

AN ABSTRACT OF THE DISSERTATION OF

Meng-Yin Chen for the degree of Doctor of Philosophy in Counseling presented on November 7, 2003.

Title: A Formative Evaluation of Implementation of Career Development Interventions in Taiwanese Comprehensive High Schools.

Abstract approved: _____
Redacted for privacy
Cass James Dykeman

Taiwan has undergone significant social change, particularly in the last forty years, due to economic and industrial growth. Career development intervention is increasingly urgent in helping students face upcoming challenges.

This study investigates the implementation and perceived helpfulness of career development interventions in Taiwanese comprehensive high schools. A total of 153 questionnaires were mailed, and a total of 119 guidance directors responded to the questionnaire, resulting in a response rate of 78 percent.

Results indicated that Advising career interventions were the most school-implemented interventions and were perceived as the most helpful interventions by guidance directors, followed by Awareness, Curriculum, and Field career interventions. Limitations of the study and implications for guidance programs and for future research in the area are given.

© Copyright by Meng-Yin Chen
November 7, 2003
All Rights Reserved

A Formative Evaluation of Implementation of Career Development Interventions in
Taiwanese Comprehensive High Schools

By

Meng-Yin Chen

A DISSERTATION

submitted to

Oregon State University

in partial fulfillment of
the requirements for the
degree of

Doctor of Philosophy

Presented November 7, 2003

Commencement June 2004

Doctor of Philosophy dissertation of Meng-Yin Chen presented on November 7, 2003.

APPROVED:

Redacted for privacy

Major Professor, representing Counseling

Redacted for privacy

Dean of the School Education

Redacted for privacy

Dean of the Graduate School

I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my dissertation to any reader on request.

Redacted for privacy

Meng-Yin Chen, Author

ACKNOWLEDGEMENTS

I am indebted to many people over past three years in Corvallis. First and foremost, I would like to thank my advisor, Dr. Cass Dykeman, for supporting my idea and for providing an environment in which it has been possible to freely pursue independent avenues of thought. His foresight and experience have been a constant and dependable guide throughout my graduate study at Oregon State University. I would also like to acknowledge the other members of my committee, Dr. Dale Pehrsson, Dr. Gene Eakin, and Dr. Michael Ingram for their guidance and support and for taking the time and serving on my defense committee. And I would like to thank Dr. Patricia Moran for serving as my graduate council representative.

I would like to thank my colleagues in the Counseling program at OSU for their support. And I am thankful to other people who helped me during my stay in Corvallis. In the end, I want to express my appreciation to my parents. My parents have been my role models since the early stages of my life. Without their love, support, encouragement and sacrifices, I wouldn't be here. My deepest gratitude and love belongs to my fiancée Michael Liu, for his love, support and patience.

TABLE OF CONTENTS

| | <u>Page</u> |
|---|-------------|
| CHAPTER 1: INTRODUCTION | 1 |
| Rationale | 2 |
| Statement of Purpose | 11 |
| Research Questions | 12 |
| Glossary of Terms | 13 |
| CHAPTER 2: LITERATURE REVIEW | 16 |
| The History of Career Development in the United States | 17 |
| Changing Definitions of Vocational Guidance to Career Guidance | 18 |
| Important Events in the History of Career Development | 21 |
| The History of Career Development in Taiwan | 26 |
| Inception and Evolution of Career Development in Taiwan | 28 |
| The Present and Future Trends in Career Development | 30 |
| Career Guidance Programs in Comprehensive High Schools in the United States | 32 |
| Goals for Career Guidance in High School | 33 |
| Design and Implementation of Career Guidance Programs and Services | 35 |
| Career Guidance Programs in Comprehensive High Schools in Taiwan | 38 |
| Comprehensive High School System in Taiwan | 39 |
| Career Guidance Program in Taiwan | 40 |

