career is a lifestyle not just a job. In Wyoming this has been clearly displayed by the large number of instances in which avocation and vocation have been blended, such as the lifestyle of ranching and rodeo life.

A career orientation program for grades 7, 8, and 9 entitled the *Wyoming Occupational Resource Kit* was accessed through the University of Wyoming. According to Paul Peters, the director of comprehensive curriculum at the Wyoming Department of Education at the time this program was developed, the purpose of the kit was to help students develop positive attitudes toward work and society, understand reasons for working, and explore career interests and aptitudes. The document also speaks of the roles of the principal, teacher, and counselor in providing a seamless cooperative school/community relationship (Wyoming Occupational Resource Kit, 1971). No empirical analysis of the curriculum could be found.

In a study by Olson (1980), educators' and community leaders' attitudes toward the inclusion of career education concepts in elementary and secondary curricula was investigated to assess issues of inclusion, methods of delivery, and community involvement in education. The results of Olson's study indicated the following needs: for local districts to survey educators and community leaders on career education concepts; collaboration between schools and community on career education; to instruct educators on the elements of career education; the inclusion of supplementary career education courses in curricula; state standards for career education; required courses or a sequence of courses on career education in undergraduate teacher education curricula; and in-service education courses for all teachers and administrators.

A Governor's pilot distance learning project to provide policymakers with information on the use of compressed video technology in teaching involved the delivery of a career development course in four rural Wyoming schools (Azin-Manley & Olson, 1997). The four Class A schools participating were Hulett High, Guernsey Sunrise High, Kaycee

High, and Little Snake River Valley High School. Guernsey Sunrise High, Kaycee High, and Little Snake River Valley High school are included in this study as part of the Class A schools surveyed. While several students dropped out of the career development course due to the compressed video not having connectivity for three consecutive weeks, there were several implications of the project. First, there was a positive response to using the technology by students, staff, and administrators. Second, contingency plans are needed if future larger-scale implementation transpires. Last, participants see potential for use of this technology in rural areas but it probably is more suited for highly motivated and more advanced students. One interesting issue mentioned was that businesses tend to support these distance endeavors because they can mean preserving a rural school or rural businesses, as individuals can remain situated in their locale. This pilot study has interesting implications for the research presented here, as the purpose of one of the survey areas is to get a sense of the extent to which distance and alternative technologies are being used for career education efforts in Wyoming.

A draft document of the Performance Measures and Core Standards recommendations from the Committee of Practitioners proposed data collection in the area of secondary career development. These are defined as programs and services including career education, career guidance, career exploration programs (i.e. work and family life, technology education, career wheels, middle school agriscience, etc.) and vocational counseling that assists youth and adult learners in preparing annual updates of Individual Career Plans and in developing Career Passports. The Committee of Practitioners approved this standard with the re-affirmation of existing measures of data and it was sent

to the state board (see Table 4: Wyoming Performance Measures and Core Standards: Career Goal Articulation (Committee of Practitioners, 1997)).

TABLE 4.

Wyoming: Draft Performance Measures and Core Standards: Career Goal Articulation

| Rationale or purposes | Working definition | Target population | Formula | Data collection process and timing |
|---|---|---|---|---|
| The mission of career development programming is to assure students understand career options and how to choose among those options. The career articulation measure directly determines if a student can articulate a career option and can plan an educational experience that will lead to this option. The mission is for student's ability in decision-making. | The percentage of 8th, 9th, 10th, 11th, and 12th grade students who can articulate an occupational goal and an educational plan to achieve that goal as evidenced by 1) An individual Career Plan (ICP). All students will be included in this measure. 2) The ability to articulate an occupational goal; an educational plan to achieve that goal through an interview process. | All students in grades 9-12. | 1) Number of students by grade level completing an ICP/number of students, by grade level 2) Number of students interviewed, by grade level, able to articulate a career goal and an educational plan/number of students interviewed. | The career education annual report will be used to collect the ICP and interview data. |

As of January 1998, no record of implementation could be found. The second area for secondary data collection is titled Market Share: Career Development Services (see Table

5: Draft Performance Measures and Core Standards: Career Development Services (Committee of Practitioners, 1997)).

TABLE 5:

Wyoming Performance Measures and Core Standards: Career Development

| Rationale or purposes | Working definition | Target population | Formula | Data collection process and timing |
|---|---|---|---|---|
| The extent to which career development programs and services are responsive to the needs of students, the community, parents, and business and industry is reflected in the percentage of students finding programming valuable. | The percentage of eligible students, as determined by grade level, choosing to participate in career development services. | All students. | Number of students participating by career development services compared to the total school district population. | Career development annual report. |

In an unpublished qualitative survey of high school counselors in Wyoming (Boring, 1998), the following questions regarding the practical application of career education were posed: What electronic career search programs does your school use? What percentage of your student body actively uses them? Are there good electronic programs for finding technical/vocational schools? Has your school created a method for delivering a career guidance curriculum? Where do you turn for leadership and assistance

in career matters? Answers to these questions demonstrated a predominant use of Choices, Coin, Discover, the Internet, and Pathways 2000. Percentage of use ranged from 10% to 100%.

Responses to the question regarding good electronic programs for finding vocational schools resulted in no sources other than the Internet and the guides produced by the Wyoming Career Information System. Schools varied on their method of delivery of career education. Responses ranged from individual counseling to a comprehensive career plan, random methods of mixed career information, pull out time for these efforts, a jobology course, and inventories and assessments. This speaks to the "equity" issue of delivery of these systems. The present research seeks to question secondary teachers instead of counselors, as results may assist in constructing staff development programs that are more systemic than the isolated programs that Boring's qualitative study revealed. This unpublished study revealed that many counselors sought advice from other counselors, the Internet, colleges, and through conferences. There were no systematic structures in place.

## School-to-Work in Wyoming

The origin of the term school-to-work (STW) is unknown, although it seems to relate to the school-to-work labor market systems often referred to in Europe. Under the leadership of the State Workforce Development Council, Wyoming is implementing a school-to-careers system (using the terminology of careers vs. work due to regional preferences). Four-year plans for the statewide school-to-careers initiative include strategic geographic area coverage in a network of partnership building. A nine-member governor-appointed School-to-Work Management Team provided the vision for school-

to-work in Wyoming. This group consisted of representatives from the State Department of Education, Department of Employment, Department of Commerce, Wyoming Community College Commission, State Council on Vocational Education, post secondary education, family services, and organized labor.

The vision for school-to-careers in Wyoming is to have a Wyoming workforce educated and trained to successfully compete in the global economy. According to the Wyoming School-to-Work Implementation Grant (1998), it is estimated that among Wyoming students, of 150 students entering ninth grade, 75 will graduate from high school, 50 will enter post secondary education, and 25 will graduate without any type of certificate or diploma. Programs such as school-to-work have existed in Wyoming since 1993. This vision has been more workforce-based than career education oriented. This is evidenced in the Workforce Development Council's objectives included in this implementation grant:

1. To establish a comprehensive and flexible system which integrates public and private programs for the purpose of serving the needs of employers, citizens, and students.

2. To establish a comprehensive communication system to educate and inform customers of the workforce development system.

3. To establish a performance measurement system to ensure the accountability of programs to federal/state/local entities and ultimately to the benefit and improvement of public/private programs to employers, citizens, and students (p. 19).

According to De Vries (1995) in the most current empirical work on career education efforts in Wyoming, interviewees suggested the following interventions to the Wyoming School-to-Work Management Team: closer examination of resources, career guidance,

and development services; collaboration with the business community; promotion of services; and collaboration with secondary schools. Other suggestions were for colleges to use Wyoming labor market projections; coordinate cooperative educational programs, internships, and practicums; provide training to improve the effectiveness of business advisory committees; institute community-wide promotion of career guidance and development services; and improve articulation between career counseling in secondary schools and community colleges.

A study endorsed by Wyoming Governor Jim Geringer that was supported by the Department of Education and conducted by the Northwest Regional Educational Laboratory (NWREL) was contracted by the Department of Employment to survey all high schools and post secondary institutions in Wyoming to provide state leaders and those planning school-to-work efforts an understanding of how school-to-work (STW) programs in Wyoming are operating and what Wyoming's current and future school-to-work (STW) needs may be. This study concluded that technology should be utilized more in career education due to the rural nature of Wyoming. It also highlighted the demand for in-services or training in the area of school-to-work and the need to further survey teachers and parents to gain their perceptions of and involvement in school-to-work activities (Wang, Owens, & McClure, 1996). The status of school-to-work in Wyoming was reported to the Council of State Government by Cooper and Slayman (1997). A National survey on school-to-work implementation revealed Wyoming as one of the few states lacking participation. As such, consensus goals of school-to-work in Wyoming juxtaposed with other similar states could not be determined (Erlichson, Van

Horn, Bloustein, & Heldrich, 1999). School-to-work legislation is slated to sunset in the year 2001.

Another system that works toward career education is the Wyoming Career Information System (WCIS). A computer-based system of statewide occupational and educational information, this organization seeks to disseminate information and career exploration tools throughout Wyoming. This organization offers invaluable connections between students of all ages and the world of work. The Wyoming Career Information System (WCIS) incorporates available national, state, and local information and brings it together into a user-friendly format. These systems help students gather information and explore the labor market, as well as provide useful information for counselors, teachers, and parents. In addition to computerized guidance systems, this system offers support to counselors and teachers in the state in the area of career education. Publications that inform students of potential programs of study and offerings in the Rocky Mountain region supplement computerized information and other national documents that WCIS provides on career education (Bennett, 1999). With the 1993 Gallup poll highlighting the need for access to career information, systems such as the Wyoming Career Information System will be integral in reaching out to rural areas in need of technical assistance. Through the establishment of the Superintendent of Public Instruction's Common Core Coalition, a grant application was made by WCIS, which oversees their work on vocational/career standards. In addition, WCIS is currently the entity responsible to deliver Section 118 of the Carl D. Perkins Vocational and Technical Education Act of 1998. This section outlines requirements for career development and career education.

WCIS will be a key component in defining the future of career education for schools in Wyoming.

## Career Education and Rural Areas

From its origin, career education has been steeped in the vocational-industrial settings associated with growing urban centers. In an early text entitled *Teaching About Vocational Life*, Lincoln (1937) discussed the phenomenon and the setting that created the impetus for career education:

> The word change is on every tongue. The complexity of the problems arising from the changes that have been taking place in industry, society, and in education seems to increase overnight so fast that even those making an intensive study of the many social and economic changes can not yet fully comprehend their influence upon occupational life and the rapidity with which they are eliminating old occupations and creating new ones. The home was once the center of vocational activity, and in it the child had opportunity for both try-out experiences and vocational training. Now one parent, and frequently both, work in an environment far removed from the place of residence... and the tendency is for parents to encourage their children to choose occupations requiring more education and training than their own (p. 1- 7).

This example, from a time period in which rural areas were far more vast than today, speaks of an insightful depiction and forecast of the real changes taking place in society. Currently, rural areas are experiencing significant factors in their education systems. Economic changes have also affected those rural students who once learned future careers by working alongside parents and through informal apprenticeships (Katzman, 1995). Given the global economy and the consistency of programs to be delivered top-down, the motivation to better understand how secondary educators in the most remote, rural settings are able to deliver career education is driven by both economic and social considerations.

The definition of what typically constitutes rural America is based on population. Federal definitions include open countryside, places with fewer than 2,500 residents, and a work force that is primarily agricultural. There are also other descriptive categories that state that rural communities can be also described by sociological, economic, and political values of the residents. This absence of a common definition has been an impediment to the establishment of an adequate database and consequently, little research has been done in this area (Mitzel, Best, & Rabinowitz, 1982). The Educational Resources Information Center Clearinghouse on Rural Education and Small Schools (ERIC/CRESS) speaks to the ambiguity. The National Center for Education Statistics (1999) also provides definitions of rural areas.

Harmon (1996) states that rural workers have less education and training on average and are more attached to their community of residence than their urban counterparts. Geographical preference and career development theory may better explain the choice that many rural people make to stay in their home communities or on the farm despite financial hardships and restricted occupational opportunities (Cahill & Mortland, 1993). The proportion of the U.S. population that is rural is decreasing, and the proportion of the population that is of working age (i.e., 18-64) continues to be higher in metropolitan areas than in rural ones (Herzog & Pittman, 1995). Thus, if rural communities are to survive, they must develop new economies, attract working-age people, and redesign schools so that the students are not at a disadvantage simply due to geography. Certainly, technology has expanded these options, although it too can discriminate in its accessibility and affordability. In research on rural areas, students mention that their schools had good qualities but could have been better--that they could have provided

more opportunities for the disadvantaged students and better preparation for college and the workplace.

Rural areas and geographically isolated locations tend to be characterized by a more stable, community-oriented population. Yet isolation can often lead to less availability of educational resources (Chambers, 2000). There is also a need for rural economic development and an increasing need for the education of rural people. Fletcher (1992) speaks of the desertification of many rural areas in an effort to expand options that may exist in more populated towns. For many people in rural areas, career education and initiatives in the school-to-work systems are viewed as another mandated project steeped in the federal disconnect. Others in these remote areas look at these career opportunities as one more intervening project that may threaten the very fabric and communities that they value. Conroy (1997) recognizes that career education programs that do not consider compensatory education components may not achieve their goals. Therefore, steps must be taken to identify barriers to access and processing of career information in an effort to compensate for selectivity of information delivery systems.

A 21-state study by six of the regional educational laboratories comparing the aspirations of rural high school students with expectations of their parents and staff resulted in a clear and overriding preference for good occupational opportunities over involvement in creating and maintaining a strong community (Harmon, 1997; Howley & Barker, 1997; Ley, Nelson, & Beltyukova, 1996). In another empirical investigation of rural students, Swanson and Parcover (1998) found that rural students had higher scores than urban students on career development knowledge and skills. With technological advances and a shift toward a knowledge-based economy, how communities embrace the

concept of work and prepare individuals for careers becomes particularly meaningful in rural areas. While legislative initiatives provide guidelines for how systems will operate, career education programs and how they are implemented at the local level are key. Nonetheless, the expectations and level of professional development in career education of local educators are often overlooked. Wyoming's last significant study involving career education was a thesis completed in 1981. Information collected specifically on rural education is scant (Stern, 1995). The National Center for Education Statistics is cognizant of the need for rural-specific data to allow for comparisons in states, regions, and nations (Huang, 1999). Huang's article is a call for rural data and its examination for future policy work. Given the dearth of research on rural areas, the present study investigates how rural secondary educators, both academic and vocational, accept and implement career education in A-AAAA schools in Wyoming.

Many studies have conducted an analysis of the United States as compared to other industrial democracies and found it to be at or near the bottom in terms of the effectiveness of its employment services and school-to-work programs. In cross-cultural studies, the degree of job instability among young people is high in the U.S., especially in rural areas. In a study of youth who have less than five years of tenure with their current employer, the proportion who were still working for the same employer five years later was smaller in the U.S. than in Finland, France, Germany, Japan, the Netherlands, and Spain (Stern, Finklestein, Stone, Latting, & Dornsife, 1995). Yet these statistics cannot be viewed in isolation. When making comparisons such as these, population characteristics such as general education level of students, work ethics, morals, economic opportunity, geography, students' career ambitions, and students'

perceptions of school-to-work transitions are important to examine. Differences in equal opportunities, prevention of social exclusion, and articulation of qualifications can be very different among countries and can vary by level of development (Finch, Mulder, Attwell, Rauner, & Streumer, 1997).

Finally, school-to-work initiatives that emphasize the critical role of technology in assisting partnerships to prepare students for lifelong learning and success are also key. Many publications have noted that technology can help rural communities overcome their geographic isolation and "even the playing field" between rural and suburban communities by equal access to resources. This research assesses the extent to which technology is available among A-AAAA schools, including distance learning, interactive compressed video, e-mail, and the internet. With rural populations making up forty percent of the workforce in the United States, it is essential to consider how technology and school-to-work systems contribute to students' transition to careers.

## Summary

The review of literature gives a detailed history of career education, which continues to be a relevant subject in the literature. The 1993 Gallop Poll results confirmed this in the dominant high percentages of individuals affirming the need for career education, use of labor market information, and assistance with students' transitions to work, education, or training. The review of literature examined the definition of career education, issues leading to career education, the historical context of career education, national reports from Wyoming's education system and reform/career legislation, career education and rural areas, and a summary. Few studies have addressed the perceptions of teachers in rural areas of constructs related to career education.

Career education has evolved through the years. A single definition is difficult to clearly define. However, commonalties emerge from the literature that make the conclusion toward relevancy of learning, decision-making about the world of work, and opportunity to experiment with career-related behaviors. This study examines these issues in depth. It is evident that the United States has begun to examine whether the structure of educational systems is responsive to its learners. Research indicates that predominantly rural areas have not been examined to a large extent in relation to career education. Through the disaggregation of data, this study affords an empirical approach to issues of large and small schools and their ability to deliver career education. In addition, it approaches the question of whether there are differences between academic and vocational teachers in secondary schools in Wyoming. A critical issues paper regarding professional development and school-to-work initiatives speaks to the issue of teachers gaining a working understanding of the conceptual and applications of career concepts (Camp, 1992). The present research emerges as a result of the need for baseline data in the development of career education standards for Wyoming; to provide empirical data on the perceptions of career education in this rural state; and to analyze, more specifically, teacher classification and school size in relation to measures of career education.

# CHAPTER 3

# METHODOLOGY

## Introduction

The purpose of this chapter is to present the methodology that was used to conduct this study. In order to explain the objectives, procedures, and methods utilized, this chapter is presented under the following sub-headings: a) research design; b) variables; c) population (e.g., selection of participants); d) instrumentation; e) testing of instrument; f) description of the instrument; g) procedures; and h) data analysis.

## Research Design

A quantitative, comparative design was used for the research. A one-shot survey was administered to academic and vocational secondary educators. The comparisons indicate the similarities and/or differences between Wyoming academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools on items related to career education on the survey. Using a comparative design, data collected was analyzed by comparing the groups on a number of variables.

## Variables

Type of teacher (academic or vocational) and school size (A-AAAA) are the independent variables in this study. There are two levels of teacher type and four levels of school size. Dependent variables are directly related to the hypotheses and consist of the perceptions of secondary educators from Wyoming who were surveyed on the following:

1. Role of community, role of the school, developmental attitudes
2. The use of career education information
3. Method of curriculum delivery for career education
4. Delivery of school-to-work systems in their community
5. The use of alternative technology for the delivery of career education.

## Population

The population for the study is described in this section, which discusses the selection of participants.

### Selection of Participants

The population for this study is comprised of vocational and academic secondary teachers in Wyoming. According to the Wyoming Department of Education, as of 1999 there are 496 vocational teachers and 2,213 academic teachers employed in Wyoming. A list of these educators was provided by the Data and Technology unit. The Wyoming High School Activities Association provided a listing of schools according to their classification size (Class A-AAAA). An average of six to seven schools were randomly selected in each class size category from Class A-AAAA. Since the population of vocational educators was relatively small for Class A and AA schools (e.g., $n < 60$), it was determined that the total population would be surveyed from these schools. Sixty vocational and academic teachers were selected from Class AAA and AAAA schools. Finally, sixty academic teachers were selected from Class A, AA, AAA, and AAAA schools (see Appendix D). It was determined that this would provide a balance between sufficient numbers of cases to run analyses and generalizability of results. Since the data from the Wyoming Department of Education was from 1998, this data was cross-

referenced by phoning school districts and receiving current district listings of secondary teachers to ensure the most updated listing.

Participants were selected based upon the criterion of being an academic or vocational secondary teacher in Wyoming. The listings of academic and vocational teachers were analyzed for any data duplication. Duplications were crossed out. For the purposes of this study, academic and vocational secondary teachers from secondary schools in Wyoming were surveyed from schools representing Class A, AA, AAA, and AAAA sizes (see Appendix D). Individual teachers on the academic and vocational listing size from the selected schools were coded with V for Vocational and A for Academic followed by a number indicating school size and survey respondent. A database was created with the teachers' names and addresses along with the random numbers assigned for making labels. Only one district of schools, Laramie County School District #2, was eliminated due to the researcher's role as a mentor for the district. Therefore, no secondary teachers were surveyed from secondary schools in this district and were crossed out of the data tabulation.

## Instrumentation

The instrument used in this study was developed by two professors in the Vocational Education Department at Colorado State University (see Appendix C). The survey was used in two prior dissertation studies (Mallette, 1976; Tuchscherer, 1978). The instrument was copyrighted and published by Olympus Research, Salt Lake City, Utah. A letter of approval to use the survey instrument was obtained from the author (Dr. Glen Rask), as Olympus research is no longer an established entity (see Appendices E and F). Changes were made to the original instrument through the addition of Part V—Delivery

of School-to-Work Programs and Part VI—Technology and Alternative Delivery as well as the elimination of items that were duplicative or unclear. These changes were approved by the author and piloted with expert panel members. The instrument gathers data pertaining to the following areas:

Part I: Demographic Information

Part II: Perceptions of Career Education

Part III: Career Education Information

Part IV: Method of Curriculum

Part V: Delivery of School-to-Work Programs

Part VI: Technology and Alternative Delivery of Career Education

## Testing of Instrument

Since this instrument was revised and added to, an expert panel of seven individuals was arranged to provide input regarding the face validity of the instrument and clarity of question wording. Frary and Alreck (1996) and Thomas (1985) suggest that feedback is desirable and may be obtained from a small representative group to field trial a tentative form of a survey. The individuals that comprised the expert panel are listed in Appendix A. The panel members scored and reviewed the existing items on the survey and made remarks based on the questions asked in Appendix G. Comprehensive survey protocol was accessed in Thomas (1999) and Alreck and Steele (1985).

## Description of the Instrument

### Part I: Demographics

To assess differences between the participants in this study, specific demographic data was collected and analyzed. Data included the following variables: gender, subject area,

length of time at job and education level. Table 6 shows that the survey collected data pertaining to the areas above and corresponding questions which were projected to measure these constructs.

TABLE 6.

Constructs Measured on Survey and Corresponding Questions

| | Section of Survey & Construct Name | Question Number |
|---|---|---|
| Part II: | Perceptions of Career Education<br>Role of the community | (Q 1, 3, 4, 14, 15, 23); |
| | Role of the school | (Q 8, 9,10, 11, 12, 13,18, 19, 25, 27, 30, 31) |
| | Developmental attitudes | (Q 2, 5, 7, 20, 21, 22, 23, 24, 26, 29) |
| Part III: | Role of Career Education | (Q 35-44) |
| Part IV: | Method of Curriculum Organization | (Q 45) |
| Part V: | Delivery of School-to-Work-Programs | (Q 46) |
| Part VI: | Technology and Alternative Delivery Of Career Education | (Q 47-50) |

For Part II: Perceptions of Career Education and Part VI: Technology and Alternative Delivery of Career Education, a Lifetree scale was used for participants to indicate their rating from intervals of 1 to 5 ranging from "strongly agree" to "strongly disagree." Included in the 5-point interval is a "neutral" response. A N/A category has been added to two questions, as secondary teachers may not be able to respond due to geography. For

Part III: Role of Career Education, Part IV: Method of Curriculum Organization, and Part V: Delivery of School-to-Work Program, survey respondents indicated their answers to categorical responses. Part VI Technology & Alternative Delivery of Career Education, a Likert Scale, was used for participants to indicate their rating from intervals of 1 to 5 ranging from "strongly agree to strongly disagree." Finally, two open-ended questions are listed on technology used and other comments where respondents were able to write their response was included to obtain qualitative data.