TABLE OF CONTENTS (Continued)

| | <u>Page</u> |
|--|-------------|
| Research on Career Development Interventions in the United States | 44 |
| Career Development Status of High School Students | 46 |
| Research on Effectiveness of K-12 Career Development Interventions | 49 |
| Studies on the Implementation of Career Development Interventions | 51 |
| Research on Career Development Interventions in Taiwan | 56 |
| Research on Effectiveness of K-12 Career Development Interventions | 57 |
| Studies on the Implementation of Career Development Interventions | 63 |
| Conclusion | 69 |
| CHAPTER 3: METHODOLOGY | 71 |
| Participants | 71 |
| Procedure | 72 |
| Measures | 73 |
| Data Analysis | 79 |
| CHAPTER 4: RESULTS | 81 |
| Respondents Demographics: Descriptive Statistics | 82 |
| Career Development Interventions: Descriptive Statistics | 82 |
| The Implementation of Career Interventions in 10 th , 11 th , and 12 th Grade | 89 |
| Perceived Helpfulness of Career Development Interventions | 109 |
| Summary of Findings | 116 |

TABLE OF CONTENTS (Continued)

| | <u>Page</u> |
|--|-------------|
| CHAPTER 5: DISSCUSSION | 120 |
| Discussion of Results | 120 |
| Implementation of Career Development Interventions | 121 |
| Perceived Helpfulness of Career Development Interventions | 128 |
| Limitations of the Study | 131 |
| Sample | 131 |
| Instrument | 133 |
| Implications | 134 |
| Implications for Comprehensive High School Guidance Programs | 134 |
| Implications for Future Research | 142 |
| Conclusion | 143 |
| REFERENCES | 146 |
| APPENDICES | 157 |

LIST OF TABLES

| <u>Table</u> | <u>Page</u> |
|---|-------------|
| 2.1 Descriptive Statistics for Career Development Interventions | 83 |
| 2.2 Career Intervention Ranking Table | 87 |
| 2.3 Field Career Interventions in the 10 th Grade | 90 |
| 2.4 Advising Career Interventions in the 10 th Grade | 91 |
| 2.5 Awareness Career Interventions in the 10 th Grade | 92 |
| 2.6 Curriculum Career Interventions in the 10 th Grade | 93 |
| 2.7 Field Career Interventions in the 11 th Grade | 94 |
| 2.8 Advising Career Interventions in the 11 th Grade | 95 |
| 2.9 Awareness Career Interventions in the 11 th Grade | 96 |
| 2.10 Curriculum Career Interventions in the 11 th Grade | 97 |
| 2.11 Field Career Interventions in the 12 th Grade | 98 |
| 2.12 Advising Career Interventions in the 12 th Grade | 99 |
| 2.13 Awareness Career Interventions in the 12 th Grade | 100 |
| 2.14 Curriculum Career Interventions in the 12 th Grade | 101 |
| 2.15 Field Career Intervention Summary Table | 102 |
| 2.16 Advising Career Intervention Summary Table | 103 |
| 2.17 Awareness Career Intervention Summary Table | 105 |
| 2.18 Curriculum Career Intervention Summary Table | 106 |
| 2.19 Means and Standard Deviations of Four Taxon Areas Among Grades | 107 |

LIST OF TABLES (Continued)

| <u>Table</u> | <u>Page</u> |
|---|-------------|
| 2.20 Perceived Helpfulness of Field Career Development Interventions | 110 |
| 2.21 Perceived Helpfulness of Advising Career Development Interventions | 111 |
| 2.22 Perceived Helpfulness of Awareness Career Development Interventions | 112 |
| 2.23 Perceived Helpfulness of Curriculum Career Development Interventions | 113 |
| 2.24 Helpful Interventions Summary Table | 114 |
| 2.25 Mean and Standard Deviation of Perceived Helpfulness of Career Interventions | 115 |
| 3.1 Example Distribution of Counselor Time | 125 |

LIST OF APPENDICES

| <u>Appendix</u> | <u>Page</u> |
|---|-------------|
| A: List of Career Development Interventions | 157 |
| B: Career Development Intervention Survey | 160 |
| C: Cover Letter/Informed Consent | 168 |
| D: Thanks Note and Reminder | 172 |
| E: Second Reminder Letter | 174 |
| F: Final Reminder Letter | 176 |

DEDICATION

This dissertation is especially dedicated to my deceased mother Soug-Mei Kuo, who gave birth to me, and raised me with endless love and support.

A Formative Evaluation of Implementation of Career Development Interventions in Taiwanese Comprehensive High Schools

CHAPTER 1: INTRODUCTION

“If vocational counseling was born from the changing demographics and economic needs of this century, then career counseling will need to change in response to the changing needs of the coming century” (Bingham & Ward, 1994, p. 168). Indeed, the technological progress, and the development of an interdependent global economy have led to the rapid changes occurring in the world-of-work. It is without question that current career development interventions need to be revised in order to meet the career development tasks facing people in the 21st century.