Technical Quality of the Instrument

The original developers of the instrument (Dr. Rask and Dr. Blome of Colorado State University) conducted item analysis and total instrument content analysis. Two review panels were conducted on two occasions (Mallette, 1976). A split-half method was used to establish reliability for the original instrument used by Dr. Rask and Dr. Blome at Colorado State University. The original instrument was administered to randomly selected elementary schools in the Manhattan, Kansas Public School District and to a panel of judges consisting of five members. A reliability coefficient of .70 resulted (Mallette, 1976). With the addition of a separate technology measure and a school-to-work delivery section, an expert panel was assembled to evaluate the face validity of questions to measure the constructs. Prior to further analysis and answering the research questions it was necessary to examine the quality of the survey instrument in terms of reliability and validity. Two types of statistical analyses were conducted. First, internal consistency reliabilities were calculated using Cronbach's Alpha. Second, a factor analysis was used to determine whether the individual survey items corresponded to the constructs of interest as hypothesized (Hinkle, Wiersma & Jurs, 1994).

The Cronbach's Alpha for the entire scale of survey items, Question 1 to 34 and Question 47 to 50 (which were added to this survey) was .75, which is considered acceptable (Hinkle, Wiersma & Jurs, 1994). The survey in its original form as cited in the previous studies was .70 (Mallette, 1979; Tuchserer, 1976). Next, a factor analysis was performed using a maximum likelihood method of extraction with varimax rotation. All the scaled survey items were included in the factor analysis and those factors with an eigenvalue over 1.0 were initially pulled.

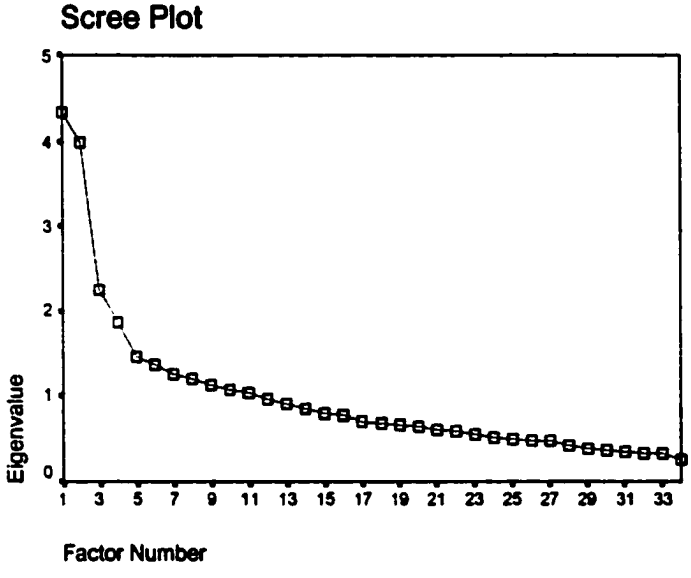


Figure 1. Scree Plot

The number of factors initially extracted was large (e.g., 10 factors), difficult to interpret, and many of the factors did not contribute substantially to the proportion of variance explained. Figure 1 shows the scree plot that suggests that, after seven factors, adding additional factors contributes little in terms of improving explanatory power.

Upon analysis of the different factor solutions, the six-factor solution was selected for use in subsequent analyses because: 1) the factors that emerged made intuitive sense at face recognition; and 2) results of a scree plot and the eigenvalue criterion substantiated such a solution. Table 7 shows the factor loadings from the final six-factor solution. The cumulative proportion of variance explained by the six-factor solution was 36.26%.

The factors were named based upon the survey items that loaded on them. Factor One was named "Role of the School"; Factor Two was called "Developmental: Career Interests"; Factor 3 referred to "Developmental: Attitudes"; Factor 4 was "Role of the Community"; Factor 5 was "Developmental: Teacher Awareness"; and Factor 6 corresponds to "Developmental: Elementary School."

In the original hypothesis one, career education concepts were identified as having only 3 constructs: Role of the Community, Developmental Issues, and Role of the School. In sum, factor analysis showed that the three constructs that guided the original survey (Role of the Community, Developmental Issues, and Role of the School) were better conceptualized as six dimensions of career education. Two of the six factors closely resembled the original hypothesis. As hypothesized, Role of the Community and Role of the School came out as separate factors. Developmental Issues was broken into three dimensions fitting into Factors 2, 3, 5, and 6. Developmental Issues revealed separate factors according to career interests (factor 2), attitude (factor 3), teacher awareness (factor 5), and elementary school issues (factor 6).

## Procedures

Approval to conduct survey research was received by the Office of Regulatory Compliance. Surveys were completed at the participants' location in school sizes that

include Class A, AA, AAA, and AAAA. The settings are secondary schools in Wyoming, which is a predominantly rural and agrarian state. The survey instrument and a cover letter was sent to selected vocational and academic secondary educators in schools categorized as Class A, AA, AAA, and AAAA in the Wyoming schools listed in Appendix D. A cover letter and a survey were mailed in business envelopes with pre-addressed stamped envelopes for each participant (see Appendices B and C). Eight days passed until further correspondence was initiated to non-respondents. These non-respondents were sent a follow-up postcard. Eight days passed until subsequent correspondence was initiated. A final subsequent letter with enclosed questionnaires to non-respondents was initiated. If a significant number of surveys were not received within 4 weeks of initial contact, a subsequent letter with another survey was mailed to the Wyoming secondary educators at the schools listed in Appendix D.

Table 7.

Factor Loading for Six-Factor Solution

| | Factor Names & Variables by Description and Question Number | Factor Loading |
|---|---|---|
| **Factor 1:** | **Role of the School** | |
| | Schools provide career information (Q8) | .64 |
| | School program includes choosing goals (Q27) | .56 |
| | School assists in choosing goals (Q13) | .54 |
| | Preparation taught in classes (Q9) | .52 |
| | Effectively teach career education concepts (Q16) | .51 |
| | Explore and evaluate future careers (Q31) | .49 |
| | Schools do an adequate job of preparing youth (Q19) | .44 |
| | Schools help students gain appreciation of work (Q25) | .41 |
| | Classroom instruction is a valuable vehicle (Q30) | .32 |
| **Factor 2:** | **Developmental: Career Interests** | |
| | Hands on work needed to gain career awareness (Q29) | .65 |
| | Classes based on career interests (Q2) | .60 |
| | Help students make a decision about a career (Q28) | .48 |
| | People exposed to career education (Q26) | .46 |
| | Benefit if gain more information (Q5) | .41 |
| | College prep subjects stressed more (Q6) | .32 |
| **Factor 3:** | **Developmental: Attitudes** | |
| | Career information provided to all students (Q17) | .63 |
| | No need for exploration (Q23) | .60 |
| | Dignity of work should be stressed (Q24) | .50 |
| **Factor 4:** | **Role of the Community** | |
| | Community contributions (Q3) | .62 |
| | Business people have no inclination to help (Q15) | .57 |
| | Communities cannot help (Q1) | .50 |
| | Student do not become interested (Q7) | .45 |
| | Work experience results in problems (Q4) | .31 |
| **Factor 5:** | **Developmental : Teaching Awareness** | |
| | Teachers aware of career and labor market (Q22) | .92 |
| | Teachers aware of career opportunities (Q32) | .50 |
| **Factor 6:** | **Developmental : Elementary School** | |
| | Career development begins in elementary (Q20) | .83 |
| | Students should be introduced to occupations (Q11) | .46 |

Cone and Foster (1997) provided some guidance on survey procedures. Survey participants were mailed a thank you letter that indicated they may request a copy of the results (see Appendix H).

## Data Analysis

The purpose of this study was to examine differences in perceptions of academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools on the dependent measures of career education perception, use of career education, method of career education delivery, delivery of school-to-work programs, and alternative technology use in career education. Data was analyzed using the Statistical Package for the Social Sciences (SPSS version 9.0) for Windows. Analysis was facilitated with this software through a resource guide developed by Green, Salking, and Akey (2000). A quantitative design was used for the research. There were five major questions: 1. Do academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools in Wyoming differ on items relating to perception of the role of community, role of the school, and developmental attitudes as related to career education? 2. Do academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools in Wyoming differ on items related to the use of career education information? 3. Do academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools in Wyoming differ on items related to method of curriculum delivery for career education? 4. Do academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools differ on items related to the delivery of school-to-work systems in Wyoming? 5. Do academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools

in Wyoming differ on items related to the use of alternative technology for delivery of career education?

Data was summarized in the following approaches.

Ho1 Acceptance of career education concepts, including role of the community, role of the school, and developmental attitudes, as measured by items on Part II of the instrument do not differ with the teacher classification (vocational or academic) and school size (Class A, AA, AAA, or AAA).

Analysis was conducted by using two-way ANOVAs in relation to teacher classification (vocational or academic) and school size (A, AA, AAA, or AAAA). Follow-up post hoc tests were conducted and reported as needed.

Ho2 Use of career education information as measured by items on Part III of the instrument do not differ with the teacher classification (vocational or academic) and school size (Class A, AA, AAA, or AAAA).

Analysis was conducted by using log linear analysis in relation to responses from academic and vocational secondary teachers on the implementation of career education. Cross-tabulations to examine further where differences exist were conducted by chi-squares.

Ho3 Method of curriculum delivery for career education as measured by items on Part IV the instrument does not differ with the teacher classification (vocational or academic) and school size (Class A, AA, AAA, or AAAA).

Analysis was conducted by using log linear analysis in relation to responses from academic and vocational secondary teachers on the method of curriculum delivery for career education. Cross-tabulations to examine further where differences exist were conducted by chi-squares.

Ho4 Delivery of school-to-work systems in their communities as measured by item on Part V of the instrument do not differ with teacher classification (vocational or academic) and school size (Class A, AA, AAA, or AAAA).

Analysis was conducted by using log linear analysis in relation to responses from academic and vocational secondary teachers of delivery of school-to work systems. Cross-tabulations to examine further where differences exist were conducted by chi-squares.

Ho5 Use of alternative technology for the delivery of career education as measured by Part VI of the instrument does not differ with teacher classification (vocational or academic) and school size (Class A, AA, AAA, or AAAA).

Analysis was conducted by using two-way ANOVA in relation to teacher classification (vocational or academic) and school size (A, AA, AAA, or AAAA) on the use of alternative technology to deliver career education. Follow-up post hoc tests were conducted and reported as needed.

The demographic responses with relation to teaching area (academic or vocational), gender, educational level, and self-rating of career education knowledge was also presented by frequency and percentages. Finally, items 51 and 52 are open-ended questions for respondents to comment on. Since substantial commentary was listed, HYPEResearch was used to code texts according to overall themes. Tables were utilized to reveal frequency of comments according to teacher classification and school size. For authenticity, verbatim comments as they were written into the space provided were included for increased understanding of the participants' perspectives.

# CHAPTER IV

# RESULTS

This chapter presents the results from the quantitative survey administered to academic and vocational teachers within Class A, AA, AAA, and AAAA schools in Wyoming. It is organized into several sections. First, a description of the sample that responded to the survey is provided, and then the results from the statistical analyses pertaining to each of the five hypotheses are described. The chapter concludes with a content analysis of the open-ended responses received.

## Description of Sample

### Response Rate

The researcher contacted a total of fifty-four schools as follows: sixteen Class A schools; sixteen Class AA schools; twelve Class AAA schools; and ten Class AAAA schools. A total of two hundred and twenty five vocational secondary educators and two hundred thirty five academic secondary educators representing the above schools were sent surveys. The overall response rate was 266 surveys, representing a 57.8% return for the career education survey.

Response rates were also analyzed according to type of teacher (academic or vocational) as well as school size. Table 8 shows the number of respondents for each of the cells.

Table 8.

Response Rates

| | | type of teacher | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1.00 academic | | | 2.00 vocational | | |
| | | Count | Col % | Row % | Count | Col % | Row % |
| Size of School | 1.00 1A | 34 | 26.4% | 60.7% | 22 | 16.1% | 39.3% |
| | 2.00 2A | 33 | 25.6% | 54.1% | 28 | 20.4% | 45.9% |
| | 3.00 3A | 35 | 27.1% | 44.9% | 43 | 31.4% | 55.1% |
| | 4.00 4A | 27 | 20.9% | 38.0% | 44 | 32.1% | 62.0% |

As described previously in the methodology section, a total of 60 teachers were contacted within each of the eight cells. Table 8 shows that the response rate varied from a low of 22 to a high of 44. Table 8 reveals that the lowest categorical responses were from Class A academic teachers and Class A vocational teachers. Cell size is an important factor in data analysis. Surveys were sent with two subsequent follow-ups to ensure a significant size N in each school size classification. There is no evidence of strong response bias, which bolsters confidence in the representativeness of these findings. Respondents from Class AAA and Class AAAA schools outnumbered in percentage those in Class A and Class AA schools. This can be explained in that the number of school district staff at the larger schools is more than double that of the smaller ones. In light of this fact, the percentages of 21% for Class A and 23% for Class AA were seen as characteristic and positive in relation to 29% for Class AAA and 27% for Class AAAA (see Figure 6). The researcher posited that it would be difficult to fill the cells of potential educators in Class

A and Class AA schools, which was not the case. Class AAA schools represented 29% of respondents while Class AAAA schools represented 27%.

Teacher classification was provided by a database created in the Wyoming Department of Education Data and Technology Unit. This database was sorted according to academic and vocational classification of secondary educators in Wyoming. A phone follow-up provided updated information for maximum currency and accuracy, as this database was one year old.

Teacher Type

The initial pool of academic and vocational teachers who were sent surveys were identified via the Professional Teaching Standards Board (PTSB) list. Surveys sent out were then coded according to these teacher classifications indicating "V" for vocational or "A" for academic. On the demographics section of the survey, teachers were also asked to self-report their classification. The classifications provided by the Wyoming Department of Education and the self-report were consistent in the vast majority of cases. In the remaining cases, it was concluded that if a teacher self-classified himself or herself as a technology education teacher they would be classified as vocational. If a teacher classified himself or herself as both academic and vocational, they would be classified as vocational. This was concluded in conference with the Professional Teacher Standards Board (PTSB), who concurred that the majority of teachers are typically vocational and then follow up to pursue an academic credential. Figure 2 below shows the proportion of teachers who were classified as academic and vocational once the final teacher classifications were determined.

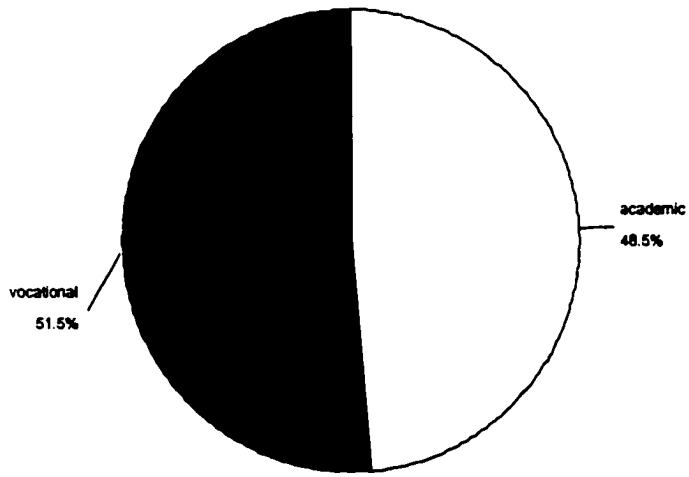


Figure 2. Respondents by Vocational or Academic Classification

Figure 2 illustrates that there was a relatively even split between vocational and academic teachers in the sample.

School Size

Figure 3 shows the proportion of respondents falling into the four school size categories.

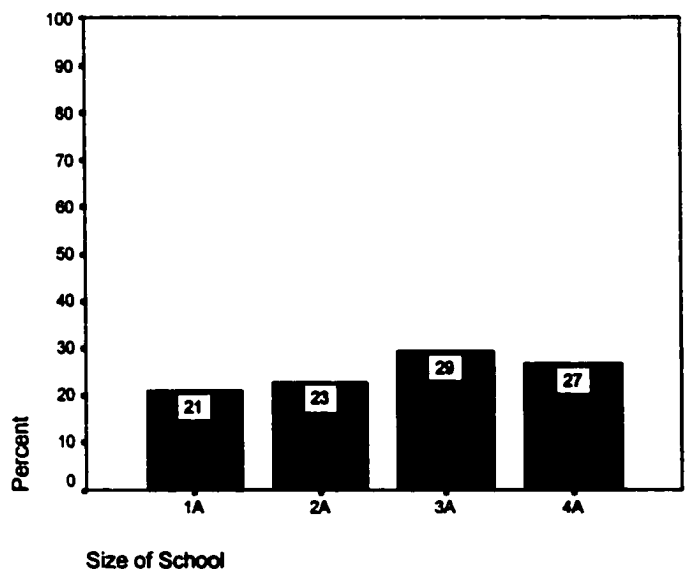


Figure 3. Summary of Respondents by Size of School

As Figure 2 indicates, there were relatively equal proportions of respondents falling into each of the four school size categories, with the exception that there was a slight tendency for larger schools to have a larger number of respondents. This is not surprising given that the larger schools may have more sufficient staffs to respond to surveys and other requests for data.

Gender

Of the 266 respondents, Figure 4 indicates that educators were fairly evenly represented across gender category, with females representing 46.2% and males representing 53.8% of respondents.

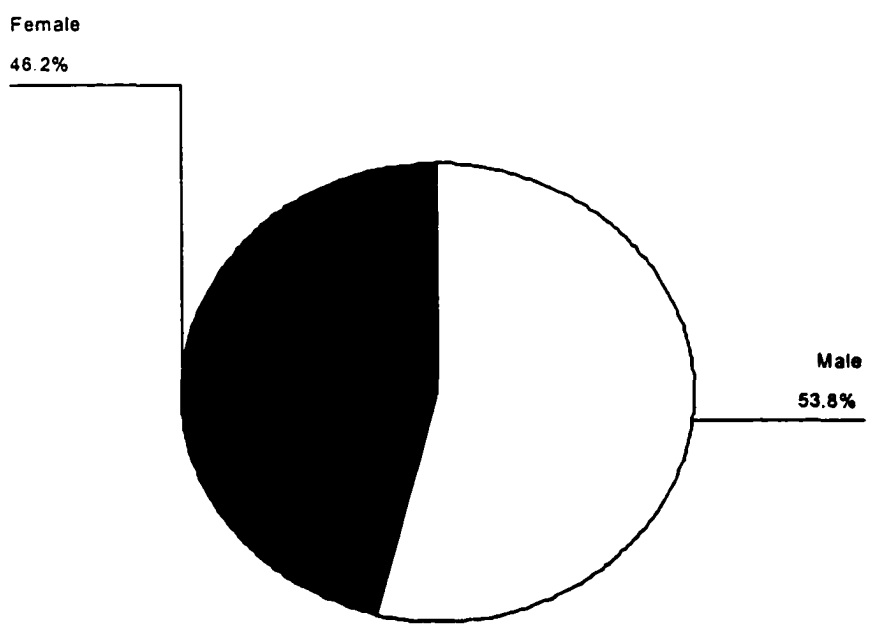


Figure 4. Survey Respondents by Gender

Notably, the distribution of males and females in the sample is quite comparable to statewide averages as reported in the Wyoming Department of Education 1998 Statistical

Report Series No.2. Specifically, in 1998 the statewide percentage of male educators in secondary schools was 54.6% and female educators was 45.3%. Thus, the sample appears to be quite representative of the state as a whole.

Figure 5 displays survey respondents according to gender and teacher type. This data shows that males slightly outnumber females in academic areas, while males outnumber females by 10% in vocational areas.

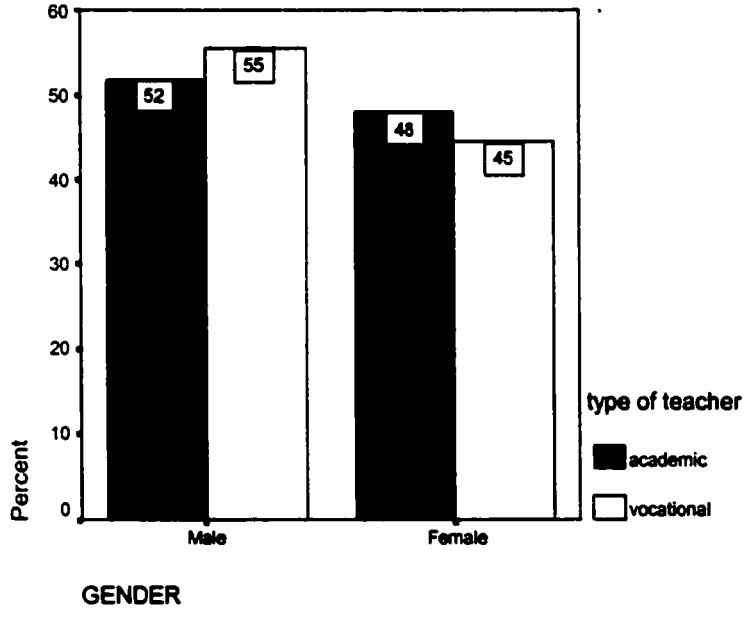


Figure 5. Survey Respondents by Gender and Teacher Type

Educational Level

In terms of the educational level of the 266 respondents, the majority had a Bachelors Degree (57%), followed by a Masters Degree (42%), and a very small proportion of Doctorates (2%).

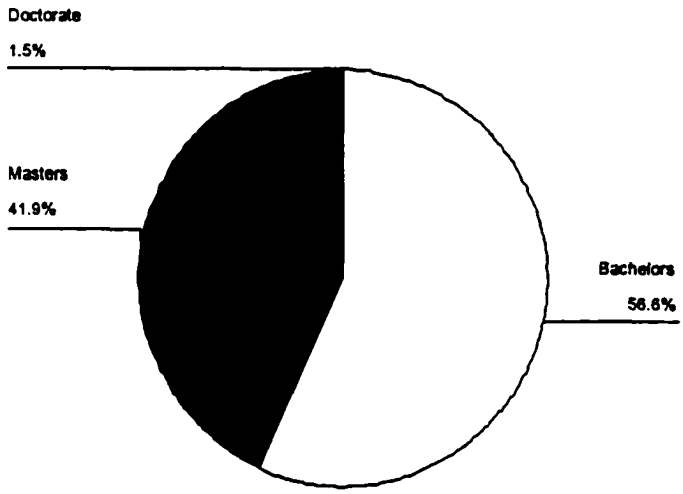


Figure 6. Education Level

Figure 7 shows that a slightly higher proportion of vocational teachers have Masters Degrees as compared to academic teachers.

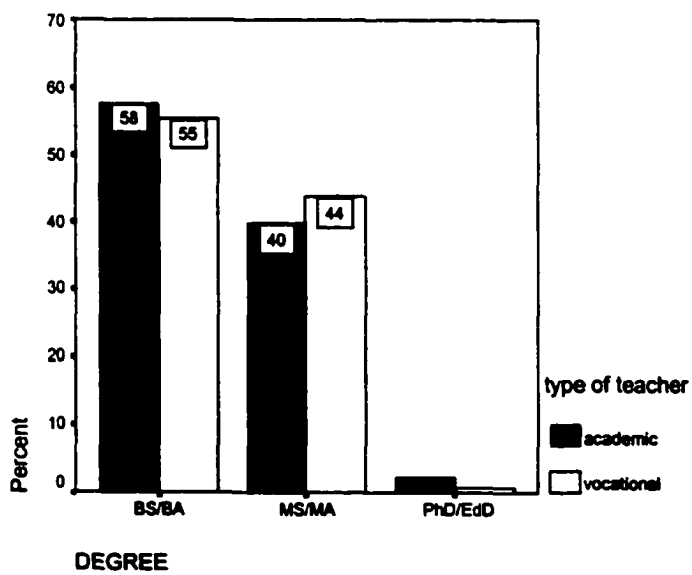


Figure 7. Survey Respondent's Education or Highest Degree Attained by Teacher Type

The educational level of respondents was roughly comparable to findings from a recent statewide staff survey in which 57% of all teachers had a Bachelors and 43% had a Masters degree. Again, this suggests that this sample of respondents is representative of the broader population of teachers within Wyoming. Additionally, data from the National Centers for Education Statistics confirms that 46.9% of vocational teachers hold Bachelors degrees and 39.3% have Masters degrees (Benson, 1995). The corresponding figures for academic teachers are 45.6% and 45.3%. These national figures confirm that the sample of Wyoming educators is consistent with national figures.

Length of Time Working at Their Present Position

The length of time working at their present position is given in Figure 8.

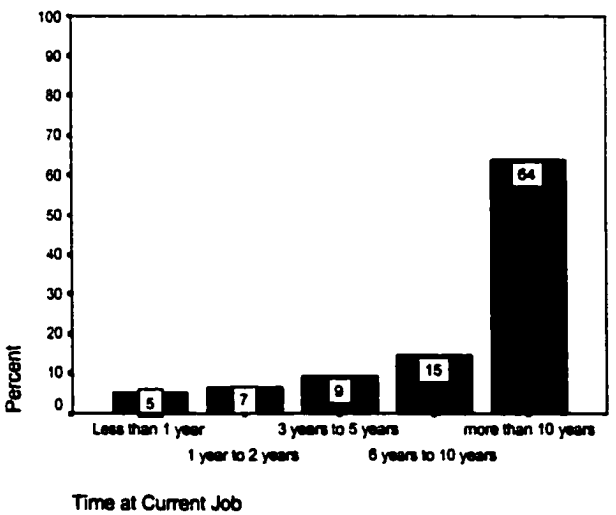


Figure 8. Time at Present Position

Respondents showed a great deal of longevity at their present positions, with 79% of respondents having been at their present position for six years or more. This suggests a significant level of stability.

Figure 9 shows that there was no real difference between academic and vocational teachers in terms of the length of time at their present position; both types of teachers tended to have been in their present positions for a lengthy period of time.

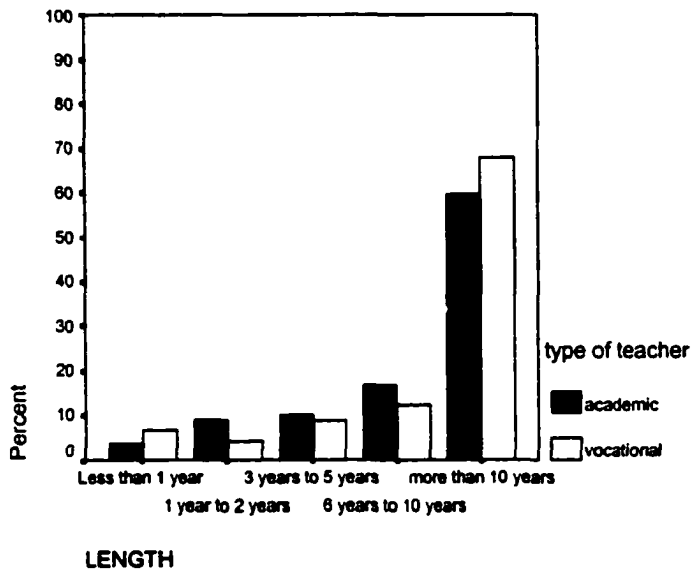


Figure 9. Teacher Type by Time at Present Position

Although statewide data was not available, according to a Wyoming Department of Education staff survey (1999), the length of time at job data revealed that teachers are quite stable in their positions with approximately 20% at their current positions from six to ten years, and over 46% at their position for more than ten years. This is closely represented in the data from respondents in this research.

Subject Areas Taught

The top five subject areas taught by academic teachers included: Other (19%), English (18%), Science (17%), Math (14%), Social Studies (12%), Technology (10 %), Art and Music (6 %), and PE (4%), respectively. The "other" category consisted of 5 foreign language teachers; 7 special education teachers, 5 counselors; and 7 administrators.

## Results and Analysis

Research Question 1

Do academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools in Wyoming differ on items relating to perception of the role of community, provision or role of the school, and developmental attitudes (student career interests, attitudes, teacher awareness and knowledge, and elementary school) as related to career education?

**Hypothesis #1: Acceptance of career education concepts, including role of the community, role of the school, and developmental attitudes, as measured by items on Part II of the instrument do not differ with the teacher classification (vocational or academic) and school size (Class A, AA, AAA, or AAAA).**

Summative scales were constructed from the individual survey items, which loaded on each of the six factors identified. Table 9 shows the number of items included for each of the six factors, which were used as dependent variables in the subsequent analyses. The minimum and maximum values indicate the range of the data. Prior to creating the summative scales, items on the survey were recorded in such a manner that "high" meant a high score on the factor and "low" corresponded to a low score on the factor.

Table 9.

Summative Scale

**Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| QUALITY Quality & Provision: Factor 1 Scale | 265 | 12.00 | 41.00 | 29.3208 | 4.8873 |
| CAREINT Student Career Interests | 266 | 5.00 | 25.00 | 18.2293 | 3.1365 |
| ATTITUDE Attitudes | 265 | 3.00 | 15.00 | 13.0377 | 1.4191 |
| COMMUNIT Community | 266 | 6.00 | 30.00 | 22.9586 | 3.4904 |
| KNOWLEDG Teacher Awareness & Knowledge | 265 | 2.00 | 10.00 | 6.1509 | 1.7188 |
| ELEMENT Elementary school starting point | 265 | 2.00 | 10.00 | 7.5925 | 1.4694 |
| Valid N (listwise) | 265 | | | | |

Factor one, cited in the above table as Quality and Provision of the Role of the school, included nine items. Factor two, cited in the above table as Student Career Interests (one of the developmental constructs), included six items. Factor three, cited in Table 9 as Attitudes (one of the developmental constructs), included three items. Factor four, cited as Role of the Community, included five items. Factor five, Teacher Awareness and Knowledge (one of the developmental constructs), included two items. Factor six, cited in Table 9 as Elementary School Starting Point (one of the developmental constructs), included two items.

A two-way ANOVA was performed using teacher type and school classification as the independent variables and each of the six factors (role of the community, role of the school, developmental attitudes: career interests, attitudes, teacher awareness and

knowledge, and elementary school) as the dependent variables. In all, six two-way ANOVAs were calculated. Table 10 shows the results of these analyses.

Table 10.

Results from Two Way ANOVA- Teacher Type by School Size and Career Education Variables

| Career Education Variable | Teacher Type F | School Size F | Interaction F |
|---|---|---|---|
| Role of the School Developmental: | 1.062 | .149 | 1.117 |
| Student Career Interests Developmental: | 59.437** | 2.598 | 1.465 |
| Attitudes | 1.505 | .899 | .997 |
| Role of the Community Developmental: | 7.505* | 1.292 | .427 |
| Teacher Awareness Knowledge Developmental: | 5.539* | 2.576 | .023 |
| Elementary School | 6.432* | .770 | .812 |

*p<.05, **p≤.01

As Table 10 indicates, significant effects were found for teacher type and Developmental: Student Career Interests, Role of the Community, Developmental: Teacher Awareness and Knowledge, and Elementary School. Specifically, academic teachers had much lower scores on student career interests ($\underline{M}$ = 16.89) than did vocational teachers ($\underline{M}$ =19.16). This means that they were less likely to feel that in relation to student career interests vocational teachers were more supportive of career education.

In terms of role of the community, academic teachers had a slightly lower score ($\underline{M}$ = 22.33) on this scale than did vocational teachers ($\underline{M}$ = 23.52) . Vocational teachers were more likely to feel that the community should be actively involved and contribute to the classroom more than academic teachers.

In terms of teacher awareness knowledge, academic teachers had a higher score (M = 6.456) on this construct than vocational teachers (M = 5.934). These results may indicate that vocational teachers center on content knowledge versus the wider range of job possibilities.

In terms of elementary school, academic teachers had a lower total score (M = 7.35) than vocational teachers (M = 7.82). Academic teachers perceived introducing career related materials to elementary school students as less important than did vocational teachers.

No significant effects were found between size of school and any of the dependent variables, and no significant interactions were found between school size and teacher type. With regard to the school size variable, a post hoc test was run, though there were no significant findings. The post hoc test confirmed the lack of variation in the mean totals.

Thus, hypothesis #1 was partially supported in that acceptance of career education concepts did not differ according to the two constructs: role of school and developmental attitudes according to teacher type. Acceptance of career education concepts did not differ on all six constructs according to school size. No interaction effects were revealed. However, significant differences were revealed between teacher type and Developmental: student career interests, role of the community, Developmental: Teacher Awareness and Knowledge, and elementary school. Therefore, the null hypothesis of "no difference" was rejected.

Research Question 2

Do academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools in Wyoming differ on items related to the use of career education information?

> **Hypothesis #2:** Use of career education information as measured by items on Part III of the instrument does not differ with the teacher classification (vocational or academic) and school size (Class A, AA, AAA, or AAAA).

Question two focused on the perceptions of academic and secondary educators in Class A-AAAA schools on items related to the use of career education (e.g., Q35 to Q44 on the survey instrument). A two-step analysis was performed to address this question. First, a log linear analysis was performed since three categorical variables were involved in the analysis (e.g., teacher type, school size, and each of the dependent categorical variables). The log linear analysis allows researchers to detect any important interaction effects between more than two categorical variables whereas a simple cross-tabulation (which involves only two categorical variables) would not allow us to detect such interactions. For example, it was considered to be a distinct possibility that the effect of teacher type on use of career education might vary depending on what size school the teacher was in.

In the second step of the analysis, follow-up cross-tabulations were performed in order to gather more information on the nature and direction of the relationship between the categorical variables of interest. This step was based upon the significant effects and final model that emerged from the log linear analysis. Table 11 shows the significant relationships that were revealed by the log linear analysis, including the final models and partial chi-square that emerged.

Table 11

Log Linear Analysis of Teacher Type and School Size on the Use of Career Education

| Question | DF | Partial Chi-square | Probability |
|---|---|---|---|
| Size*Q35 (Influential Personnel) | 15 | 33.01 | .0047 |
| Teacher*Q35 (Influential Personnel) | 5 | 27.474 | .0000 |
| Size*Q36 (Career Exploration) | 9 | 33.922 | .0001 |
| Teacher*Q37 (Infuse Career Education) | 4 | 10.502 | .0328 |
| Teacher*Q38 (Degree of Competency) | 3 | 40.263 | .0000 |
| Size*Q38 (Degree of Competency) | 9 | 16.513 | .0569 |
| Teacher*Q42 (Number of Community Persons in Classroom) | 3 | 31.157 | .0000 |
| Teacher*Q44 (Most Effective Approach to Implementing Career Education) | 3 | 9.859 | .0198 |

Perceptions of Influential Personnel in Career Education

Question #35 (Q35) on the survey instrument asked which types of personnel were most influential in delivering career education. Log linear analysis showed a significant relationship between size of school and Q35 as well as teacher type and Q35. There was no interaction effect between school size and teacher type; thus, this analysis was followed by separate cross-tabulations between each of the independent variables and the dependent variable of interest. Table 12 shows the actual and expected frequencies from a cross-tabulation performed between teacher type and Q35.

Table 12.

Cross-tabulation of Observed Frequencies, Expected Frequencies, and Percentages for Influential Personnel: X Teacher Type

| Q35 Influential Personnel | | Teacher Type Academic | Vocational |
|---|---|---|---|
| Teachers | Observed | 47 | 87 |
| | Expected | 64.7 | 69.3 |
| | Percentage | 37% | 64% |
| Psychology & Orientation | Observed | 0 | 1 |
| | Expected | .5 | .5 |
| | Percentage | .0% | .7% |
| Guidance Counselors | Observed | 51 | 17 |
| | Expected | 32.8 | 35.2 |
| | Percentage | 40% | 12% |
| Administrators | Observed | 1 | 1 |
| | Expected | 1.0 | 1.0 |
| | Percentage | 1% | 1% |
| School to Careers Counselors | Observed | 25 | 28 |
| | Expected | 25.6 | 27.4 |
| | Percentage | 20% | 20% |
| No One Equipped | Observed | 4 | 3 |
| | Expected | 3.4 | 3.6 |
| | Percentage | 3% | 2% |

The chi-square for the cross-tabulation between teacher type and Q35 was 29.982, $p<.01$. Examination of the cross-tabulation table shows that vocational teachers are more likely than academic teachers to say that teachers are influential in career education. In addition, academic teachers see guidance counselors as significantly more influential than do

vocational teachers. The difference between academic and vocational teachers on Q35 is depicted in Figure 10 below.

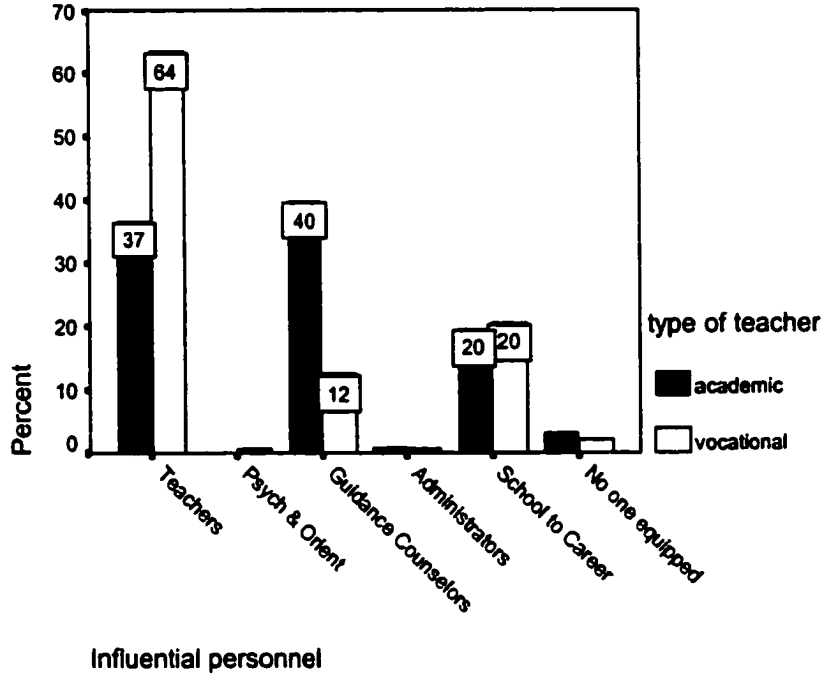


Figure 10. Teacher Type and Influential Personnel

Table 13 below shows the results of a cross-tabulation between school size and Q35.

Table 13.

Cross-tabulation of Observed Frequencies, Expected Frequencies, and Percentages for Influential Personnel: X Size of School

| Q35 Influential Personnel | | SIZE OF SCHOOL 1A | 2A | 3A | 4A |
|---|---|---|---|---|---|
| Teachers | Observed | 26 | 31 | 39 | 38 |
| | Expected | 27.8 | 30.8 | 39.4 | 35.9 |
| | Percentage | 47% | 51% | 50% | 54% |
| Psychology & Orientation | Observed | 0 | 0 | 0 | 1 |
| | Expected | .2 | .2 | .3 | .3 |
| | Percentage | .0% | .0% | .0% | 1.4% |
| Guidance Counselors | Observed | 18 | 25 | 17 | 8 |
| | Expected | 14.1 | 15.7 | 20.0 | 18.2 |
| | Percentage | 33% | 41% | 22% | 11% |
| Administrators | Observed | 0 | 0 | 1 | 1 |
| | Expected | .4 | .5 | .6 | .5 |
| | Percentage | .0% | .0% | 1% | 1 % |
| School to Careers Counselors | Observed | 9 | 4 | 17 | 23 |
| | Expected | 11 | 12.2 | 15.6 | 14.2 |
| | Percentage | 16% | 7% | 22% | 32% |
| No one Equipped | Observed | 2 | 1 | 4 | 0 |
| | Expected | 1.5 | 1.6 | 2.1 | 1.9 |
| | Percentage | 4% | 2% | 5% | .0% |

The chi-square for the above cross-tabulation was 32.98, $p<.01$. The table shows that teachers in larger schools perceived guidance counselors as less influential than did teachers in smaller schools. Differences by school size in the perception of the influence of different types of personnel are shown in Figure 11.

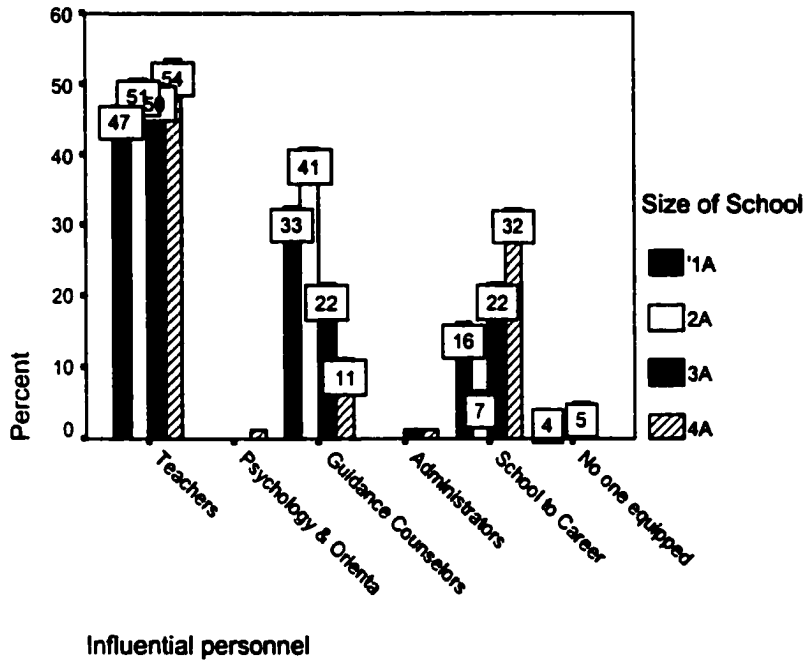


Figure 11. Question 35: Significant Differences Between Size of School and Influential Personnel.

In addition, teachers in larger schools saw school-to-career counselors as more influential than did teachers in smaller schools.

Career Exploration Opportunities for Students' Transition

Question #36 (Q36) on the survey instrument asked the extent to which career exploration opportunities for students' transition into the world of work were available. Log linear analysis showed a significant relationship between size of school and Q36. There was no interaction between school size and teacher type; thus, a cross-tabulation between school size and Q36 was performed. Table 14 below shows the actual and expected frequencies from a cross-tabulation performed between size of school and Q36.

Table 14.

Cross-Tabulation of Observed Frequencies, Expected Frequencies, and Percentages for Career Exploration Opportunities: X Size of School Interaction

| Q36 Career Exploration Opportunities | | SIZE OF SCHOOL 1A | 2A | 3A | 4A |
|---|---|---|---|---|---|
| Non-existent | Observed | 5 | 3 | 1 | 0 |
| | Expected | 1.9 | 2.0 | 2.7 | 2.4 |
| | Percentage | 9% | 5% | 1% | .0% |
| Minimal | Observed | 43 | 42 | 46 | 35 |
| | Expected | 34.6 | 37.7 | 49 | 44.6 |
| | Percentage | 78% | 70% | 59% | 49% |
| Adequate | Observed | 6 | 14 | 29 | 32 |
| | Expected | 16.9 | 18.4 | 23.9 | 21.8 |
| | Percentage | 11% | 23% | 37% | 45% |
| Outstanding | Observed | 1 | 1 | 2 | 4 |
| | Expected | 1.7 | 1.8 | 2.4 | 2.2 |
| | Percentage | 2% | 2% | 3% | 6% |

The chi-square for the cross-tabulation between size of school and Q36 was 30.12, $p < .01$. Examination of the cross-tabulation shows that a large percentage of teachers from smaller schools perceived career exploration opportunities as minimal, whereas teachers from larger schools exhibited this viewpoint to a lesser degree. The difference between size of school and Q36 is depicted in Figure 12 below.

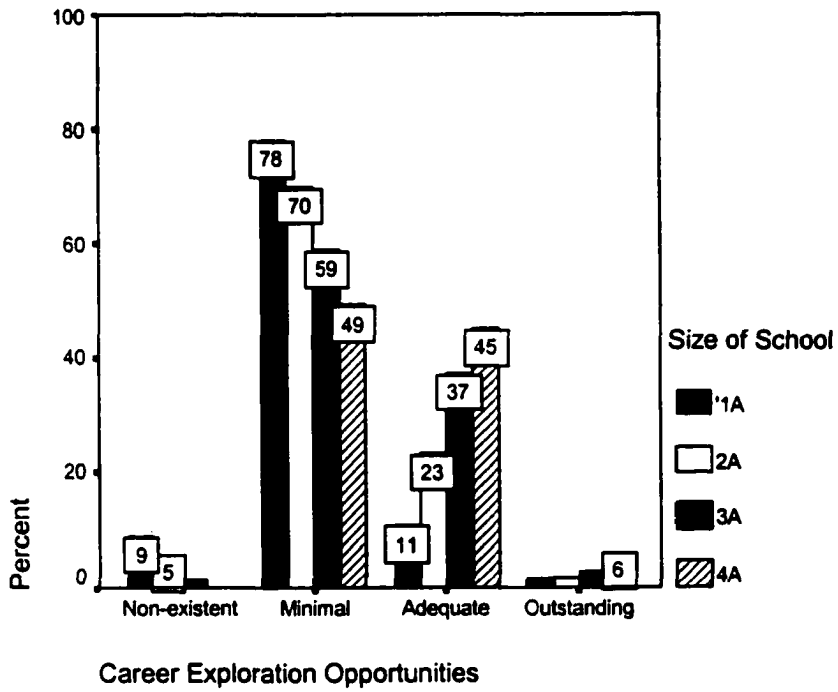


Figure 12. Question 36: Significant Differences Between Size of School and Career Exploration Opportunities

In addition, teachers from larger schools saw career exploration opportunities as adequate, while teachers from smaller schools exhibited this viewpoint to a lesser degree.