Throughout the past 100 years, major social changes have instigated the birth and subsequent development of career counseling in the United States (Brewer, 1942). Industrial development and commerce are keys to economic construction in highly industrial countries today. Similar to the United States, Taiwan has undergone significant social change, particularly in the last forty years, due to economic and industrial growth. Career development intervention is increasingly urgent in helping students face upcoming challenges.

This study investigates the implementation of career development interventions in Taiwanese Comprehensive High Schools. This introduction will discuss the current state and subsequent needs of career development interventions and educational research as they relate to the importance of this dissertation.

Rationale

The U.S. has been rapidly changing in recent decades. Taiwan, like the United States, is facing the challenges of labor shortage, high labor and land costs, and demands to meet environmental regulations and promote citizens' welfare. According to this trend, the future Taiwanese society will be more information-oriented; the service industry will become stronger and the average age of life expectancy will be longer. Furthermore, the interest in humanitarian issues and the need for an educational revolution will increase (Yang, 1990).

In 1980, the word *career* gained popularity in Taiwan because of western career development influence (Jin, 1991). Since then, in the schools, vocational guidance has become career guidance, and more interesting pictures and words have been designed in student manuals that introduce the career concept into the normal educational process (Jin, 1991). In the educational system, career guidance began emphasizing

self-awareness, cultivating knowledge of the working world, managing time effectively, improving social skills and decision-making skills, applying career information systems, developing and implementing career plans (Cheng, 1998).

Educators applied these career education methods through activities that explored careers, including interest and aptitude tests, career education, alternative career paths, individual and group counseling, career group activities, and career guidance workshops.

Career development refers to the lifelong psychological and behavioral processes as well as contextual influences shaping one's career over the life span (Niles & Harris-Bowlsbey, 2002, p. 7). As such, career development involves the person's work values, choice of occupations, creation of a career pattern, decision-making style, integration of life-roles, expression of values, and self-concepts (Herr & Cramer, 1996). *Career interventions*, defined broadly, involve any activities designed to enhance a person's career development or to enable that person to make more effective career decisions (Spokane, 1991, p. 22).

For these reasons, career development should be a key focus in education. Due to changing trends in society and the economic marketplace, career development interventions may play an even more profound role in the education of students today

than ever before. Educational programs should include interventions that contribute to the career development of students since this helps students attain educational goals while simultaneously enhancing the benefits of education.

High school students indicate that they have at least started projecting ideas about their future jobs (Herr and Cramer, 1996). They have strong needs to learn about themselves and the working world. Consequently, these needs must be translated into an educational plan for the remainder of their secondary school education (Niles & Harris-Bowlsbey, 2002). Therefore, understanding the career development status of high school students is crucial in developing goals for career development interventions.

Categorical consideration of high school level career development competencies reveals how student acquirement of the necessary knowledge and skills can facilitate students to advance in their career development. These interventions can easily occur in group and/or classroom guidance activities. Both psychoeducational and experiential activities can help students acquire the knowledge and skills needed to develop the attitudes and skills of readiness for students' educational and career decision-making (Super, 1990; Niles & Harris-Bowlsbey, 2002).

Herr and Cramer (1996, p. 432) stated that career guidance activities must have three emphases: (a) stimulating career development; (b) providing treatment; and (c) aiding placement, the latter refers to student movement to the next education level or to the immediate life of worker, consumer, and citizens. The three career guidance emphases are dependent upon where the individual student is in career development and what he or she needs most at a given time: assurance, information, reality testing, emotional release, attitude clarification, or work exposure. Thus, career guidance activities at senior high school level, same as at other educational levels, must be based on individual needs, readiness, and motivations.

For high school populations, the goals emphasize career planning, occupational exploration, and awareness of life-roles. In 1992, the National Occupational Information Coordinating Committee (NOICC) developed National Career Development Guidelines for high school students, which emphasize the domains of self-knowledge, educational and occupational exploration, and career planning.