Effectively Infusing Career Education Concepts Within Existing Courses

Question #37 on the survey instrument asked what teachers must do first to effectively infuse career education concepts within existing courses. Log linear analysis showed a significant relationship between teacher type and Q37. There was no interaction between size of school and teacher type and Q37. There was no effect of size of school and Q37. Table 15 below shows the actual and expected frequencies from a cross-tabulation performed between teacher type and Q37.

Table 15.

Cross-Tabulation of Observed Frequencies, Expected Frequencies, and Percentages for Infusing Career into Courses: X Teacher Type

| | | TEACHER TYPE | |
|---|---|---|---|
| Q37 Infusing Career Into courses | | Academic | Vocational |
| Understand Career Ed Concepts | Observed | 20 | 17 |
| | Expected | 17.9 | 19.1 |
| | Percentage | 16% | 13% |
| Access Individuals Who Understand | Observed | 10 | 3 |
| | Expected | 6.3 | 6.7 |
| | Percentage | 8% | 2% |
| Access Courses in Career Ed In Degree | Observed | 4 | 1 |
| | Expected | 2.4 | 2.6 |
| | Percentage | 3% | .7% |
| Work with Counselors | Observed | 3 | 1 |
| | Expected | 1.9 | 2.1 |
| | Percentage | 2% | .7% |
| All of the Above | Observed | 87 | 112 |
| | Expected | 96 | 103 |
| | Percentage | 70% | 84% |
| None | Observed | 1 | 0 |
| | Expected | .5 | .5 |
| | Percentage | .8% | .0 |

The chi-square for the cross-tabulation between teacher type and Q37 was 10.65, $p < .01$. Examination of the cross-tabulation table shows that academic teachers viewed accessing individuals who understand career education concepts as more important than did vocational teachers. Vocational teachers felt that all of the interventions listed for infusing career education should be used more than did academic teachers. The cross-tabulation by Q37 and teacher type did not have a significant chi-square.

Degree of Competency for teaching Career Education Concepts

Question #38 on the survey instrument asked teachers their present degree of competency for teaching career education concepts. Log linear analysis showed a significant relationship between teacher type and Q38 as well as size of school and Q38. There was no interaction between size of school and teacher type. Table 16 below shows the actual and expected frequencies from a cross-tabulation performed between teacher type and Q38.

Table 16.

Cross-tabulation of Observed Frequencies, Expected Frequencies, and Percentages for Competency to Teach Career: X Teacher Type

| Q38 Competency to teach Career | | TEACHER TYPE Academic | Vocational |
|---|---|---|---|
| Unprepared | Observed | 8 | 1 |
| | Expected | 4.4 | 4.6 |
| | Percentage | 6% | .7% |
| Weak | Observed | 50 | 17 |
| | Expected | 32.7 | 34.3 |
| | Percentage | 39% | 13% |
| Capable | Observed | 54 | 63 |
| | Expected | 57.2 | 59.8 |
| | Percentage | 42% | 47% |
| Very Capable | Observed | 17 | 54 |
| | Expected | 34.7 | 36.3 |
| | Percentage | 13.% | 40% |

The chi-square for the cross-tabulation between teacher type and Q38 was 41.56, $p < .01$. Examination of the cross-tabulation shows that academic teachers felt significantly more unprepared to teach careers than did vocational teachers. The difference between academic and vocational teachers on Q38 is depicted in Figure 13 below.

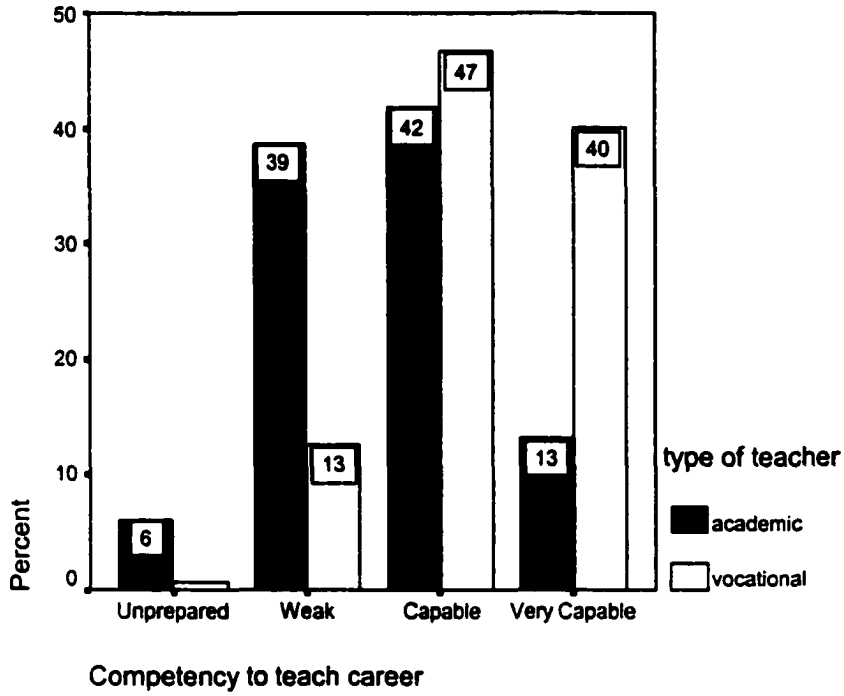


Figure 13. Question 38: Significant Differences Between Teacher Type and Perceived Competency to Teach Career

Vocational teachers rated themselves as three times as capable to teach careers than did academic teachers.

Log linear analysis also showed a significant relationship between size of school and Q38. Table 17 below shows the actual and expected frequencies from a cross-tabulation performed between size of school and Q38.

Table 17.

Cross-tabulation of Observed Frequencies, Expected Frequencies, and Percentages for Competency to Teach Career: X Size of School

| Q38 Competency to teach Career | | SIZE OF SCHOOL 1A | 2A | 3A | 4A |
|---|---|---|---|---|---|
| Unprepared | Observed | 2 | 0 | 5 | 2 |
| | Expected | 1.9 | 2.0 | 2.7 | 2.4 |
| | Percentage | 4% | .0% | 6% | 3% |
| Weak | Observed | 22 | 15 | 18 | 12 |
| | Expected | 14 | 15.2 | 19.8 | 18.0 |
| | Percentage | 40% | 25% | 23% | 17% |
| Capable | Observed | 18 | 34 | 34 | 31 |
| | Expected | 24.4 | 26.6 | 34.6 | 31.5 |
| | Percentage | 33% | 57% | 44% | 44% |
| Very Capable | Observed | 13 | 11 | 21 | 26 |
| | Expected | 14.8 | 16.1 | 21.0 | 19.1 |
| | Percentage | 24% | 18% | 27% | 27% |

The chi-square for the cross-tabulation between size of school and Q38 was 19.10, $p < .01$. Examination of the cross-tabulation table shows that teachers from smaller schools perceived themselves as less competent to teach careers than teachers in larger schools. Teachers from Class AA schools saw themselves as the most capable to teach career education. Teachers in Class A schools scored the highest on those "weakly" prepared to teach careers. The difference between size of school and Q38 are depicted in Figure 14 below.

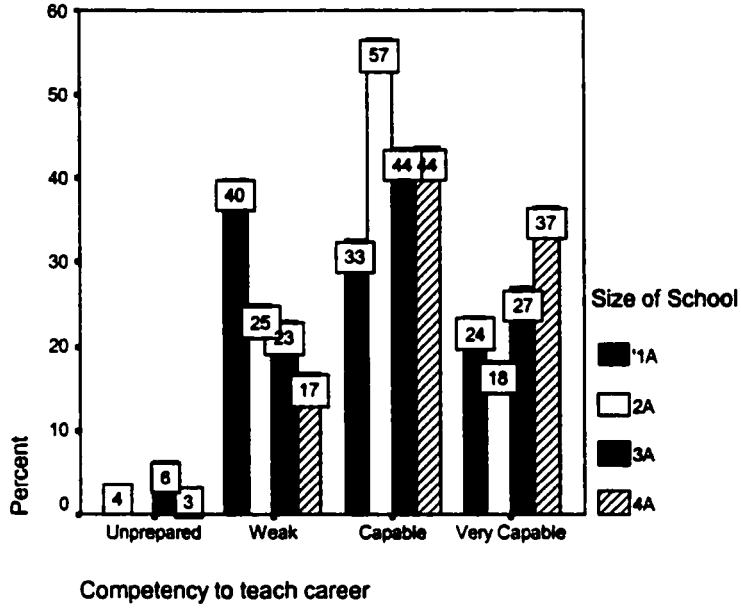


Figure 14. Question 38: Significant Differences Between Size of School and Competency to Teach Career

Number of Community Persons Brought into Classroom Instruction to Discuss Careers

Question #42 (Q42) on the survey instrument asked teachers the number of community persons they brought to their classroom to discuss careers during the last school year. Log linear analysis showed a significant relationship between teacher type and Q42. There was no effect between size of school and Q42. There was no interaction between school size and teacher type and Q42. Table 18 below shows the actual and expected frequencies from a cross-tabulation performed between teacher type and Q42.

Table 18.

Cross-Tabulation of Observed Frequencies, Expected Frequencies, and Percentages for Community People into Class: X Teacher Type

| Q42 Community People into Class | | TEACHER TYPE Academic | Vocational |
|---|---|---|---|
| One to three | Observed | 59 | 57 |
| | Expected | 56.7 | 59.3 |
| | Percentage | 46% | 42% |
| Four to five | Observed | 4 | 28 |
| | Expected | 15.6 | 16.4 |
| | Percentage | 3% | 21% |
| Six or more | Observed | 16 | 28 |
| | Expected | 21.5 | 22.5 |
| | Percentage | 12% | 21% |
| None | Observed | 50 | 22 |
| | Expected | 35.2 | 36.8 |
| | Percentage | 39% | 16% |

The chi-square for the cross-tabulation between teacher type and Q42 was 32.10, $p<.01$. Examination of the cross-tabulation table shows that vocational teachers were seven times more likely to use four to five community people in their class than academic teachers. In addition, academic teachers were two times more likely than vocational teachers to use no community members. Academic and vocational teachers were fairly consistent in their response of using one to three community people in class. The difference between academic and vocational teachers on Q42 is depicted in Figure 15 below.

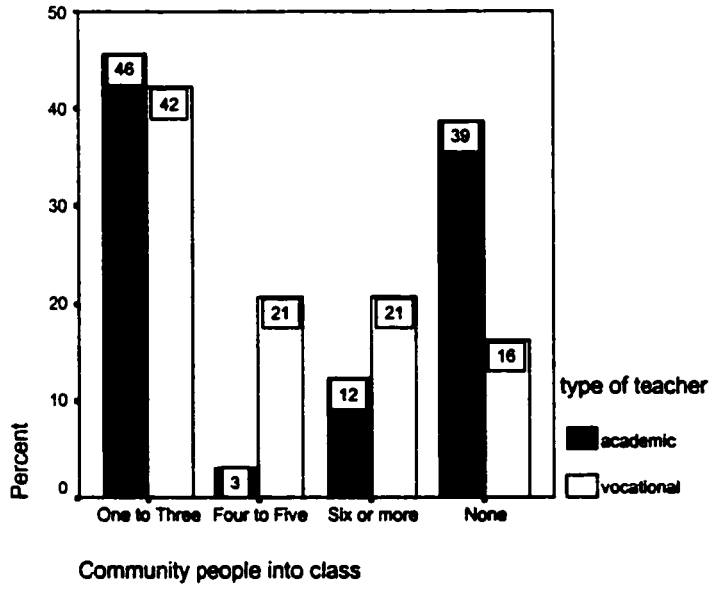


Figure 15. Question 42: Significant Differences between Teacher Type and Community People into Class

The Most Effective Approach to Implementing Career Education

Question #44 (Q44) on the survey instrument asked teachers the most effective approach to implementing career education in schools. Log linear analysis showed a significant relationship between teacher type and Q44. There was no effect between size of school and Q44. There was no interaction between school size and teacher type and Q44. Table 19 below shows the actual and expected frequencies from a cross-tabulation performed between teacher type and Q44.

Table 19.

Cross-Tabulation of Observed Frequencies, Expected Frequencies, and Percentages for Implementing Career Ed: X Teacher Type

| Q44 Implementing Career Ed | | TEACHER TYPE Academic | Vocational |
|---|---|---|---|
| Training for all teachers | Observed | 50 | 72 |
| | Expected | 58.8 | 63.2 |
| | Percentage | 41% | 55% |
| Career Ed Center | Observed | 56 | 52 |
| | Expected | 52.1 | 55.9 |
| | Percentage | 46% | 40% |
| Purchase Commercial Materials | Observed | 2 | 2 |
| | Expected | 1.9 | 2.1 |
| | Percentage | 2% | 2% |
| Hire additional personnel | Observed | 14 | 5 |
| | Expected | 9.2 | 9.8 |
| | Percentage | 11% | 4% |

The chi-square for the cross-tabulation between teacher type and Q44 was 8.07, p.01. Examination of the cross-tabulation table shows that vocational teachers felt more strongly than academic teachers that training for all teachers is needed in implementing career education. Academic teachers were twice as likely to see the need to hire additional personnel versus vocational teachers. The difference between academic and vocational teachers on Q44 is depicted in Figure 16 below.

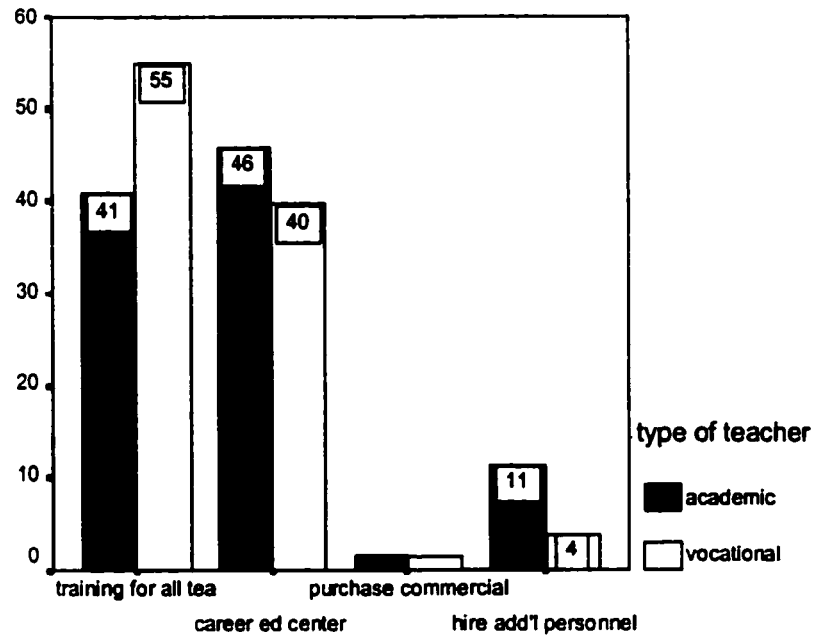


Figure 16. Question 44: Significant Differences Between Teacher Type and Implementing Career Education

Career Field Trips

Table 20 reveals the three-way interaction for Q41, which ask survey respondents the number of career-oriented educational field trips their class took during the last school year. There was a three-way interaction between type of teacher, school size, and Q41. It was not appropriate to run a follow-up two-way cross-tab since size and teacher were not independent of one another. The table below reveals the pattern of cell differences. The table suggests that the smaller the school, the more fieldtrips taken. Additionally, vocational teachers in Class A schools had the largest percentage of fieldtrips. The table also suggests that academic teachers take less career fieldtrips than vocational teachers. This confirms that there is an interaction between type of teacher, school size, and Q41.

Table 20.

Size of School X Teacher Types by Career Field Trips

**Size & Teacher by Career Field Trips**

| | | | | Number of Career Ed Fieldtrips | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1 One to Three | | 2 Four to Five | | 3 Six or More | | 4 None | |
| | | | | Count | Row % | Count | Row % | Count | Row % | Count | Row % |
| Size of School | 1.00 '1A | type of teacher | 1.00 academic | 23 | 67.6% | 0 | .0% | 0 | .0% | 11 | 32.4% |
| | | | 2.00 vocational | 10 | 50.0% | 1 | 5.0% | 5 | 25.0% | 4 | 20.0% |
| | 2.00 2A | type of teacher | 1.00 academic | 15 | 45.5% | 4 | 12.1% | 0 | .0% | 14 | 42.4% |
| | | | 2.00 vocational | 14 | 51.9% | 3 | 11.1% | 2 | 7.4% | 8 | 29.6% |
| | 3.00 3A | type of teacher | 1.00 academic | 13 | 37.1% | 2 | 5.7% | 1 | 2.9% | 19 | 54.3% |
| | | | 2.00 vocational | 23 | 56.1% | 9 | 22.0% | 2 | 4.9% | 7 | 17.1% |
| | 4.00 4A | type of teacher | 1.00 academic | 11 | 40.7% | 0 | .0% | 4 | 14.8% | 12 | 44.4% |
| | | | 2.00 vocational | 14 | 31.8% | 11 | 25.0% | 9 | 20.5% | 10 | 22.7% |

No significant effects were found between either teacher type or school size on three of the dependent variables; a three way Interaction was revealed on size of school x teacher type by Career Field Trips.

Thus, hypothesis #2 was partially supported in that Role of Career Education concepts did not differ on the three questions: where career education should be emphasized by school level and subject area; where initial support is needed; and developmental attitudes according to teacher type and school size. Interaction effects were revealed on size of school by teacher type and career field trips (See Table 20). Significant differences were revealed between teacher type and influential personnel, infuse career education, degree of competency, number of community persons in classroom, and most effective approach to Implementing career education. Significant differences were revealed between size of school and influential personnel, career exploration, and degree of competency. Therefore, the null hypothesis of "no difference" was rejected.

Research Question 3

Do academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools in Wyoming differ on items related to method of curriculum delivery for career education?

**Hypothesis #3:** Method of curriculum delivery for career education as measured by items on Part IV of the instrument does not differ with the teacher classification (vocational or academic) and school size (Class A, AA, AAA, or AAAA).

Research question three investigated the perceptions of academic and secondary educators in Class A-AAAA schools of an item related to the method of curriculum delivery for career education (e.g., Q45 on the survey instrument). A two-step analysis was performed to address this question. First, a log linear analysis was performed since three categorical variables were involved in doing the analysis (e.g., teacher type, school size, and each of the dependent categorical responses). The log linear analysis allows researchers to detect any important interaction effects between more than two categorical variables whereas a simple cross-tabulation (which involves only two categorical variables) would not allow us to detect such interactions. For example, it was considered to be a distinct possibility that the effect of teacher type on the method of curriculum organization might vary according to size of school that the teacher was in.

In the second step of the analysis, follow-up cross-tabulations were performed in order to gather more information on the nature and direction of the relationship between the categorical variables of interest. This step was based upon the significant effects and final model that emerged from the log linear analyses. Table 21 shows the significant

relationships that were revealed by the log linear analyses, including the final models and partial chi-square that emerged.

Table 21

Log Linear Analysis of Teacher Type and School Size on the Method of Career Education

| Question | DF | Partial Chi-square | Probability |
|---|---|---|---|
| Size * Q45 (Method of Curriculum Delivery) | 9 | 17.390 | .0429 |
| Teacher * Q45 (Method of Curriculum Delivery) | 3 | 13.373 | .0039 |

Method of Curriculum Delivery

Question #45 (Q45) on the survey instrument asked which method of curriculum organization was most prevalent at the teacher's school. Log linear analysis showed a significant relationship between size of school and Q45 as well as teacher type and Q45. There was no interaction effect between school size and teacher type; thus, this analysis was followed by separate cross-tabulations between each of the independent variables and the dependent variable of interest. Table 22 below shows the actual and expected frequencies from a cross-tabulation performed between teacher type and Q45.

Table 22.

Cross-tabulation of Observed Frequencies, Expected Frequencies, and Percentages for Method of Career Ed: X Teacher Type

| Q45 Method of Career Ed | | TEACHER TYPE Academic | Vocational |
|---|---|---|---|
| Infusion Method | Observed | 47 | 54 |
| | Expected | 48.6 | 52.4 |
| | Percentage | 38% | 40% |
| Separate Class | Observed | 35 | 14 |
| | Expected | 23.6 | 25.4 |
| | Percentage | 28% | 10% |
| Curriculum "Add On" | Observed | 6 | 6 |
| | Expected | 5.8 | 6.2 |
| | Percentage | 5% | 4% |
| Tech Prep | Observed | 37 | 61 |
| | Expected | 47.1 | 50.9 |
| | Percentage | 30% | 45% |

The chi-square for the cross-tabulation between teacher type and Q45 was 15.00, $p<.01$. Examination of the cross-tabulation table shows that academic teachers are more likely than vocational teachers to say that the method of career education should be a separate class. In addition, vocational teachers see tech prep as an appropriate method of career education significantly more than do academic teachers. The difference between academic and vocational teachers on Q45 is displayed in Figure 17 below.

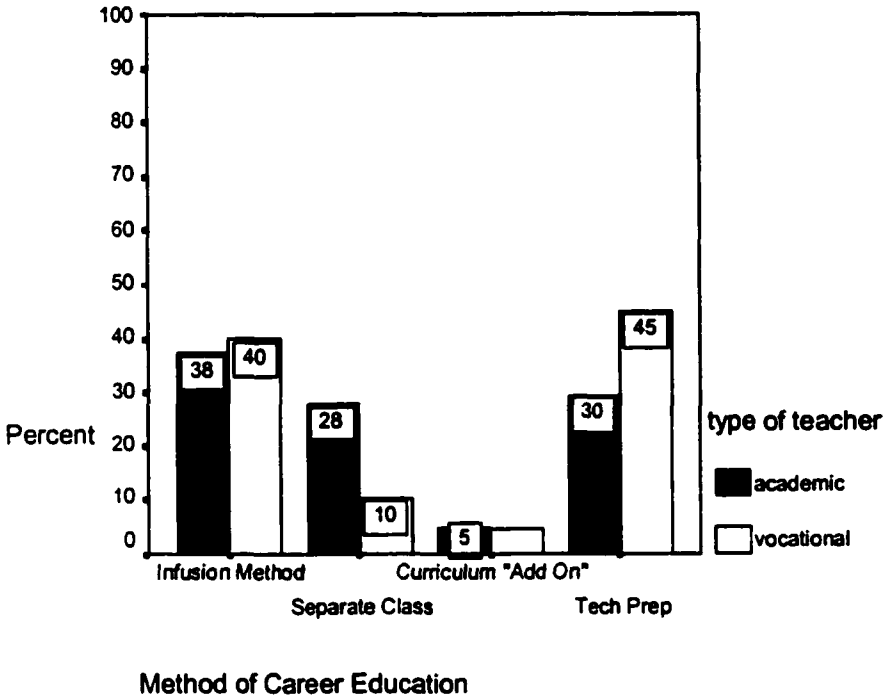


Figure 17. Question 45: Significant Differences Between Teacher Type and Method of Career Education

Question #45 (Q45) on the survey instrument asked which types of personnel were most influential in delivering career education. Log linear analysis showed a significant relationship between size of school and Q45. Analyses were followed up by separate cross-tabulations between each of the independent variables and the dependent variable of interest. Table 23 below shows the actual and expected frequencies from a cross-tabulation performed between size of school and Q45.