In Taiwan, because the 21st century will be characterized by high technology and information, the Seventh National Education Committee in 1994 recommended a number of educational reforms to cope with the future changes (Wu, 1996, p. 4). One of the most important reforms related to secondary education is the planning of

Comprehensive High Schools. Students in this system are required to take one-year core courses in 10th grade and to select one of the following three pathways at the beginning of grade 11: academic, occupational, and general (a mix of academic and occupational options). In a broad view, Comprehensive High School curricula offer the potential for education improvement to all senior high school students who are not ready to commit to either an occupational or traditional college pre-goal (Lee, 1997; Wu, 1996).

Unlike the United States, Taiwan has only recently developed the Comprehensive High School system. The Comprehensive High School (CHS) system has prevailed in the United States and in the United Kingdom. In 1991, 98% of the overall American high school population studied at comprehensive high schools, and 94% of high schools were comprehensive (U.S. Department of Education, 1993). As for British high schools, in 1988, 86% of overall high school students studied at comprehensive high schools. However, in Taiwan, less than 10% of high schools are comprehensive because Comprehensive High School system has been introduced into Taiwan just recently, beginning in 1996 (Wu, 1999).

According to Ministry of Education (1998), there are four main domains included in CHS guidance programs in Taiwan: career planning guidance,

course-selecting guidance, learning guidance, and vocational guidance. From past literature reviews, when compared to career guidance goals of Comprehensive High School in U.S.A, Taiwan's guidance objectives put more emphasis on providing external assistance (i.e., how to assist course selection and provide information) than on helping students know themselves, enhancing the importance of self-growth and dealing with issues independently. In addition, the developmental perspectives of career guidance (i.e., life-roles, developmental stage of students) are absent.

Previous empirical studies have had varying focuses including the effectiveness of certain career interventions (Fang, 1985; He, 1982; Hou, 1985; Hughey, Lapan, & Gysbers, 1993; Kuo, 2000; Lapan, Gysbers, Hughey, & Arni, 1993; Lee, 1993; Lin, 1986; Liu, 2000; Lu, 1991; Luzzo & Pierce, 1996; Mau, 1995; Peterson, Long, & Billups, 1999; Wang, 1997; Wang, 2002; Wu, 2001; Zeng, 1989; Zhang, 1985) and the implementation or impact of guidance programs (Chen, 2002; Cheng, 2002; Chou, 1998; Gysbers, Hughey, Starr, & Lapan, 1992; Gysbers, Lapan, Blair, Starr, & Wilmes, 1999; Hotchkiss & Dorsten, 1985; Lai, 2002; Lapan, Gysbers, & Sun, 1997; Li, 2000; Lin, 2000; Liu, 2000; MacDonald & Sink, 1999; Whiston & Sexton, 1998; Yu, 1998). Those results indicated that career development interventions, as employed in the studies, contribute to a variety of positive student outcomes. These results

ranged from an increased ability to plan careers, to career decision-making, to better job search skills, and even to an increased academic performance. Furthermore, evidence of the impact of the implementation of guidance programs is mostly positive in counselors', teachers' and students' attitudes toward school guidance programs.

However, through those previous research designs, it is difficult to understand whether or not career development interventions are comprehensively available in guidance programs. Furthermore, school counselors would be unlikely to decide what kinds of career development interventions should be included if the studies on implementation of career development interventions are not investigated. The lack of studies concerning the implementation of career intervention is a hindrance to designing and implementing effective comprehensive guidance programs.

One recent study created the taxonomy of career development intervention. Because there was no comprehensive listing of these interventions existing in the professional literature and the lack of such a listing hampers both practitioners and researchers in the area of career guidance, the Career Guidance Research Team of the National Research Center for Career and Technical Education (Dykeman, Ingram, Wood, Charles, Chen, & Herr, 2001) aimed to (1) identify a comprehensive list of

career development interventions that occur in America's secondary schools, and (2) create a taxonomy of the identified interventions.

Through consultation with career guidance practitioners and researchers from across the country, as well as through examination of research articles, grant reports, and program manuals, the Career Guidance Research Team established a comprehensive list containing 44 interventions. These interventions were then rated on 5 variables (i.e., time, mode, control, place, and size) by a random sample of the membership of the Guidance Division of the Association for Career and Technical Education. These ratings were then cluster analyzed. This analysis produced a four taxon solution. The taxa were (1) Field Career Interventions, (2) Advising Career Interventions, (3) Awareness Career Interventions, and (4) Curriculum Career Interventions.

In terms of these four taxa, future professionals can further investigate the areas in which school career guidance efforts are underdeveloped. Furthermore, this taxonomy would make it possible to compare the efficacy of whole types of interventions against other types (Dykeman et al., 2001).

This dissertation applies this taxonomic structure to investigate types of career development interventions in addition to exploring the quantity of interventions

implemented in Taiwanese comprehensive high schools. The contributions of this study will be: First, this dissertation seeks to provide new knowledge about the implementation of career development interventions in comprehensive high schools in Taiwan.

Second, current practice in career development seems unfortunately tormented by a lack of direction and/or organization for the available interventions. The results of this study can help provide counselors and educational administrators the information to help improve the career development interventions they provide for students.

Third, the results of this study can provide guidance for educational planners in designing programs that foster student career development. Additionally, the findings of this research may have implications for the strategic planning of educational programs.

Fourth, there is no other study attempted to explore the implementation of career development interventions in comprehensive high schools in Taiwan so far. Thus, this study is a starting point for empirical research in this area and its significant findings and the limitations can give guidance to future research in the area.

Fifth, this study can provide information for sound decision-making on the part of school district administrators, principals, and school counselors. Thus financial planning regarding career development interventions can be conducted judiciously in Taiwan.

Finally, the findings from the present investigation may also have profound implications for current educational reform movements. As Taiwan is in a time of economic and political transition, the findings of this study may provide needed support for educational reform movements.

In conclusion, this study is relevant to the goals and benefits of education. An increased awareness of career development interventions can have an essential impact on the progress of education. Moreover, an understanding of the rationale for investigating the implementation of career development interventions in Taiwanese Comprehensive High Schools may contribute further support to the importance of this study. The statements of purpose and research questions summarize the potential findings of this study and provide structure for the investigation.

Statement of Purpose

The purpose of this dissertation is to investigate the implementation of career

development interventions in Comprehensive High Schools in Taiwan by using the taxonomic structure created by Dykeman et al. (2001). Furthermore, its significant findings and the limitations can give guidance to future research and practice.

Research Questions

This study investigates two main research questions:

1. What is the implementation of career development interventions in Taiwanese comprehensive high schools?
 - (1) What is the implementation of career development interventions in the 10th grade in terms of four taxon areas?
 - (2) What is the implementation of career development interventions in the 11th grade in terms of four taxon areas?
 - (3) What is the implementation of career development interventions in the 12th grade in terms of four taxon areas?
2. Which career interventions are perceived as helpful by guidance directors in Taiwanese comprehensive high schools?
 - (1) Which career development interventions are perceived as helpful by guidance directors in the Field taxon?

- (2) Which career development interventions are perceived as helpful by guidance directors in the Advising taxon?
- (3) Which career development interventions are perceived as helpful by guidance directors in the Awareness taxon?
- (4) Which career development interventions are perceived as helpful by guidance directors in the Curriculum taxon?

Glossary of Terms

The following glossary is designed to assist the reader by defining vocabulary terms used throughout this dissertation and can serve as reference for the definition of constructs as well as variables investigated in the current study.

Advising

A taxon of career development interventions. This constellation of career development interventions is comprised of activities usually conducted by counselors or guidance personnel to provide direction, resolve impediments, and sustain planfulness in students concerning their goals for the future. Examples include individual counseling as well as individual parent-student career and educational planning conferences.

Awareness

A taxon of career development interventions. This constellation of career development interventions includes activities designed to increase student awareness of career educational opportunities and awaken students' interest in their own personal and professional growth. Examples include career fairs or career days.

Curriculum

One of the four taxa of career development interventions. This constellation of career development interventions is comprised of activities which are usually incorporated into the educational system or offered as extra-curricular endeavors to promote core student knowledge and skills through means and content relevant to the working world. Examples include the Tech Prep and/or the 2+2 curriculum and career/technical education courses.

Field

One of the four taxa of career development interventions. Activities in this constellation of career development interventions typically take place in an actual work place context rather than an academic setting. In other words, they are designed to promote student knowledge and motivation through sustained and meaningful interactions with work sites in the community. Examples within this taxon are job

shadows and internships.