Table 23.

Cross-Tabulation of Observed Frequencies and Percentages for Method of Career Ed: X Size of School

| | | SIZE OF SCHOOL | | | |
|---|---|---|---|---|---|
| Q45 Method of Career Ed | | 1A | 2A | 3A | 4A |
| Infusion Method | Observed | 28 | 27 | 28 | 18 |
| | Expected | 21.4 | 23.3 | 29.5 | 26.8 |
| | Percentage | 51% | 45% | 37% | 26% |
| Separate Class | Observed | 11 | 13 | 15 | 10 |
| | Expected | 10.4 | 11.3 | 14.3 | 13.0 |
| | Percentage | 20% | 22% | 20% | 15% |
| Curriculum "Add On" | Observed | 4 | 2 | 4 | 2 |
| | Expected | 2.5 | 2.8 | 3.5 | 3.2 |
| | Percentage | 7% | 3% | 5% | 3% |
| Tech Prep | Observed | 12 | 18 | 29 | 39 |
| | Expected | 20.7 | 22.6 | 28.6 | 26.0 |
| | Percentage | 22% | 30% | 38% | 57% |

The chi-square for the cross-tabulation between size of school and Q45 was 19.31, $p<.01$. Examination of the cross-tabulation table shows that teachers from smaller schools were more likely to support the infusion method of career education than teachers from larger schools. Teachers in larger schools were the strongest supporters of tech prep versus smaller schools, and are more likely to say that teachers are influential in career education than academic teachers. In addition, academic teachers see guidance counselors as significantly more influential than do vocational teachers. The difference between size of school on Q45 is depicted in Figure 18 below.

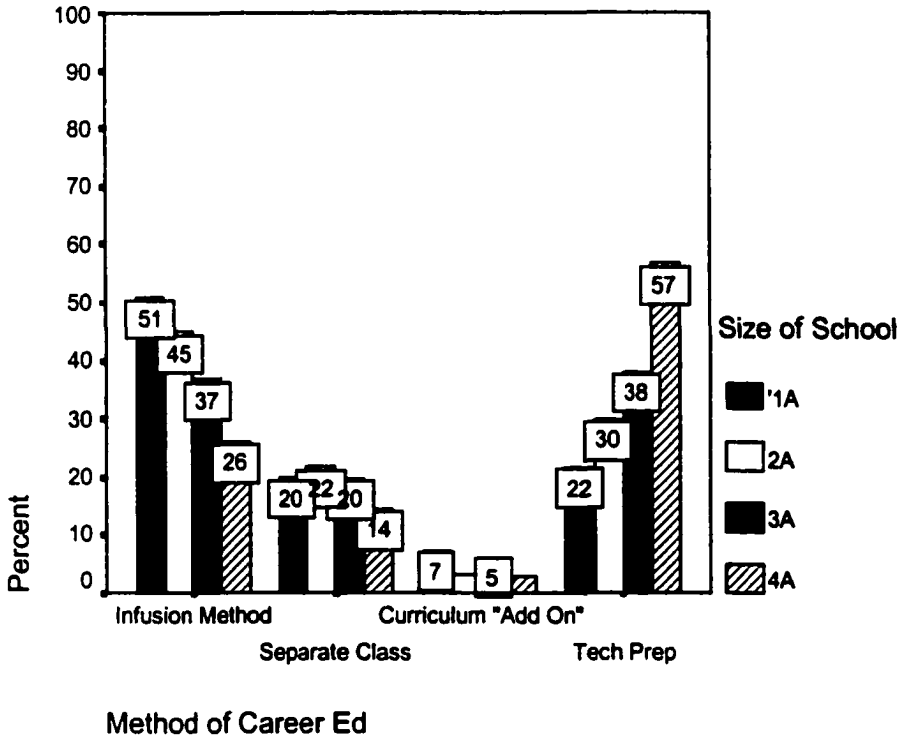


Figure 18. Question 45: Significant Differences between Size of School and Method of Career Education

Since the method of curriculum organization for career education is a significant factor in analysis, it was discerned to visually depict the areas of convergence. Figure 19 reveals that academic and vocational teachers are similar in their response to infusion method and curriculum "add on."

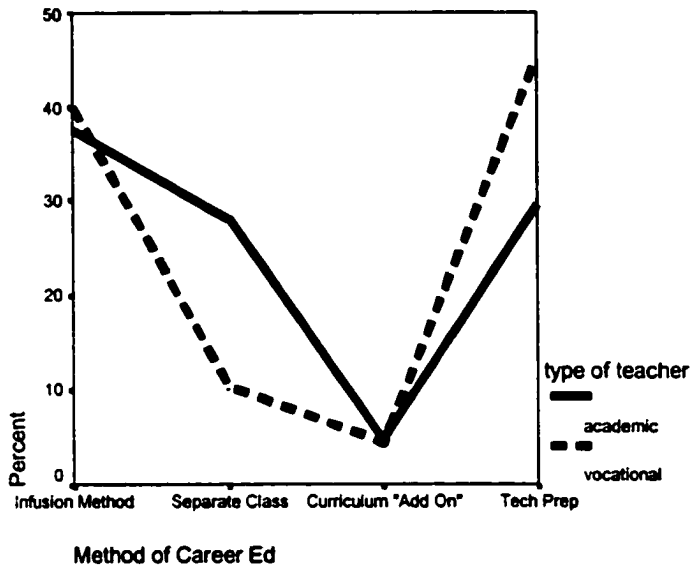


Figure 19. Question 45: Significant Differences between Teacher Type and Method of Career Education

Figure 20 reveals that teachers from Class A, Class AA, and Class AAA all agree to a significant degree that a separate class towards curriculum organization is necessary. In addition, Class A-AAAA teachers are similar in their responses to the method of curriculum titled "add on."

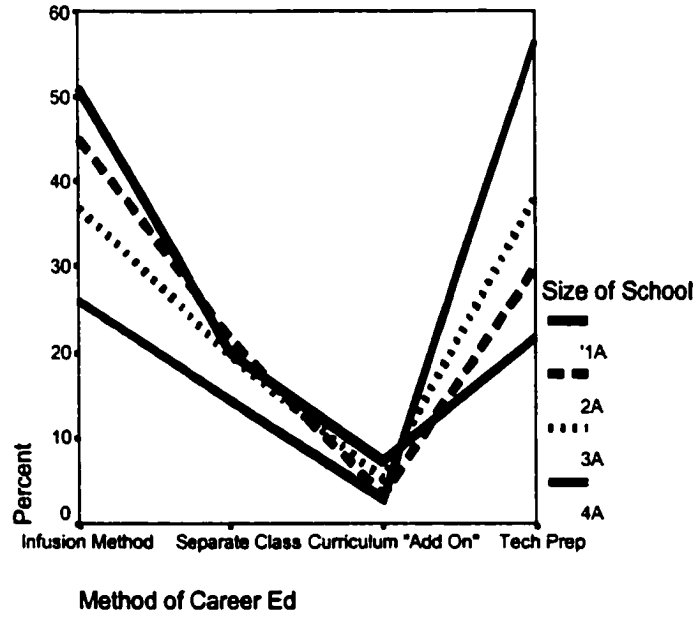


Figure 20. Question 45: Significant Differences Between Size of School and Method of Career Education

Significant effects were detected by the partial chi-square between both teacher type and school size on method of curriculum.

Thus, hypothesis #2 was rejected in that significant differences were revealed on both independent variables (teacher type and school size) when asked the ways that schools choose to implement career education into their curriculum. Therefore, the null hypothesis of "no difference" was rejected.

Research Question 4

Do academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools differ on items relating to the delivery of school-to-work systems in Wyoming?

> **Hypothesis #4:** Delivery of school-to-work systems in their communities as measured by items on Part V of the instrument does not differ with teacher classification (vocational or academic) and school size (Class A, AA, AAA, or AAAA).

Question four looked at the perceptions of academic and secondary educators in Class A-AAAA schools of items related to the delivery of school-to-work programs (e.g., Q46 on the survey instrument). A two-step analysis was performed to address this question. First, a log linear analysis was performed since three categorical variables were involved in doing the analysis (e.g., teacher type, school size, and each of the dependent categorical variables). Log linear analysis allows researchers to detect any important interaction effects between more than two categorical variables whereas a simple cross-tabulation (which involves only two categorical variables) would not allow us to detect such interactions. For example, it was considered to be a distinct possibility that the effect of teacher type on the delivery of school-to-work programs might vary depending on what size school the teacher was in.

In the second step of the analysis, follow-up cross-tabulations were performed in order to gather more information on the nature and direction of the relationship between the categorical variables of interest. This step was based upon the significant effects and final model that emerged from the log linear analyses. Table 24 shows the significant relationships that were revealed by the log linear analysis, including the final models and partial chi-square that emerged.

Table 24.

Log Linear Analysis Showing Significant Results According to Teacher Type and School Size Regarding School-to-work Transition

| Question | DF | Partial Chi-square | Probability |
|---|---|---|---|
| Size*Q46a (Cooperative Education) | 3 | 34.557 | .0000 |
| Size*Q46b (Career Academies) | 3 | 17.002 | .0007 |
| Teacher*Q46b (Career Academies) | 1 | 6.176 | .0129 |
| Size*Q46c (Tech Prep) | 3 | 18.435 | .0004 |
| Teacher*Q46c (Tech Prep) | 1 | 20.852 | .0000 |
| Size*Q46d (Apprenticeships) | 3 | 11.834 | .0080 |
| Size*Q46e (Exams/Certification) | 3 | 24.610 | .0000 |
| Size*Q46f (Job Shadowing/Internships) | 3 | 15.355 | .0015 |
| Teacher*Q46g (Career Counseling) | 1 | 4.191 | .0406 |
| Size*Q46g (Career Counseling) | 3 | 7.745 | .0516 |

Delivery of School-to-work Programs: Cooperative Education

Question #46a (Q46a) on the survey instrument asked teachers to indicate the use of cooperative education. Log linear analysis showed a significant relationship between size of school and Q46a. There was no interaction between size of school and teacher type. Table 25 below shows the actual and expected frequencies from a cross-tabulation performed between size of school and Q46a.

Table 25.

Cross-Tabulation of Observed Frequencies, Expected Frequencies, and Percentages for School-to-work Transition: Cooperative Education X Size of School

| Q46A School-to-work Transition | | SIZE OF SCHOOL 1A | 2A | 3A | 4A |
|---|---|---|---|---|---|
| No | Observed | 37 | 18 | 15 | 16 |
| | Expected | 18.1 | 19.7 | 25.2 | 23 |
| | Percentage | 66% | 30% | 19% | 23% |
| Cooperative Education | Observed | 19 | 43 | 63 | 55 |
| | Expected | 37.9 | 41.3 | 52.8 | 48 |
| | Percentage | 34% | 71% | 81% | 76% |

The chi-square for the cross-tabulation between size of school and Q46a was 38.59, $p<.01$. Examination of the cross-tabulation table reveals that Class A-AAA schools show a high percentage of use of cooperative education. Class A schools had the lowest percentage of support for cooperative education overall. The differences between school sizes on Q46a are depicted in Figure 21 below.

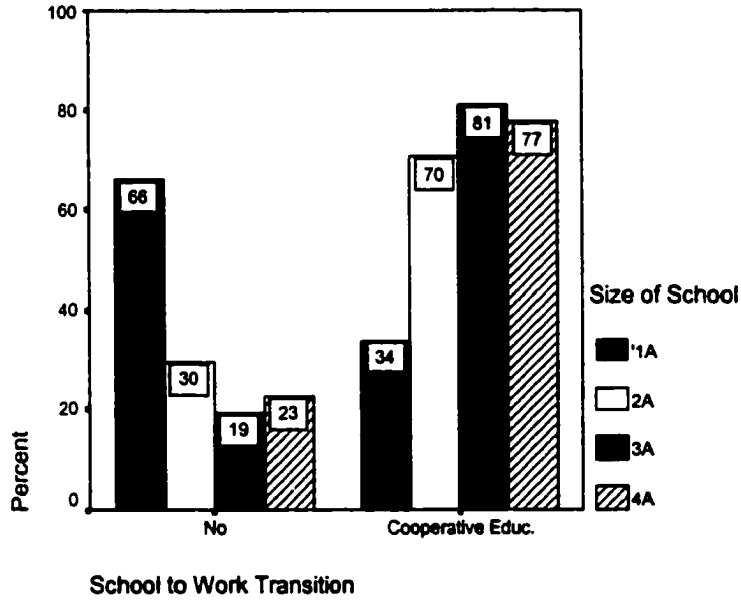


Figure 21: Question 46a: Significant Differences Between Size of School and School-to-work Transition (Cooperative Education).

Delivery of School-to-work Programs: Career Academies

Question #46b (Q46b) on the survey instrument asked about the use of career academies. Log linear analysis showed a significant relationship between size of school and Q46b as well as between teacher type and Q46b. There was no interaction effect between school size and teacher type; thus, this analysis was followed by separate cross-tabulations between each of the independent variables and the dependent variable of interest. Table 26 below shows the actual and expected frequencies from a cross-tabulation performed between teacher type and Q46b.

Table 26.

Cross-tabulation of Observed Frequencies, Expected Frequencies, and Percentages School-to-work Transition: Career Academies X Teacher Type

| Q46B Transition from School to Work | | TEACHER TYPE Academic | Vocational |
|---|---|---|---|
| No | Observed | 102 | 120 |
| | Expected | 107.7 | 114.3 |
| | Percentage | 79% | 88% |
| Career Academies | Observed | 27 | 17 |
| | Expected | 21.3 | 22.7 |
| | Percentage | 21% | 12% |

The chi-square for the cross-tabulation between teacher type and Q46b was 3.50, $p < .01$. Examination of the cross-tabulation table shows that both academic and vocational teachers responded largely negatively regarding the use of career academies. Academic teachers modestly affirmed the use of career academies, with vocational teachers at half of the formers response.

Delivery of School-to-work Programs: Career Academies

Question #46b (Q46b) on the survey instrument asked about the use of career academies. Log linear analysis showed a significant relationship between size of school and Q46b. Table 27 below shows the actual and expected frequencies from a cross-tabulation performed between size of school and Q46b.

Table 27.

Cross-tabulation of Observed Frequencies, Expected Frequencies, and Percentages for School-to-work Transition: Career Academies X Size of School

| Q46B Transition from School To Work | | SIZE OF SCHOOL 1A | 2A | 3A | 4A |
|---|---|---|---|---|---|
| No | Observed | 54 | 50 | 66 | 52 |
| | Expected | 46.7 | 50.9 | 65.1 | 59.3 |
| | Percentage | 96% | 82% | 85% | 73% |
| Career Academies | Observed | 2 | 11 | 12 | 19 |
| | Expected | 9.3 | 10.1 | 12.9 | 11.7 |
| | Percentage | 4% | 18% | 15% | 27% |

The chi-square for the cross-tabulation between school size and Q46B was 12.37, $p < .01$. Examination of the cross-tabulation table shows Class AAAA schools had the highest use of career academies while Class A schools responded with the least implementation of delivery of school-to-work programs. The difference size of school on Q46b is depicted in Figure 22 below.

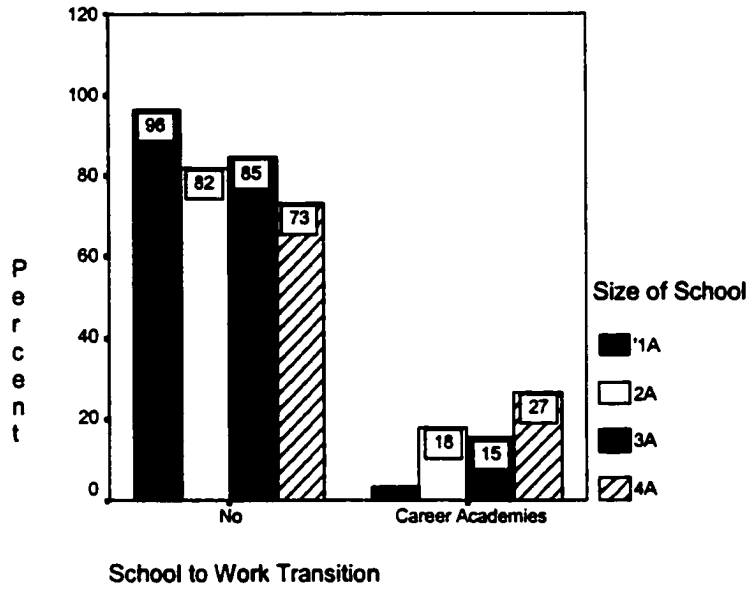


Figure 22: Question 46b: Significant Differences Between Size of School and School-to-work Transition (Career Academies)

Delivery of School-to-work Programs: Tech Prep

Question #46c (Q46c) on the survey instrument asked about the use of tech prep. Log linear analysis showed a significant relationship between size of school and Q46c, as well as teacher type and Q46c. There was no interaction effect between school size and teacher type; thus, this analysis was followed by separate cross-tabulations between each of the independent variables and the dependent variable of interest. Table 28 below shows the actual and expected frequencies from a cross-tabulation performed between teacher type and Q46c.

Table 28.

Cross-tabulation of Observed Frequencies, Expected Frequencies, and Percentages for School-to-work Transition: Tech Prep: X Teacher Type

| School-to-work Transition | | TEACHER TYPE Academic | Vocational |
|---|---|---|---|
| No | Observed | 99 | 65 |
| | Expected | 79.5 | 84.5 |
| | Percentage | 77% | 47% |
| Tech Prep | Observed | 30 | 72 |
| | Expected | 49.5 | 52.5 |
| | Percentage | 23% | 53% |

The chi-square for the cross-tabulation between teacher type and Q46c was 24.12, $p < .01$. Examination of the cross-tabulation table shows academic teachers respond to the use of tech prep 30% more than vocational teachers. Vocational teachers had the highest confirmation of the use of tech prep. The difference between teacher type on Q46c is depicted in Figure 23 below.

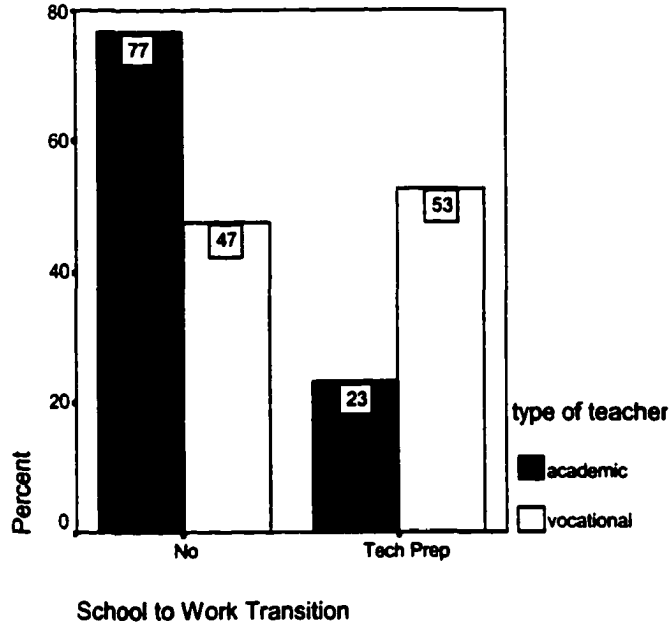


Figure 23: Question 46c: Significant Differences Between Teacher Type and School-to-work Transition (Tech Prep)

Delivery of School-to-work Programs: Tech Prep

Question #46c (Q46c) on the survey instrument asked about the use of tech prep. Log linear analysis showed a significant relationship between size of school and Q46c. Table 29 below shows the actual and expected frequencies from a cross-tabulation performed between size of school and Q46c.

Table 29.

Cross-tabulation of Observed Frequencies, Expected Frequencies, and Percentages for School-to-work Transition: X Size of School

| Q46c School-to-work Transition | | SIZE OF SCHOOL 1A | 2A | 3A | 4A |
|---|---|---|---|---|---|
| No | Observed | 38 | 47 | 51 | 28 |
| | Expected | 34.5 | 37.6 | 48.1 | 43.8 |
| | Percentage | 68% | 77% | 65% | 39% |
| Tech Prep | Observed | 18 | 14 | 27 | 43 |
| | Expected | 21.5 | 23.4 | 29.9 | 27.2 |
| | Percentage | 32% | 23% | 35% | 61% |

The chi-square for the cross-tabulation between size of school and Q46c was 22.310, $p < .01$. Examination of the cross-tabulation table reveals that Class AAAA schools had the highest use of tech prep as a school-to-work transition. For Class A-AAA schools, high percentages confirmed these size schools were "not accessing" tech prep. The difference between school size on Q46c is depicted in Figure 24 below.

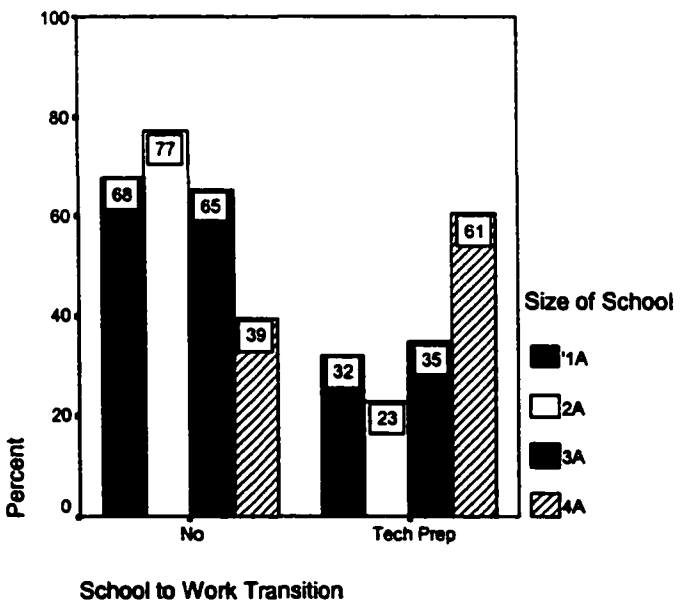


Figure 24. Question 46c: Significant Differences Between Size of School and School-to-work Transition (Tech Prep)

Delivery of School-to-work Programs: Apprenticeships

Question #46d (Q46d) on the survey instrument asked about the use of apprenticeships. Log linear analysis showed a significant relationship between size of school and Q46d. Table 30 below shows the actual and expected frequencies from a cross-tabulation performed between size of school and Q46d.

Table 30.

Cross-tabulation of Observed Frequencies, Expected Frequencies, and Percentages for School-to-work Transition: X Size of School

| Q46D School-to-work Transition | | Size of School 1A | 2A | 3A | 4A |
|---|---|---|---|---|---|
| No | Observed | 51 | 55 | 61 | 50 |
| | Expected | 45.7 | 49.8 | 63.6 | 57.9 |
| | Percentage | 91% | 90% | 78% | 70% |
| Apprenticeships | Observed | 5 | 6 | 17 | 21 |
| | Expected | 10.3 | 11.2 | 14.4 | 13.1 |
| | Percentage | 9% | 10% | 22% | 30% |

The chi-square for the cross-tabulation between size of school and Q46d was 12.821, $p < .01$. Examination of the cross-tabulation table reveals that Class AAA and AAAA schools had the largest percentage using the apprenticeship model. Class A and AA schools had over a 90% response of not using apprenticeships. The difference between school size on Q46d is depicted in Figure 25 below.