Formative Evaluation

Formative Evaluation is a method of assessing a program's worth while the program activities are being developed in order to shape their into their final forms (Beyer, 1995). A formative evaluation process would assist school faculty and staff in determining which components of the school program are working well and what revisions should be implemented the following year.

Taxa

The plural of taxon.

Taxon

The name applied to a group in a taxonomy.

Taxonomy

The systematic classification and naming of type groups within a subject field.

CHAPTER 2: LITERATURE REVIEW

The following statement by Herr (1984) reflects the importance of career development and counseling:

The effective functioning in the schooling process and in the work force requires attention to emotional values and decision-making components that school counselor and guidance process contribute to the overall educational mission. Students cannot choose opportunities that they do not know about and they cannot compete effectively when they are unsure or unaware of their own aptitudes and interests or preoccupied with their changing and perhaps neglectful family situations or chemical dependency. Intellectual effort and educational excellence frequently rest on resolution of such matters. They are affected by student feelings of security and self-esteem that simply cannot be ignored if children or youths are to develop the diverse competencies to become fully functioning adults and future workers of quality. (p. 219)

Thus, efforts to improve the nation's schools and to create a more equitable system require careful consideration of guidance programs and counseling services.

There has been an increasing emphasis on educational reform in recent years and especially on career development as part of educational reform (Drier & Ciccone, 1988; Gysbers & Henderson, 1994; Herr, 1992). However, some critical questions still remain unanswered and the direction for research remains unclear. One important question to be investigated concerns the evaluation and implementation of career development interventions.

As discussed in Chapter One, career development remains an important issue in education today. How have career development programs in Taiwan and the United States progressed in order to meet the needs of students? What are current studies in the areas of career development intervention, career guidance programs and their consequent implementation? This chapter explores these questions in light of the research literature relevant to the research questions, hypotheses, and variables used in this study.

The History of Career Development in the United States

Career development refers to the lifelong psychological and behavioral processes as well as contextual influences shaping one's career over the life span (Niles & Harris-Bowlsbey, 2002, p. 7). In other words, the process of career development is that one develops and refines personal characteristics as self and career identity, and career maturity. It involves the person's work values, choice of occupations, creation of a career pattern, decision-making style, role integration, expression of values, and self-conceptions of life-roles. As such, career development is not an intervention but the object of an intervention (Herr & Cramer, 1996, p. 32).

Career interventions, defined broadly, involve any activities designed to enhance a person's career development or to enable that person to make more effective career decisions (Spokane, 1991, p.22). For example, activities that help people develop self and occupational awareness, learn career decision-making skills and placement skills, acquire job search skills, adjust to occupational choices following implementation, and cope with job stress can each be regarded as career development interventions. Typically, these activities involve individual and group career counseling, career education, career development programs, and computer-assisted career development programs, as well as other forms of delivering career information to clients (Herr & Cramer, 1996; Niles & Harris-Bowlsbey, 2002).

Changing Definitions of Vocational Guidance to Career Guidance

The term *career* was rarely used before the 1960s and the term *career guidance* was appearing almost as often as the term *vocational guidance* by the late 1960s and early 1970s. Career guidance moves from a focus strictly on jobs to a focus on life patterns and from a focus on occupational choice alone to the more comprehensive sphere of people's lives and the interface of the vocational and the personal (Herr & Cramer, 1996). Although historical references to career development practice are

more likely to use terms like vocational guidance or career guidance/counseling, rather than career development practice, all of these terms come from the same roots (Herr, 2001, p. 197).

In the late 1800s, the accelerating movement of large immigrant populations and migration from rural areas to urban areas played a major role in the rise of vocational guidance. Brewer (1942) identified four conditions seen as major influences on the rise of vocational guidance in the United States: the division of labor, the development of technology, the extension of vocational education, and the spread of modern forms of democracy.

By 1909, Frank Parsons, considered the primary architect of vocational guidance in the United States, developed a systematic process of occupational decision-making referred by him as "true reasoning." In his book *Choosing a Vocation* (1909), Parsons elaborated various techniques that he found useful in helping adolescents identify their capabilities and choose their suitable vocations with reasonable expectations of success.