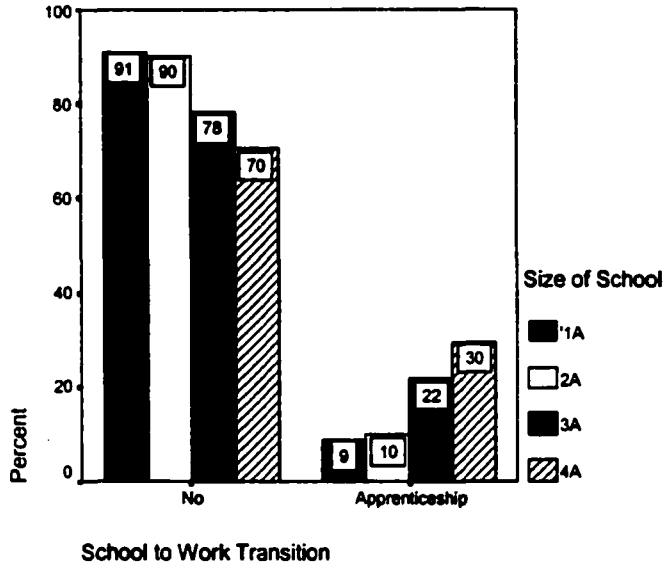


Figure 25. Question 46d: Significant Differences Between Size of School and School-to-work Transition (Apprenticeship)

Delivery of School-to-work Programs: Apprenticeships

Question #46e (Q46e) on the survey instrument asked about the use of exams. Log linear analysis showed a significant relationship between size of school and Q46e. Table 31 below shows the actual and expected frequencies from a cross-tabulation performed between size of school and Q46e.

Table 31.

Cross-tabulation of Observed Frequencies, Expected Frequencies, and Percentages for School-to-work Transition: Exams X Size of School

| Q46E School-to-work Transition | | SIZE OF SCHOOL 1A | 2A | 3A | 4A |
|---|---|---|---|---|---|
| No | Observed | 53 | 54 | 60 | 45 |
| | Expected | 44.6 | 48.6 | 62.2 | 56.6 |
| | Percentage | 95% | 89% | 77% | 63% |
| Exams | Observed | 3 | 7 | 18 | 26 |
| | Expected | 11.4 | 12.4 | 15.8 | 14.4 |
| | Percentage | 5 % | 12% | 23% | 37% |

The chi-square for the cross-tabulation between size of school and Q46e was 22.72, $p < .01$. Class A and AA had the least use of exams to document mastery of fundamental academic and vocational skills. The difference between school size on Q46e is depicted in Figure 26 below.

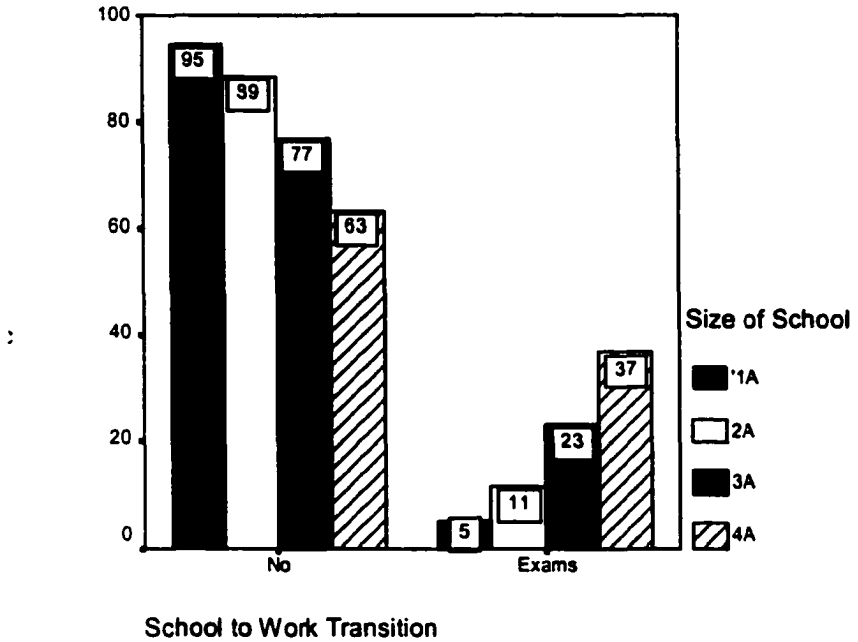


Figure 26. Question 46e: Significant Differences Between Size of School and School-to-work Transitions (Exams)

Delivery of School-to-work Programs: Work-Based Learning

Question #46f (Q46f) on the survey instrument asked about the use of work-based learning. Log linear analysis showed a significant relationship between size of school and Q46f. Table 32 below shows the actual and expected frequencies from a cross-tabulation performed between size of school and Q46f.

Table 32.

Cross-tabulation of Observed Frequencies, Expected Frequencies, and Percentages for School-to-work Transition: Work-based Learning X Size of School

| Q46F School-to-work Transition | | SIZE OF SCHOOL 1A | 2A | 3A | 4A |
|---|---|---|---|---|---|
| No | Observed | 37 | 38 | 36 | 24 |
| | Expected | 28.4 | 31.0 | 39.6 | 36 |
| | Percentage | 66% | 62% | 46% | 34% |
| Work-Based Learning | Observed | 19 | 23 | 42 | 47 |
| | Expected | 27.6 | 30.0 | 38.4 | 35 |
| | Percentage | 34% | 38% | 54% | 66% |

The chi-square for the cross-tabulation between size of school and Q46f was 17.33, $p < .01$. Class AAA schools had the highest use of work-based learning, which includes job shadowing and mentoring. Class AAAA had the lowest use of work-based learning. The difference between school size on Q46f is depicted in Figure 27 below.

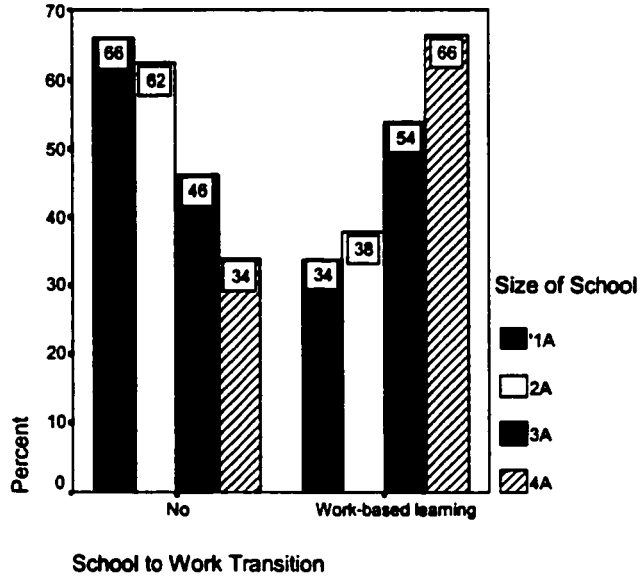


Figure 27. Question 46f: Significant Differences Between Size of School and School-to-work Transition (Work-based learning)

Delivery of School-to-work Programs: Student Interests

Question #46g (Q46g) on the survey instrument asked about the use of career counseling based on students' interests. Log linear analysis showed a significant relationship between teacher type and Q46g. Table 33 below shows the actual and expected frequencies from a cross-tabulation performed between teacher type and Q46g.

Table 33.

Cross-tabulation of Observed Frequencies, Expected Frequencies, and Percentages for School-to-work Transition: Student Interests X Teacher Type

| Q46G School-to-work Transition | | TEACHER TYPE Academic | Vocational |
|---|---|---|---|
| No | Observed | 70 | 93 |
| | Expected | 79 | 84 |
| | Percentage | 54% | 68% |
| Student Interests | Observed | 59 | 44 |
| | Expected | 50 | 53 |
| | Percentage | 46% | 32% |

The chi-square for the cross-tabulation between teacher type and Q46g was 5.19, $p < .01$. The cross-tabulation revealed that academic teachers saw more use of a student's ability to select a career-focused program based on their general interest than did vocational teachers. Vocational teachers did not see the student interest approach being widely used. The difference between teachers on Q46g is depicted in Figure 28 below.

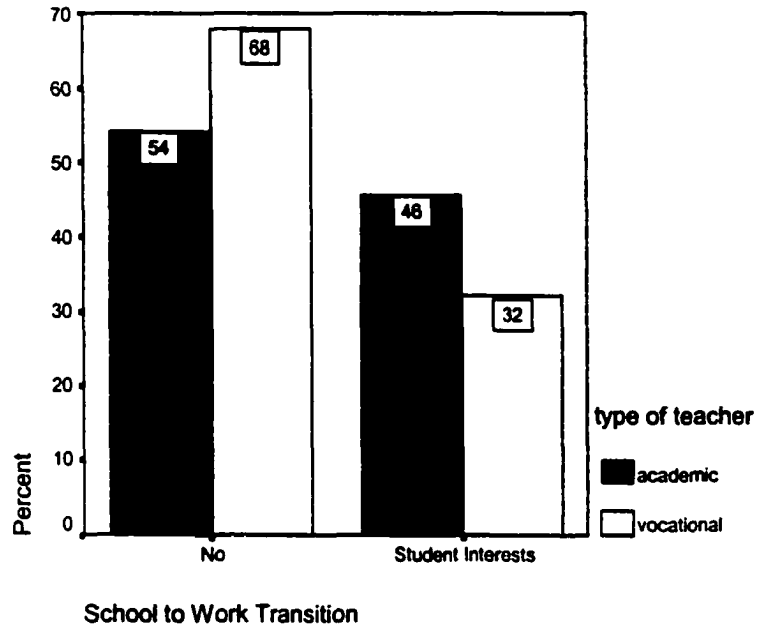


Figure 28. Question 46g: Significant Differences Between Teacher Type and School-to-work Transition (Student Interests)

Delivery of School-to-work Programs: Student Interests

Question #46g (Q46g) on the survey instrument asked about the use of career counseling based on students' interests. Log linear analysis showed a significant relationship between size of school and Q46g. Table 34 below shows the actual and expected frequencies from a cross-tabulation performed between size of school and Q46g.

Table 34.

Cross-tabulation of Observed Frequencies, Expected Frequencies, and Percentages for School-to-work Transition: Student Interests X Teacher Type

| School-to-work Transition | | Size of School 1A | 2A | 3A | 4A |
|---|---|---|---|---|---|
| No | Observed | 25 | 41 | 53 | 44 |
| | Expected | 34.3 | 37.3 | 47.8 | 43.5 |
| | Percentage | 45% | 67% | 68% | 62% |
| Student Interests | Observed | 31 | 20 | 25 | 27 |
| | Expected | 21.7 | 23.6 | 30.2 | 27.5 |
| | Percentage | 55% | 33% | 32% | 38% |

The chi-square for the cross-tabulation between teacher type and Q46g was 8.91, $p < .01$. The cross-tabulation revealed that Class A schools had the highest percentage of use of career counseling towards students' career interests. Class AAA schools had the highest response stating that they did not see career counseling being used toward students' career interests.

No significant effects were found between either teacher type on four of the dependent variables related to the approaches being used by their school to deliver career education: cooperative education, apprenticeships, exams, and work-based learning. Significant effects were found between school size and all seven of the dependent variables. Significant differences were revealed between teacher type and school size on three of the dependent variables related to career academies, Tech Prep, and career counseling.

Thus, hypothesis #4 was partially supported in that differences were not found in the four areas mentioned above. However, the chi-squares and cross-tabulation data did reveal significant differences on all seven items between school size. Chi-squares were

also significant between teacher type and school size on three of the dependent variables. Thus the null hypothesis of "no difference" was rejected.

Research Question 5

Do academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools in Wyoming differ on items relating to the use of alternative technology for delivery of career education?

> **Hypothesis #5:** Use of alternative technology for the delivery of career education as measured by Part VI of the instrument does not differ with teacher classification (vocational or academic) and school size (Class A, AA, AAA, or AAAA).

A two-way ANOVA was performed using teacher type and school classification as the independent variables and each of each of the technology and alternative delivery of career education as the dependent variables. Table 35 shows the results of this analysis.

Table 35

Results from Two Way ANOVA- Teacher Type by Size of School and Technology/Use of Alternative Technology in the Area of Career Education Variables

| | Teacher Type | School Size | Interaction |
|---|---|---|---|
| Technology Variables | F | F | F |
| Total Technology | 6.39* | 2.224 | 1.453 |

*p<.05

Table 35 indicates that significant effects were found between teacher type and the technology variables (F=6.399; p<.05). Vocational teachers were more likely to use such technology (M = 13.05) than were academic teachers (M =12.22).

No significant effects were found between size of school and any of the dependent variables, and no significant interactions were found between school size and teacher type. There were no significant findings, which confirms the lack of variation in the mean totals.

Thus, hypothesis #5 was partially supported in that technology and alternative delivery of career education items did not differ according to school size. No interaction effects were revealed. However, teacher type and the technology items revealed significant differences. Therefore the null hypothesis of "no difference" was rejected.

## Summary of Quantitative Findings

The results of the quantitative analysis indicated significant differences due to teacher type in the perceptions of career education. That is, vocational educators were more likely to be supportive of initiatives supporting career education and its implementation not only at the secondary level but developmentally. Regarding the role of Career education, vocational teachers felt that all personnel could be a conduit for career education whereas academic teachers sought out guidance counselors or other personnel to support these efforts. Significant differences were revealed in the method of curriculum delivery and school size. Small schools and large schools vary in the approaches they use to implement career education into the curriculum. Significant differences related to the delivery of School to Work revealed that larger schools had more capability to deliver progressive career education interventions such as career academies and tech prep. Smaller schools were limited in these interventions, though strong in their ability to conduct one-on-one career counseling and initiating field trips. The null hypothesis of "no difference" was rejected for Ho1-Ho5.

## Qualitative Analysis

This section presents teachers' comments as they gave open-ended responses to two questions regarding technology and any other issues that they wanted to present. The comments were entered into Microsoft Word and then entered and coded into HYPEResearch, a qualitative software program. The frequency of certain responses emerged from this process. Teachers most often commented on technology as a result of Question 51. Summaries of these responses follow this section. These verbatim responses are listed in Appendix I. Responses that were discerned as eliciting a strong emotional response were separated. A summary of these response follow this section. These verbatim responses are included in Appendix I. Finally, other comments are displayed as related to the size school and teacher type to provide continuity with the previous research efforts. These comments were presented in tables if three or more responses had emerged from the open-ended survey question.

The second-to-last item on the career education survey asked "What other technology is being used to explore careers at your school? (Write your response here.)" The most common themes included computerized guidance systems (such as Choices), computer assisted searches, and vocational equipment. Teachers' responses to this open-ended item are provided as related to school size and teacher type (see Appendix I). Comments that were interpreted as eliciting a strong emotional response were separated out. Criteria for discerning this was if the statement used an exclamation, question, or posited a personal viewpoint on career education. The most common themes in relation to this category were that there was too much emphasis on college preparatory pathway, students did not

need to decide on a career in secondary school, and that there are limited opportunities for rural students to experience careers. These verbatim comments are displayed as related to the school size and teacher type to provide continuity with the previous research efforts (see Appendix I & J).

The Most Frequently Cited Comments by Teachers

According to Patton (1990), a major tenet of data collection is questions asked in a truly open-ended fashion. This means that the questions should permit respondents to respond in their own terms. The last item on the career education survey stated, "Please write any additional thoughts, comments, or suggestions regarding career education in your geography here." These comments were initially typed into Microsoft Word, and then the researcher manipulated the comments to compare and contrast the responses. A handwritten analysis was conducted from the Microsoft Word documents by categorizing the responses into teacher type and school size. The comments were then coded in the qualitative research program HYPEResearch. Analysis was run to find commonalties in response sets. It was decided to display data using tables, a strategy for general data analysis (Bogdan & Biklen, 1992). It was discerned that abbreviated responses would be provided in the table with an "X" indicating the response was evident in the specific size school (1A-4A). Tables were created to list the themes most cited by teacher type and school classification. An "X' indicates a threshold of at least three responses to the comment provided. They are as follows:

Table 36.

Most Common Responses to the Open Ended Questions by Academic Teachers in 1A-4A Schools

| Response | SCHOOL SIZE 1A | 2A | 3A | 4A |
|---|---|---|---|---|
| Community is important | | X | X | X |
| Choices program used | | X | | X |
| Plan test | X | X | X | X |
| Vocational programs such as computer/internet | X | | X | |
| Elementary start important | X | | X | |
| Career center is important | X | | X | |
| Career information/ career day/career field trips | X | X | X | X |
| Special education as a vehicle for career education | X | | | X |
| Academic integration | X | | | |
| Apprenticeships | X | | | |
| Work experience/ Cooperative | | | | X |

X = at least three responses cited from survey respondent in the category

Academic and vocational teachers had similar responses to question 51 that inquired what other technology was being used to explore careers (See Appendices I). As noted, some of the comments duplicate the information provided on the survey, but afford the survey respondent an opportunity to solidify their thoughts, comments, or suggestions regarding career education in their geography. Table 37 displays most common responses by vocational teachers in 1A-4A schools.

Table 37.

Most common responses to the Open Ended Questions by Vocational Teachers in 1A-4A Schools

| Response | SCHOOL SIZE 1A | 2A | 3A | 4A |
|---|---|---|---|---|
| Emphasis on School to careers | | | X | X |
| Community is important | X | X | X | X |
| Teachers to support Career education | | X | X | |
| Career class used | X | | X | |
| Computers & software used | | X | X | X |
| Work programs, apprenticeships, and Cooperative learning | X | | | X |
| On-site visits, job shadow, field trips, | X | X | | X |
| Vocational programs key | | | X | X |
| Integration is important | | | X | |
| Limits in rural settings | X | | X | |
| Vocational service organization important | X | | | |
| Career day, job fair | | X | | X |
| Equipment is important | X | | X | |
| Develop awareness | | | X | |
| Parents important | | | X | |
| Counselors important | | | X | |
| Stress only college bound | | | X | |
| Time is an issue | X | | | |

X= at least three responses cited from survey respondent in the category

The most common themes from vocational teachers were the use of computers and software, career information/career day/career field trips, and that the community is important. These were consistent with academic teacher's qualitative responses. The responses reveal commonalties of overall responses sets to question 52 of the survey. The

secondary educator's views diverge under the responses noted as comments eliciting an emotional response where they posit their philosophical viewpoints (See Appendix J).

## Summary of Qualitative Findings

The results of the qualitative analysis indicated that community was important; computer software is used for career education and teachers utilized on-site visits, job shadowing, and field trips for both vocational and academic teachers. The most common themes related to technology were the use of computerized guidance systems (such as choices), computer assisted searches, and vocational equipment. Comments thumbed as eliciting a strong emotional response revealed too much emphasis on the college preparatory pathway, students not needing to pursue a career in secondary school and that there are limited opportunities for rural students to experience careers. These findings triangulate with the quantitative findings which substantiate that vocational teachers utilize technology for career education. These qualitative findings also triangulate with the quantitative findings that there are clear delineations between the abilities of small and large schools in the State of Wyoming to deliver career education. As well, it affirms the divergent opinions of vocational and academic teachers on the philosophical purpose of education.

# CHAPTER V

# DISCUSSION

## Introduction

The previous four chapters presented the problem, provided a review of the literature, solidified the research design and methodology, and presented the results of the statistical analysis used to answer the research questions. This chapter will summarize the study, provide a discussion of the results, and make conclusions related to this research. Potential areas for additional research will also be shared as conceptual areas of development. This study was conducted to determine the perceptions of vocational and academic teachers' of career education in Class A-AAAA schools in Wyoming. The review of literature substantiated the need to investigate teachers' perceptions of career education and the use of career education.

## Summary of Method

National reports such as *The Secretary's Commission on Achieving Necessary Skills* and *A Nation at Risk* provided a basis for new reform movements in schools in which career education was seen as an integral aspect. Research has shown that as the career education movement has advanced, new roles have emerged for counselors, teachers, and career development specialists (Terry & Hargis, 1992). In Wyoming, studies centering on

career education have examined guidance counselors, community members, and leaders of school-to-work programs. It was determined that the role of academic and vocational teachers in career education was a vital area of respondents that did not exist which could capture a wider understanding of this movement. Additionally, the research regarding career education in rural areas is almost non-existent. Little research and empirical few studies have been published regarding the perception of career education in rural states such as Wyoming.

With only a few empirical studies on this topic, it was determined to use a design similar to the one used by Tuchscherer (1978) and Mallette (1976). This design differed in that it compared academic and vocational teachers' perspectives on career education as related to school size. It is posited that random sampling between the groups allows for this comparison. This investigation was limited to 54 randomly selected Class A-AAAA schools in Wyoming. A random selection of academic and vocational teachers responded to a survey (Appendix) about their perceptions of career education. A total of 266 teachers responded to the survey. The survey contained six sections: 1) Demographics; 2) Perceptions of Career Education; 3) Role of Career Education; 4) Method of Curriculum Organization; 5) Delivery of School-to-work Programs; and 6) Technology and Alternative Delivery of Career Education.

Appropriate analyses were conducted on the data obtained from the surveys. Two-way ANOVAs were conducted on the scaled survey questions as related to teacher type and school classification (A-AAAA). Log linear analyses were conducted on the categorical survey questions as related to teacher type and school classification (A-AAAA). Log linear analysis is a non-parametric regression statistic that indicates how

well obtained frequencies in a particular cell fit expected frequencies (Cone & Foster, 1993). Significant differences in perceptions were measured by two way ANOVAs and log linear analyses followed by cross tabulation and chi-square tests of significance. The design allowed for the measurement of differences between academic and vocational secondary teachers as well as differences due to school size. Findings were tabled and graphed to reveal an easily understood display of the significant differences.

## Summary of Quantitative and Qualitative Findings

The results of the quantitative analysis indicated significant differences due to teacher type in the perceptions of career education. Vocational educators were more likely to be supportive of initiatives supporting career education and its implementation at all levels of schooling. Regarding the role of career education, vocational teachers felt that all personnel could be a conduit for career education whereas academic teacher sought out guidance counselors or other personnel to support these efforts. Significant differences were revealed in the method of curriculum delivery and school size. Small schools and large schools vary in the approaches they use to implement career education into the curriculum. Significant difference related to the delivery of School to Work revealed that larger schools had more capability to deliver progressive career education interventions such as career academies and tech prep. Smaller schools were limited in these interventions, though strong in their ability to conduct one-on-one career counseling.

The results of the qualitative analysis indicated the following themes for both vocational and academic teachers: community was important; computer software is used for career education and teachers utilized on-site visits, job shadowing, and field trips. The most common themes related to technology were the use of computerized guidance

systems (such as choices), computer assisted searches, and vocational equipment. Comments themed as eliciting a strong emotional response revealed too much emphasis on the college preparatory pathway; students not needing to pursue a career in secondary school; and that there are limited opportunities for rural students to experience careers. These findings affirm the quantitative findings that there are differing opinions between academic and vocational teachers towards career education and that smaller schools may have a different level of capacity to deliver career education.

## Discussion

The purpose of this study was to explore the perceptions of career education between academic and vocational secondary teachers in Class A-AAAA schools in Wyoming. To approach this, five research questions with corresponding null hypotheses were posed allowing me to examine the data from both academic and vocational teachers from various-sized schools in Wyoming.

The questions and resulting analyses follow:

Research Question 1 stated: "Do academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools in Wyoming differ on items relating to perception of the role of the community, role of the school, and developmental attitudes as related to career education?"

The results of this study imply that the differences between academic and vocational teachers regarding the support of career education are more significant than differences due to school size. Statistically significant ($p<.05$) results were obtained on the following items: Developmental: Student Career Interests; Role of the Community; Developmental: Teacher Awareness knowledge; and Developmental: Elementary School.

These findings suggest that academic teachers were less likely to recognize the value of hands-on work for students' development or to support helping students to make a

decision about careers at the secondary or elementary levels. Vocational teachers were more inclined to favor students' developmental exploration of career interests. This is consistent with other research (Bensen, 1995; Bragg, 1999; Kazis, 1993) that suggests that vocational teachers typically understand the need for career awareness as they teach an application model of learning. As a result of the 1998 Amendments to the Carl D. Perkins Act, career counseling is a key component that many vocational programs have embraced due to this federal mandate (U.S. Department of Education, 1998).

These results have similar implications as those studies by the Wyoming Department of Education (WDE, 1999) which covered questions related to academic and vocational teachers. When asked "In my school, vocational and academic teachers work closely together to plan instruction" only 22% of teachers agreed that they worked together. This small percentage certainly correlates with the findings of this study, and reveals differences in perspectives between these populations of educators.

Vocational teachers were also more likely than academic teachers to feel that the community should be actively involved in and contribute to the classroom more than academic teachers. This is consistent with the fact that many vocational teachers teach subject areas that are aligned to local labor market needs and have access to such individuals. This is also consistent with findings from a statewide Wyoming study that confirmed that over half of teachers felt that community was involved in their high school (WDE, 1999).

Academic teachers felt more knowledgeable about career opportunities and the labor market. This may seem somewhat inconsistent with other responses by these teachers. It may indicate that vocational teachers may center on their own career-

focused area versus preparation for the wider range of job possibilities. This confirms the work of Kazis (1993) that speaks to broad rather than narrow vocational skill training as the most progressive version of school reform.

The absence of significant differences between size of school and any of the dependent variables is interesting to note, as the Wyoming educational system has continued to debate equity issues in the delivery of some programs in relation to size. The lack of significance may indicate that regardless of school size the role of the school, community, and developmental issues related to career education are responded to similarly.

While many of these results confirm that there are inherent philosophical differences between academic and vocational educators, caution is suggested in the interpretation of two areas: sampling and timing. That is, a random sampling process attempted to make both academic and vocational teachers representative of their peers in the field. Timing is also an issue, as the survey was sent during a time when teachers are beginning to prepare for assessments in Wyoming. The implications of this could be limited generalizability of results.

Research Question 2 stated: "Do academic and vocational educators in Class A, AA, AAA, and AAAA schools in Wyoming differ on items related to the use of career education information?

The results show several significant differences between size of school and influential personnel, career exploration opportunities, degree of competency. This research confirms some of the perceived discrepancies between large and small schools in their ability to implement all programs adequately. Results also showed that a large percentage of smaller schools perceived career exploration opportunities as minimal. This aligns

with Miller and Hahn (1995) and Herzog and Pitman (1995), who noted that small schools in rural communities tend to see resources and capabilities as limited.

Teachers in larger schools perceived guidance counselors as less influential than teachers in smaller schools did. Typically, larger schools have larger populations for which it may be difficult to provide the level of one-on-one counseling in comparison to small schools. In addition, teachers from larger schools saw career exploration opportunities as adequate, while teachers from smaller schools shared less of this viewpoint. This confirms Chamber's (2000) work, which states that "rural districts may have more difficulty acquiring the funding and recruiting teachers with the diverse expertise necessary to design and implement a comprehensive curriculum" (p. 1).

There was also a significant interaction between teacher type and influential personnel, infuse career education, degree of competency, number of community persons in the classroom, and most effective approach to implementing career education. In light of the advocated use of integration of academics and vocational subjects in career education, The School-to-work Act, and the Carl D. Perkins Vocational and Technical Education Act (Community Training and Assistance Center, 1998; Goldberger & Kazis, 1995; Mendel, 1995; Miller & Hahn, 1995; Wang, Owens, & McClure, 1996) this research confirms an evident discrepancy towards the reality of how this collaboration looks in Wyoming. That is, there is a strong line of demarcation in terms of Wyoming academic and vocational teachers' views on who should provide career education and the community resources being accessed.

Vocational teachers felt that teachers are more influential in career education than did academic teachers. Perhaps this is because vocational teachers are more attuned to

teaching careers on a daily basis and have had access to Perkins funding which requires this career development and guidance as a criteria for funding. Academic teachers perceived guidance counselors and individuals who understand career education as the routes to career education. This confirms the previous finding that academic teachers do not perceive themselves as able to influence careers; it would be predictable for them to respond with guidance counselors who typically are a referral source for college-bound students. This corresponds with their response that other individuals were more capable of providing career education than them. This is a bit disconcerting, if one concurs with Lester (1992), who states that counselors may have little or no time to address systematically the developmental needs of students due to other administrative obligations.

Vocational teachers felt that all of the interventions listed for infusing career education should be promoted. This contradicts a recent Wyoming Department of Education study where there were small percentages of infusion taking place (1999). It leads to the deduction that a significant portion of academic teachers feels contrary to this. Vocational teachers were more likely than academic teachers to use community members in their class. This could be due to the fact that for some vocational content areas (such as agricultural education), it would be logical in a rural setting to access a community member with expertise in the field. It also correlates with the concept of vocational teachers typically using an application model, which translates into the need to understand how the content works in the field, which is directly related to community. The connectivity of community members and school programs is a promising direction for the future of rural areas (Hobbs, 1991; Miller, 1993; Monk & Haller, 1986; Spears,

Combs, & Bailey, 1990). The "community as curriculum" helped students to value their community and become involved (Nachtigal, Haas, & Brown, 1989).

There was a three-way interaction between school size, teacher type, and fieldtrips taken. Smaller schools tended to attend more fieldtrips related to career education. This supports the perception that many areas do not have the outlets that students in larger areas entertain and want equity for their students. Vocational teachers tended to take more fieldtrips who are more integrally involved in school-to-work activities understand the charge from the Department of Labor to "provide connecting activities that assist students in learning" (Kazis, 1993).

While the significant differences confirm many perceptions in the field of career education, the format for the responses to these variables may not be the most effective. One caution in relation to these results is that these were forced-choice items to which teachers responded. The need to further analyze these questions and adjust them may be something for future consideration.

Research Question 3 stated: "Do academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools in Wyoming differ on items related to method of curriculum delivery for career education?

Analyses showed a significant relationship between teacher type, method of curriculum, size of school, and method of curriculum organization. The results show that academic teachers are more likely to say that the method of career education is delivered by a separate class than vocational teachers. This correlates with the previously listed results in which they perceive other personnel as more capable than themselves in providing career education. Vocational teachers see "tech prep" as a method of career education significantly more than do academic teachers. Vocational teachers typically

have a tendency to support programs that have been developed out of the office of Vocational Education and that are related to the Perkins law. There may need to be additional dissemination amongst academic teachers about the role of tech prep.

The results for size of school and method of curriculum organization most prevalent at their school shows that teachers from smaller schools were more likely to support the infusion method of career education than teachers from larger schools. Infusion method is a logical choice, as it is probably the only way that schools can provide career education along with the variety of other initiatives in educational reform. It was revealed that teachers in larger schools were the strongest supporters of tech prep as compared to teachers in smaller schools. This could be attributed to the fact that larger schools may have access to tech prep funding or more staff development funding that would expose them to training opportunities that would include tech prep. In addition, this also relates to the fact that tech prep programs articulate coursework with community colleges that typically exist in larger communities.

The absence of a significant interaction effect between school size, teacher type, and method of curriculum suggests that there are few conclusions when one combines both independent variables. The lack of significance may indicate that method of curriculum is highly contingent upon local resources, community perspectives, and perceived capabilities towards the methodology of career education and other contributing factors difficult to isolate.

Research Question 4 stated: "Do academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools differ on items related to the delivery of school-to-work systems in Wyoming?"

The results show that there were significant differences among schools by size and delivery of school-to-work among all seven responses. Most school sizes showed a high use of cooperative education with the exception of small schools, which may offer few opportunities for these work experiences. This agrees with similar findings that small, rural areas may face limited transportation and scare workplace learning opportunities for students in the community (Harmon, 1996). Larger schools showed stronger support of career academies, which may correlate to funding available to initiate such comprehensive programs. Larger schools typically have more substantial staffs, access to funding, and space to deliver such programs. Class AAAA schools were accessing tech prep as a school-to-work transition in a substantial number. Again, this could be due to access to wider staff development opportunities, as larger schools typically have more funding. Larger schools may have staff who link with post-secondary schools to a larger extent in order to serve their student populations.

Smaller schools were not utilizing "tech prep". While tech prep is a highly effective pathway, it demands a high level of cooperation, collaboration, and commitment that can only be accomplished through collaboration and resources (Warnatt, 1992). There could be a gap in the information dissemination at the state level or individuals not understanding the role of tech prep, a relatively new component to the Perkins law. It could also be attributed to the perceived inability or understanding as to how articulation between secondary and post-secondary schools works.

Larger schools had the largest percentage using the apprenticeship model. Again, typically larger schools exist in larger communities that can entertain placement with employers for intensive work-based experiences such as apprenticeships. Smaller

schools revealed that 90% did not use apprenticeships. Again, this could be due to a variety of reasons. Some view the apprenticeship model as particularly effective, but may not see the availability of employers in their area or feel that students lack readiness for such intensive training. The work-based component of the Wyoming School-to-work Grant affirms that "high schools in the state will continue to work with the Bureau of Apprenticeship Training (BAT) to establish additional statewide apprenticeship programs for students" (Wyoming School to Careers Implementation Grant, 1998). The results of this survey indicate room for more progress in the expansion of apprenticeships among all schools.

The results also show that smaller schools had the least use of exams to document mastery of fundamental academic and vocational skills. This could be due to limited offering of courses at their schools that do not prepare students directly for certification or placement exams. Uneven access to specialized courses and services is perhaps one of rural schools' biggest challenges since research indicates that course availability and choices are powerful predictors of academic achievement (Chambers, 2000).

One of the conflicting findings at first is that larger schools had the least use of work-based learning. Typically these schools entertain a large number of sport programs and extracurricular activities where students may not have time to reasonably access work-based opportunities. Class A schools had the highest percentage of use of career counseling towards students' career interests. This speaks to the smaller ratios of students who can be afforded more one-on-one counseling.

The results showed there were significant differences between teacher type on three of the responses. Both academic and vocational teachers responded largely negatively to the

use of career academies. Surprisingly, academic teachers modestly affirmed the use of career academies, with vocational teachers significantly trailing. Vocational teachers had the highest confirmation of the use of tech prep. These teachers are exposed to even modest staff development initiatives would have an understanding of tech prep. Academic teachers saw more use of a student's ability to select a career-focused program based on their general interests than did vocational teachers. This speaks to academic teachers typically affirming the greatest flexibility in students' ability to choose their own pathway.

Research Question 5 stated: "Do academic and vocational secondary educators in Class A, AA, AAA, and AAAA schools in Wyoming differ on items related to the use of alternative technology for delivery of career education?"

The results indicate significant effects between teacher type and the technology variables ($F=6.399$; $p<.05$). This is not surprising since many vocational programs have integrated technology to a large extent, as this is a requirement under the Perkins II and III laws. This confirms previous findings in that if academic teachers consider other personnel as more capable of delivering career education, technology related to career education would not be widely used by these educators.

The absence of significant differences between school size and the dependent variables measuring technology and alternative delivery of career education is particularly interesting in that many of the qualitative statements spoke of "small schools not having adequate technology or connectivity." This lack of significance may indicate that inequities in technology among schools are narrowing. Research affirms that rural communities have particularly taken advantage of technological developments to renew school programs and sustain their growth (Huang, 1999).

## Conclusions and Implications

If the role of education is to provide students with basic skills along with guidance toward a career decision, it is contingent upon those in the capacity to teach students to ensure this goal. In almost every philosophical tradition, work and self-reliance are key components to dignity and fulfillment. Career education is one approach that can allow for this quality of life. Career education is also a concept that can assist students' awareness of pathways to a career while engaging them in career exploration. It affords for career planning that connects them to concepts of work and the work world. Therefore it is important to query those individuals directly involved in students' development on their perceptions of the subject of career education. Information obtained from a soundly-designed survey administered to academic and vocational secondary teachers can be used by educators and officials to continually improve the staff development, approaches to program development, state level initiatives and training, as well as grant application review. This study assists in providing data to potentially address the concerns of many stakeholders on the ways in which career education is viewed by secondary educators in large and small schools, and the ways it is being implemented in Wyoming.

The results of this study indicate that there are more significant differences due to teacher type on the dependent variables than to school size. Academic and vocational teachers differ in their perspectives on issues related to career education. While the

initial intent of the school-to-work movement in Wyoming was to encourage partnerships between academic and vocational teachers in order to broaden the integration of occupational and academic learning for students, this study questions the extent to which these efforts have had efficacy. The Carl D. Perkins Vocational and Technical Education Acts of 1990 and 1998 also promote the integration of academic and vocational subjects. Even after the implementation of these federal laws in Wyoming, there remains a gulf between academic and vocational teachers' views. This confirms Lawrence's (1990) statement that "nor will coordinative mechanisms work that seek only to bring education and training closer together or to impose artificial forms of centralized or highly targeted planning (in terms of curriculum)" (p. 7).

In examining these issues, it is important to also reflect on the fact that the approaches that contribute most significantly to academic and vocational teachers' working together on career education is typically through career academies (Moore, 1999). Other promising programs that could afford coordination and integration include youth apprenticeships, career academies, tech prep and cooperative education (Kazis, 1993). As this research found, these programs are not widely used in Wyoming. Tech prep, while widely recognized by larger schools and vocational teachers in Wyoming, still has room for growth. According to Mendel (1995), tech prep requires teachers to apply entirely new and different pedagogy. This is a fact that speaks to the difficulty of initiating this type of program, as it challenges both academic and vocational teachers to work together.

Career academies and tech prep, the methods of school-to-work, that most align with industrial connections, are only modestly being implemented in Wyoming. Work experience programs like career academies and tech prep, designed in tandem with

secondary schools, can provide students with mentors; assist in their seeing work as a positive, enhancing experience; and connect their present learning with its application in the workplace.

The results also showed that academic teachers specifically felt either ill equipped or perceived others as more able to provide career education. As cited in the literature, until career education or school-to-work initiatives are perceived by teachers, administrators, and the community as a part of the entire curriculum or school program, it will always be viewed as a "separate issue or track" from which reform will be inconsistent or vulnerable to political factions. It is interesting to note that academic teachers thought that career education was taking place in a separate class at their schools. While this certainly is one valid method of delivery it falls into one of the less progressive ones (Goldberger & Kazis, 1995). It is unreasonable for students to make their career decisions based on these class activities alone.

The implications of this study resonate in rural states that are trying to implement the School-to-work Act and Carl D. Perkins Vocational Technical Education Act. Benson (1996) notes that progressive strategies for educational reform in secondary schools will be: 1) integration of academic and vocational studies; 2) cooperative learning on the part of students; 3) collegial work on the part of the teachers; and 4) a special school identity, commonly established through an industrial connection. If one subscribes to the idea that high schools can only serve the large majority of students successfully through these types of career education initiatives then the findings of this research study are of concern. Integration and collaboration between academic and vocational teachers only seems to be modestly working according to this study and the Wyoming Department of

Education's Staff Development Survey (1999). Conclusions can be made that collaboration is occurring in a minimal way by examining the results of this research. Little (1987) notes that teacher collegiality can have, depending on its nature, either strong positive effects on the operation of schools and on the achievement of student, or negative effects.

Redeeming elements to the equation are the strong community linkages in Wyoming. These research efforts affirm the level of interests communities have in their students' development and future. When communities have a visible presence in the classroom, students are afforded meaningful connections between their studies and potential success in the workplace (Maynard & Howley, 1997). Vocational educators seem to be embracing a number of programs that support aspects of career education. The challenge will be how they promote these reforms as a larger part of their entire school system.

No one model of career education can address the needs of each community in Wyoming. It is important, however, to use the results of this study to encourage and promote a variety of interventions for the expansion of some existing programs or in an effort to improve career options for youth in Wyoming.

## Recommendations For Further Study by Policy Makers

This study has attempted to answer several research questions regarding the perceptions of career education of academic and vocational teachers in Class A-AAAA schools in Wyoming. These recommendations came about from the limitations and findings of and the questions raised by this particular study. I believe that the data and analysis raises some additional questions that should be further pursued in the future.

The following suggestions and recommendations are offered in an attempt to expand the study presented.

1. There are significant differences in attitudes toward career education between academic and vocational educators in Wyoming. Once career/vocational standards are operational, pre-service and in-service training that centers on the findings of this study should be implemented to target information on career education for both academic and vocational educators.

2. Vocational educators indicated they did not see career academies as a method of school-to-work systems. State officials should find best practice models of career academies that exist in the state and further explore the possibilities of this format. Moore (1999) states that career academies provide crucial support to teachers trying to integrate curriculum among academics and vocational coursework.

3. The need for better dissemination of information on tech prep as a programmatic intervention which bridges both academic and vocational education as a significant number of schools as a large number of schools did not utilize this intervention. Tech prep stimulates new organizational thinking and is what education reform is about (Warnatt, 1992).

4. This study revealed that vocational instructors are more able to integrate alternative technology for career education into the classroom. Further training either in pre-service, in-service, or through the statewide technology initiatives are needed for academic teachers to further access technological training for the integration of careers into their coursework. The Wyoming Career Information System (WCIS), a major implement of

technology related to careers, should examine these results to target academic teachers' development in this the use of these approaches.

5. The discrepancy in which vocational teachers support career education in the elementary grades whereas academic teachers felt it not relevant. Perhaps further collaboration could exist among educators across grades to share the relevancy of careers as much of the school-to-work movement is contingent upon and supports K-12 implementation.

6. The State Department of Education should examine the results of this survey in relation to their implementation of career/vocational standards and the school-to-work initiative to ensure linkages in all aspects of education reform (standards, assessment, workforce development).

7. School-to-work officials should consider the results of this study in order to bridge the perception of who should provide career education. As noted, vocational educators saw teachers as most fitting, whereas academic teachers perceived guidance counselors as most important. Additional analysis of who is delivering career education including the capacity of school-to-work personnel in Wyoming. Additional evaluation of this significant funding stream's fulfillment of the federal initiative should be completed.

8. In terms of teacher awareness knowledge, academic teachers felt that they were Knowledgeable about career opportunities and the labor market. This is indicative of what respondents called "the preparation to think" versus knowledge about a job. Vocational educators should embrace the concept of new vocationalism, which teaches students a broad range of skills versus occupationally specific programs (MAP, 1998)

9. Since a study asking what changes would you make to the Wyoming school-to-work system "noted that in Wyoming the right hand needs to know what the left hand is doing" in relation to education and employment, I would recommend that the Workforce Development Office, Department of Employment, Wyoming Career Information System, and Department of Education take the findings of this study under consideration in understanding the secondary educators who are preparing the front line human resources in Wyoming. Consistent commentary from publications indicates a large percentage of students leaving Wyoming upon graduation. It is pro-active research studies such as this that pinpoint challenges and opportunities in the delivery of career education that may contribute positively to providing solutions to these issues.

10. Due to the rural nature of the state, compile a best practice compendium that relates the types and range of career education programs, school-to-work initiatives, and work-based learning efforts taking place in the state. This would provide a clearinghouse for dissemination. Projects highlighted could serve as the basis for examination at a conference involving both academic and vocational educators such as the Wyoming Interdisciplinary Conference (WIC).

11. The University of Wyoming, the major provider of secondary educators in Wyoming, consider this study en route to their pre-service training requirements and the extent to which entering teaching professionals and counselors understand the full implications of career education as related to their field.

12. Since this research adds to the extent of individuals who have been queried on career education, parents are the next missing component. The Carl D. Perkins Vocational and Technical Education Act of 1998 included a heightened component of

parental access to professional development and training. It would contribute to the literature to understand parents' perspectives on career education in Wyoming.

## Recommendations for further Research

Based upon the results of the study, the following recommendations for further research are suggested to expand the body of research on career education:

1. A study to determine administrators' viewpoints on career education in order to have a more significant understanding of their perspectives in relation to the findings of this study. Mendel (1995) sees the greatest route to delivery of career education through leadership development and professional development. An empirical analysis of administrators' views would afford insight into their perspectives.

2. There was significant underutilization of apprenticeships as a school-to-Work transition. It would be interesting to research the apprenticeships offered in the state and the rates of retention, completion, and schools that students are from who participate in these curricula.

3. That a similar study be conducted in Wyoming to determine how teacher licensure faculty at the University of Wyoming perceive career education. It was discerned that if instructor's who mentor potential teachers do not see the relevancy or have knowledge of career education, their students may not see this as a curricular option.

4. That a similar study be conducted on the data set from this study on the areas of gender and longevity to discern if these categories are correlated to the perceptions and use of career education.

5. Initiate further qualitative research of students involved in a variety of schools in Wyoming and their experiences with career education, school-to-work initiatives, or

integration of vocational and academic subjects to further understand the challenges and opportunities they found in their involvement in furthering students' career development.

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# APPENDICES

# APPENDIX A

## APPENDIX A

### Expert Panel Reviewers

Donna Torvik, Counselor, Central High School, Cheyenne, WY

Joe Ramirez, Transition Specialist, Wyoming Department of Education, Cheyenne, WY

Rob Bennett, Wyoming Career Information System (WCIS), University of Wyoming, Laramie, WY

Butch Reder, Chairperson, Committee of Practitioners for Vocational Education, Vice Principal, Cody High School, Cody, WY

Farrel Hoopes, President, Wyoming Association for Career and Technical Education, Afton, WY

Dr. Mariam Manley, Centers for School Improvement, Jackson, WY

# APPENDIX B

# Appendix B

## LETTER TO PARTICIPANTS

Date:

Address:

Salutation:

My name is Heather Wagoner and I am a doctoral student at Colorado State University. Under the supervision of Dr. Joseph Daly, I am in the process of my dissertation which is titled " The perceptions of secondary educators in Wyoming towards career education in A, AA, AAA, and AAAA schools. I am writing to you about your selection from among educators in Wyoming to participate in a research study designed to identify the perceptions of teachers on career education.

The results are of particular importance to the advancement of career and workforce education in Wyoming and have significance in the field of human development. The challenges to deliver career education in rural areas will be examined. The success of this study depends on the extent of accurately described information provided. To do this we need a good sample size to validate the data.

Enclosed you will find the survey and return envelope. Participation in the study consists of answering and returning the enclosed survey packet. The packet contains survey questions related to perceptions of Career Education, Career Education Information, Method of Curriculum, Delivery of School-to-Work Programs and Technology and Alternative Delivery of Career Education. Your cooperation in completing and returning the enclosed survey as soon as possible is very much appreciated. The survey takes approximately 20 minutes to complete. I look forward to your responses! Additionally, all participants receive a packet of tea to enjoy this wintertime.

Data in aggregate form will also be published in my dissertation. All results will be reported in aggregate form so that the data is not traceable to individuals. To ensure this, I have assigned a code number to each name on the list of mailing addresses to which this survey was sent. The number associated with your name appears in the upper right hand corner of your first survey instrument. Immediately upon receipt of your survey, the number will be detached. This is done to ensure that responses are no longer traceable to you. The detached code numbers will be used to eliminate names from the follow-up mailing and to track the number of respondents returning surveys from each group involved in the mailing. Your participation in the study is entirely voluntary. If you do not wish to receive a follow-up request for participation, please return this survey and write on it that you are not interested in participating. Thank you for your time and attention.
Best Regards,

Heather Wagoner,
*Doctoral Candidate*
School of Education
Colorado State University

# APPENDIX C

## Appendix C

## Perception of Vocational and Academic Secondary Educators Towards Career Education in Class A-AAAA Schools in Wyoming

*This survey asks questions related to Career Education. This survey information will only be used in aggregate form. Please answer all of the questions. All responses will be held in strict confidence. This survey takes approximately 20 minutes to complete.*

### Part I: Demographic Information

1. What is your gender? ☐ Male ☐ Female

2. Check what subject(s) you teach at the present time?

| | | |
|---|---|---|
| ☐ English Teacher | ☐ Math Teacher | ☐ Science Teacher |
| ☐ Social Studies Teacher | ☐ Art and Music Teacher | ☐ Physical Education |
| ☐ Vocational Education | ☐ Technology Education | ☐ Other Specify:_____ |

3. How long have you been working at this job?

| | | |
|---|---|---|
| ☐ less than 1 year | ☐ 3 years to 5 years | ☐ more than 10 years |
| ☐ 1 year to 2 years | ☐ 6 years to 10 years | |

4. What is your highest degree attained?

☐ BS/BA ☐ MS/MA ☐ Ph.D./Ed D

### Part II Perceptions of Career Education

Please mark each statement on the answer sheet according to your opinion. Indicate your choice by circling the appropriate number. Please ***circle only one answer*** per question. For each of the following the numbers represent:
1= Strongly disagree
2= Disagree
3= Neutral
4= Agree
5= Strongly agree
(Two items have a choice of NA which means does not apply)

| | SD | D | N | A | SA |
|---|---|---|---|---|---|
| 1. Most communities cannot provide opportunities for students to have work experiences. | 1 | 2 | 3 | 4 | 5 |
| 2. Instruction should be established on the basis of student career interests. | 1 | 2 | 3 | 4 | 5 |
| 3. People in the community lack the knowledge and teaching experience necessary to make a meaningful contribution to classes. | 1 | 2 | 3 | 4 | 5 |

**Please continue to the next Page**

| | SD | D | N | A | SA | |
|---|---|---|---|---|---|---|
| 4. The need for students to spend time away from school during the day to secure work experience results in more problems then benefits. | 1 | 2 | 3 | 4 | 5 | |
| 5. Students would benefit if they could gain more information on vocational programs. | 1 | 2 | 3 | 4 | 5 | |
| 6. College preparatory subjects should be stressed more heavily. | 1 | 2 | 3 | 4 | 5 | |
| 7. Students do not become interested in occupations until the high school years. | 1 | 2 | 3 | 4 | 5 | |
| 8. Schools provide students with sufficient career information for career planning. | 1 | 2 | 3 | 4 | 5 | |
| 9. Preparation for careers is typically taught in a variety of classes. | 1 | 2 | 3 | 4 | 5 | |
| 10. Clarifying career decisions for students is the responsibility of the school. | 1 | 2 | 3 | 4 | 5 | |
| 11. Students should be introduced to occupations in the elementary grades. | 1 | 2 | 3 | 4 | 5 | |
| 12. Schools need additional funding to implement career education. | 1 | 2 | 3 | 4 | 5 | |
| 13. Choosing career goals is a part of the present school program. | 1 | 2 | 3 | 4 | 5 | |
| 14. The community should not be involved in helping students prepare for occupations. | 1 | 2 | 3 | 4 | 5 | |
| 15. Business people have neither the time nor inclination to come to classes to speak about careers. | 1 | 2 | 3 | 4 | 5 | |
| 16. Academic teachers effectively teach career education concepts. | 1 | 2 | 3 | 4 | 5 | |
| 17. Career information should be provided to all students. | 1 | 2 | 3 | 4 | 5 | |
| 18. Teachers do not have enough time to teach about careers in their classes. | 1 | 2 | 3 | 4 | 5 | |
| 19. Schools are doing an adequate job of preparing rural youth for the world of work. | 1 | 2 | 3 | 4 | 5 | NA |
| 20. Career development begins in elementary school. | 1 | 2 | 3 | 4 | 5 | |
| 21. Academic subjects are significant in a student's preparation in life. | 1 | 2 | 3 | 4 | 5 | |
| 22. Teachers are aware of career and labor market information in their community. | 1 | 2 | 3 | 4 | 5 | |

| | SD | D | N | A | SA |
|---|---|---|---|---|---|
| 23. If a person is sure of the career he/she wants to enter, there is no need to explore other alternatives. | 1 | 2 | 3 | 4 | 5 |
| 24. The dignity of all workers and their jobs should be stressed in schools. | 1 | 2 | 3 | 4 | 5 |
| 25. Schools make a positive contribution in helping students gain an appreciation of work. | 1 | 2 | 3 | 4 | 5 |
| 26. People who have been exposed to career education tend to be better citizens. | 1 | 2 | 3 | 4 | 5 |
| 27. My school assists students how to choose careers. | 1 | 2 | 3 | 4 | 5 |
| 28. Each class in school should be instrumental in helping students make a decision about a career. | 1 | 2 | 3 | 4 | 5 |
| 29. Hands on work experiences are essential to gain effective career awareness. | 1 | 2 | 3 | 4 | 5 |
| 30. Classroom instruction is a valuable vehicle for helping students gain an appreciation of the value and importance of work. | 1 | 2 | 3 | 4 | 5 |
| 31. School programs help instill a desire in students to explore and evaluate various jobs potentials and future career opportunities. | 1 | 2 | 3 | 4 | 5 |
| 32. Teachers are aware of the career opportunities in their community. | 1 | 2 | 3 | 4 | 5 |
| 33. Students in rural areas face the same career challenges as urban areas. | 1 | 2 | 3 | 4 | 5 |
| 34. Students in rural areas have access to equivalent forms of career education as their urban counterparts. | 1 | 2 | 3 | 4 | 5 NA |

## Part III: Role of Career Education

Please mark each statement on the answer sheet according to your opinion. Indicate only **one** choice by checking the appropriate line.

35. Which school personnel *are most* influential in implementing effective career education?

_____ Teachers
_____ Service of Psychology and Orientation Professionals
_____ Guidance Counselors
_____ Administrators
_____ School to Career Coordinators
_____ No one is equipped at my school

**Please continue to the next Page**

36. Currently, career exploration opportunities for students' transition into the world of work are:

_____Non-existent
_____Minimal
_____Adequate
_____Outstanding

37. To effectively infuse career education concepts within existing courses, it is necessary that the teachers first do the following:

_____ understand career education concepts
_____ access individuals who understand career concepts
_____ access courses in career education in their degree
_____ work with counselors
_____ all of the above

38. As an instructor, my present degree of competency for teaching career education concepts is:

_____ Unprepared
_____ Weak
_____ Capable
_____ Very Capable

39. Where should career education receive the greatest emphasis?

_____ Elementary
_____ Junior High
_____ High School
_____ K-12

40. Where should career education receive the greatest emphasis?

_____ Academic area
_____ Vocational subjects
_____ A career education/psychology course
_____ Integrated in all subjects
_____ All of the above

41. During the last school year, how many career oriented educational field trips did your class take?

_____ One to three
_____ Four to five
_____ Six or more
_____ None

**Please continue to the next Page**

42. During the last school year, how many community persons did you bring into your classroom instruction to discuss careers?

_____One to three
_____ Four to five
_____ Six or more
_____ None

43. For career education concepts to have an impact on the school system, it is essential that the initial support be provided by:

_____Teachers
_____ Students
_____Community
_____Administration
_____State

44. The most effective approach to implementing career education is:
_____ to conduct training for all teachers
_____ to establish a center for career education in the school
_____ to purchase commercially prepared materials
_____ to hire additional personnel

## Part IV: Method of Curriculum Organization

45. Directly related to career education are the ways that schools choose to implement career education concepts into their curriculum. Career education is defined the same way as in the previous sections. Indicate ***one choice*** by checking the appropriate line. Indicate the method of implementing career education most prevalent at your school:

_____Infusion Method: A method of integrating career education into all subject areas (math, science, English, vocational subjects).

_____Separate Class Method: A method of teaching career education in a class by itself.

_____Curriculum "Add On": A method where so many minutes are set aside per class to teach career education.

_____ Tech Prep/School to Careers: School participates in one of these career-oriented programs.

## Part V Delivery of School to Work Programs

46. Indicate the method and areas being approached by your school to assist students in their transition from school to work. The programs listed are defined in parentheses. Select all that apply.

_____ Cooperative Education (students work in supervised part-time jobs during school hours)

_____ Career Academies (a vocational themed program where local employers donate equipment/services)

_____ Tech Prep (partnerships between secondary school and technical schools to get a vocational certificate in a specific career field or college credit for transfer) **Please continue to the next Page**

_____ Apprenticeship (substantial work-based learning leading to formal skill certification and potential employment with sponsoring employers)

_____ Exams to document "mastery of fundamental academic and vocational skills" (Advanced Placement exams; certification exams)

_____ Extension of work-based learning as a part of the curriculum for all students (job shadowing or mentoring)

_____ Student's ability to select a career focused program based on their general interests at the time (career counseling will allow students to adjust interests at specific junctures)

## Part VI: Technology and Alternative Delivery of Career Education

Technology is another component of career education. Please examine the following questions and provide a response.

Please mark each statement on the answer sheet according to your opinion. Indicate your choice by circling the appropriate number. Please ***circle only one answer*** per question.

For each of the following the numbers represent:
1= Strongly disagree
2= Disagree
3= Neutral
4= Agree
5= Strongly agree

| | SD | D | N | A | SA |
|---|---|---|---|---|---|
| 47. The Internet is being used by my students to explore careers. | 1 | 2 | 3 | 4 | 5 |
| 48. Compressed video technology is used to bring in panelists of workers in order for students to ask them questions. | 1 | 2 | 3 | 4 | 5 |
| 49. Computerized guidance programs are used to explore careers in my school. | 1 | 2 | 3 | 4 | 5 |
| 50. Career oriented videos are used to assist students in understanding careers. | 1 | 2 | 3 | 4 | 5 |

51. What other technology is being used to explore careers at your school? (Write your response here)

52. Thank you for completing this survey! Please write in any additional thoughts, comments, or suggestions regarding career education in your geography here.

**Please return this survey by February <<date>>, 2000.**
Please return in the self-addressed stamped envelope to: H. T. Wagoner P.O. Box 9663 Cheyenne, WY 82009

# APPENDIX D

## APPENDIX D

### Participating Schools

A Schools
Arvada-Clearmont High School
Big Horn High School
Burlington High School
Cokeville High School
Dubois High School
Encampment High School
Meeteetse High School
Ten Sleep High School
Farson Eden High School
Glendo High School
Guernsey Sunrise High School
HEM High School
Kaycee High School
Little Snake River High School
Midwest High School
Southeast High School

AA Schools
Big Piney High School
Greybull High School
Hullett High School
Lingle Ft. Laramie High School
Lovell High School
Niobrara High School
Pinedale High School
Riverside High School
Rocky Mountain High School
Saratoga High School
Shoshoni High School
Sundance High School
Tongue River High School
Upton High School
Wind River High School
Wright High School

AAA Schools
Buffalo High School
Douglas High School
Glenrock High School
Hot Springs High School
Jackson Hole High School
Lander High School
Wheatland High School
Torrington View High School
Worland High School
Powell High School
Star Valley High School
Rawlins High School

AAAA Schools
Campbell County High School
Cody High School
East High School
Evanston High School
Green River High School
Kelly Walsh High School
Riverton High School
Natrona High School
Sheridan High School
Central High School

# APPENDIX E

# APPENDIX E

## Letter for Survey Use

December 1, 1999

Dr. Glen Rask
Dean of Agricultural Sciences
Colorado State University
Ft. Collins, Colorado 80523

Dr. Rask,

I am a doctoral candidate at Colorado State University in the School of Education. Under the guidance of Dr. Joe Daly, I am developing my dissertation proposal. The topic of my proposal is Vocational and Academic Secondary Educators' perceptions of career education in Class A-AAAA schools in Wyoming. I have identified the survey you developed some years ago on attitudes towards career education as the basis for my instrumentation. In an attempt to receive approval for the copyrighted instrument, I have tried to contact Olympus Research, Salt Lake City. Through several research efforts through The University of Utah and Bureau of Economic and Business Research, I have been unable to locate Olympus Research.

In conversations on the Human Research Review, Celia Walker indicated that author approval would be considered for this situation. Therefore, I am asking your approval in writing, as author, to utilize this instrument for my research. Secondly, I have added two sections that include questions pertaining to school to work programs and technology and alternative delivery of career education. These sections would be additions to your existing survey instrument. In your response, I would also like your consideration of these additions.

I can be reached at (307) 777-5329 or (307) 638-7377 regarding any questions. Correspondence can be sent to the address listed below.

Thanks for your consideration.

Heather Teach Wagoner
5229 Fishing Bridge
Cheyenne, Wyoming 82009
(307) 777-5329 or (307) 638-7377
E-mail: Lhwagoner@aol.com

ENCLOSURE: Survey (last two sections are additions)

# APPENDIX F

Colorado State University

## APPENDIX F

Letter of Approval for Survey Use

College of Agricultural Sciences
Office of the Dean
Fort Collins, Colorado 80523-1101
(970) 491-6272
FAX: (970) 491-4895
www.colostate.edu/Depts/AgSci/

January 6, 2000

Heather Wagoner
P.O. Box 9663
Cheyenne, WY 82009

Dear Heather,

You have my permission to utilize this instrument for your research for your dissertation proposal. I also approve the additions. If you have any other questions, you can contact me at (970)491-2074 or grask@agsci.colostate.edu.

Sincerely,

Glen Rask

Glen Rask
Associate Professor

# APPENDIX G

## APPENDIX G

Letter to Expert Panel Members

MEMORANDUM

TO: EXPERT PANEL REVIEWERS

FROM: Heather T. Wagoner

DATE: November 29, 1999

SUBJECT: Career Education Survey

As part of my dissertation research, I am approaching a study of Vocational and Academic Secondary Educators' perceptions of Career Education in Class A, AA, AAA, and AAAA Schools in Wyoming. The attached survey was developed by Dr. Glen Rask at Colorado State University and is copyrighted through Olympus Research in Salt Lake City. I have added two sections to this survey: School-to-Work Programs and Technology and Alternative Delivery of Career Education. As an expert panelist, I will be including your name in my research efforts as having a significant impact in the survey validation. Enclosed is a self-addressed stamped envelope to return your response upon completion. Thanks for your help in this research.

The following are questions that I would like you to consider in your review:

1) Do the survey concepts apply to vocational and academic secondary educators in Wyoming schools?

2) Does it seek to measure the following as related to career education?

- Role of the community (Items 1, 3, 4, 14, 15, 26)

- Role of the school (Items 6, 8, 9, 10, 11, 12, 13)

- Developmental attitudes towards career education (Items 2, 5, 7, 18, 21, 22, 23)

- Implementation of career education (Items 44, 45, 46, 47, 48, 49, 50, 51,52, 53)

3) Does the survey measure the approaches/delivery of career education curriculum? (Item 54)

4) Does the survey measure school-to-work programs and technology and alternative delivery of career education?
(Items 56, 57, 58, 59)

5) Are participants able to openly comment on career education?

6) Does the survey measure the delivery of school-to-work systems? (Item 55)

7) Please write in any additional thoughts, comments, or suggestions related to the survey in the space provided below:

# APPENDIX H

## APPENDIX H

### Letter to Participants

February , 2000

Address:

Salutation:

Please accept this letter of appreciation for your participation in the research study designed to identify the perception of secondary educators towards career education in Wyoming. The results of this study will help advance career and workforce education in Wyoming. It was a pleasure working with you on this project. If you would like a copy of the results of the survey you may contact Heather Wagoner.

Sincerely,

Ms. Heather T. Wagoner
Doctoral Candidate
School of Education
Colorado State University
Fort Collins, CO 80523

# APPENDIX I

## APPENDIX I

Teachers' Comments on Technology

**Academic-1A school**

1. We have computer classes like desktop publishing.
2. Vocational oriented classes-FACS, Industrial Arts, keyboarding, accounting.
3. We use the choices program, and on-line classes.
4. Agriculture-working with metal, wood, engines.

One respondent said they were not sure if any other technology was being utilized.

**Vocational-1A school**

1. Equipment available to students, shop equipment, home economic equipment, business equipment.

One respondent said they were not sure if any other technology was being utilized.

**Academic-2A school**

1. Canned computer programs.
2. Researching of careers.
3. Choices Software.
4. Internet and compressed video have been installed but are not being used in this area yet.

Three respondents said they were not sure if any other technology was being utilized.

**Vocational-2A school**

1. On-site visits.

2. Video.

3. Choices Program.

4. Telephone-HA!

Three respondents said they were not sure if any other technology was being utilized.

**Academic-3A school**

1. Graphing calculator.

2. Technology classes use career videos and visits from outside personnel.

3. I do not believe we have any technology other than technology course.

4. I'm not sure except for the internet.

5. Teacher created searches.

Two respondents said they were not sure if any other technology was being utilized.

**Vocational-3A school**

1. Choices program.

2. Vo tech school visits.

3. Distance learning lab.

4. Career aptitude software.

5. The section I teach on broadcasting provides facilities not readily available in the community and products generated by students are frequently used by agencies and broadcast cable companies.

6. Vocational Assessments.

7. Careers 2000.

8. Two computer programs on student interest in careers.

9. Extensive career training sites (use of the internet).

10. Compressed video is not available but coming soon.

11. COIN available to all students; aptitude testing used; other programs available through the school to careers counselor.

12. E-mail career interviews.

Three respondents said they were not sure if any other technology was being utilized.

**Academic-4A school**

1. Choices.
2. Choices program.
3. Cooperative programs with local community colleges.
4. Plan test to help determine interests.

Four respondents said they were not sure if any other technology was being utilized.

**Vocational-4A school**

1. Computer in our career center-videos and outside personnel making presentations.
2. Computer labs to run vocational programs-but are in great need to upgrade. Limited CAD programs & high power IBM's only available for Industrial Tech and businesses but have not granted to FACS dept.
3. School to Career Database.
4. Laser Disk with supplementary handouts.
5. Poor schools in Wyoming don't have technology.
6. Powerpoint, computer assisted instruction (CAI) technical notebooks.

# APPENDIX J

Teachers' Comments Eliciting a Strong Emotional Response

**Academic-1A school**

None were provided under this category.

**Vocational-1A school**

1. We need more help in small towns to teach careers.
2. The first roadblock for career education is too many parents and counselors are strictly college prep minded. No time in the schedule for careers. The second road block is short term money for programs. How do you start to think about careers when you have played sports all 4 years and never worked a job in the summer? When or how do you get a job if you can't work until you're 16 years old.
3. Tracking programs or separate schools like Europe needs to be accepted and promoted. The state and district has too many expectations of teachers and school now there is no room for new programs!

**Academic-2A school**

1. Career ed is a waste-why not prepare students to think (LA Ed) in high school and then provide opportunities (i.e. college tech or career ed training schools) to help people live in a changing society.
2. With increased specialization requirements for workers in the future, it is imperative that we equip students with knowledge and at least some experience in actual workplace activities by graduation of high school.

3. We live in a small rural community, where the job market is limited so students have to learn about many types of careers through research.
4. Career education is important, but it takes a back seat to academic standards, competency tests.

**Vocational-2A school**

1. Dumb bastards are only college prep.
2. Funding at the state level must take place.
3. In rural areas, there are less work opportunities for students. We also live in a community where many individuals have very high paying jobs without a high school degree. Many of our students think good jobs will come to them with very little work.

**Academic-3A school**

1. Students do not need to leave class to work at a local business where all the student does is push a broom-employers do not have the time to train students.
2. In my personal opinion, we cannot service the needs for every student. There is not a way to adjust curriculum to every career students may need or want. You can show them career ideas, have courses that generally apply. But to teach every type of career in each class is just impossible. I suggest you try and teach a few years and show me where administration-state-school boards would support it.
3. It seems to me that a "huge" number of freshmen in college change his/her major time and time again. The vast majority of teenagers don't need to decide in high school what they will do for life.

**Vocational-3A school**

1. Since funding is no longer "earmarked" our vocational programs have decreased.

2. All states (especially Wyoming) must do something. Not the School to Careers movement as is. To place more emphasis on vocational/technical prep programs. The leadership must begin at the state level.
3. We are beginning a school-to-career program and are beginning to work on a required freshman class that will explore career pathways! We are far behind and have been impressed by programs offered in Gillette, Wyoming and Poudre High School in Ft. Collins!
4. I hope these responses will help your research. For what it's worth, I entered teaching after 20+ years in the industry. I now instruct (broadcasting) and so I am very biased toward real-time experience for students. I have witnessed several incidents of students "connecting" with their academic skills through seeing them applied. However, until teachers in all areas- especially tenured teachers- appreciate the integration of career prep across the curriculum, I fear career offerings will remain spotty. We need to change the mindsets of most teachers, especially in academic areas.
5. Limited opportunities are available to rural students.
6. We put too much stress on 4 year colleges.
7. Helping students to clarify decisions is the school's role.

**Academic-4A school**

1. To implement and push careers and training we need to almost overhaul how we teach and what.
2. Since I teach a career oriented English class, this was a difficult survey. There is still a prevailing belief that career search programs or assignments is for blue collar

workers and this is seldom taught. Academic teachers feel they are "above" careers. Vocational teachers feel they are "above" academics and they have the money to prove it.

3. I teach special ed-my in house program is functional for about 20 students- the rest of the school is trying but falls short!

**Vocational-4A school**

1. Need to stop adding additional academic requirements. This prevents students from having the opportunity to take classes that offer job specific skill training.

2. We need to get out of the rut that all students need to prepare for a four-year college education. Guidance counselors need to aim student toward pathways for success. Parents and the community need to get on this wagon too.

3. I have strong opinions about career ed- too many to write here.

4. In a state (WY) which has the highest % of population moving out it is very hard to justify financially the need for expensive vocational programs which, ironically are the types of programs essential to this state's survival.

5. The "school to career" money have added immensely to my approach. It's the best thing I've seen over my 28 year teaching career.

6. It is difficult to determine "exploration" compared to "education" I think we need both.

7. We have just begun!