Although Parsons' paradigm continues to be a remarkable milestone in the evolution of career development practice, many revisions have had to be made as time

has progressed. One such revision occurred in 1951, at which time Super recommended a redefinition of vocational guidance:

The process of helping a person to develop and accept an integrated and adequate picture of himself and of his role in world of work, to test this concept against reality, and to convert it into a reality, with satisfaction to himself and to society. (p. 89)

This definition focuses on the characteristics of the individual rather than on what is to be chosen. In other words, it didn't emphasize the matching of individuals to jobs or the provision of occupational information at a particular point in time. Rather, it emphasized the psychological nature of vocational choice. Indeed, Super's definition effectively blended the personal and vocational dimensions of guidance into a unified whole (Herr & Cramer, 1996; Niles & Harris-Bowlsbey, 2002).

The ongoing theoretical and practical research on individual differences, trait-and-factor approaches, personality assessment and interest measurements led to a more comprehensive set of constructs during the 1950s, 1960s, and 1970s.

Consequently, the language of vocational guidance and counseling was subtly replaced by terms like *career guidance* and *career counseling* (Gysbers & More, 1971; Herr, 2001).

Important Events in the History of Career Development

In the early part of the 20th century, emphasis of career development was placed on helping people make vocational choices. People tended to choose an occupation early in their lives and then remain in that chosen field until retirement. To help people cope with decision-making tasks, practitioners used objective methodologies, usually in the form of standardized tests (Herr & Cramer, 1996).

Thus, the early approaches of career development emphasized clients testing, occupational information provision, and vocational advising in order to help clients make an appropriate occupational choice. This was the approach proposed by Frank Parsons in the early 1900s. He relied upon these techniques to help people choose a vocation and advocated various activities, including reading biographies, observing workers in their working fields, and reading existing occupational descriptions.

These techniques were incorporated into the procedure of vocational guidance that he referred to as *true reasoning*, which consisted of three steps for helping someone make an occupational choice:

First, develop a clear understanding of yourself, aptitudes, abilities, interests, resources, limitations, and other qualities. Second, develop knowledge of the requirements and conditions of success, advantages and disadvantages, compensation, opportunities, and prospects in different lines of work. Third, use "true reasoning" on the relations of these two groups of facts (Parsons, 1909, p. 5).

Thus, the Parsons' model encouraged practitioners to objectify clients' interests, values, and abilities by using standardized assessment to help people identify where they fit within the occupational structure (Herr & Cramer, 1996; Niles & Harris-Bowlsbey, 2002).

This schema is now known as the trait-and-factor approach to counseling. This assumes that each individual possesses certain traits (interests, skills, aptitudes, and so on) and different occupations require different amounts of such traits. A choice would occur through a procedure such as *true reasoning* by matching individual traits and occupational requirements (Herr & Cramer, 1996). That is, Parsons' paradigm includes three essential elements: self-understanding, knowledge of work-of-world, and decision-making skills.

Another significant influence in the evolution of career development interventions occurred in 1951 when Donald E. Super recommended that the traditional definition of vocational guidance that had stood since 1937, should be revised. The new definition of vocational guidance proposed by Super (1951, p. 85) changed the focus from matching individual to job to emphasizing the psychological nature of vocational choice. Borow (1964) noted that Super helped shift the focus of career development interventions from an occupational schema, toward an ongoing

process, career development model that involves the person's self concept of life-roles across the life span.

Concurrently, in the 1940s and 1950s, a number of professional organizations related to career development emerged. The merging of the National Vocational Guidance Association, the American College Personnel Association, the National Association of Guidance Supervisors and Counselor Trainers, and the Student Personnel Association for Teacher Education resulted in the formation of the American Personnel and Guidance Association in 1951 (Niles & Harris-Bowlsbey, 2002).

Since the 1960s, the field of career development has experienced a tremendous generation of behavioral, developmental, and psychoanalytical theories. Similarly, the number of career assessment instruments has also grown dramatically (Kapes, Mastie, & Whitfield, 1994). These significant career theories include the psychodynamic effects of child-rearing practices on the development of occupational interests proposed by Roe (1956), the major influence of personality type in career choice by Holland (1966), and the role of unique learning experiences that affect a person's preferences by Krumboltz (1979). Their work led to the development of new instruments, such as the Vocational Preference Inventory, the Career Maturity

Inventory, the Career Beliefs Inventory and so on. Theory building has continued since then and so has the creation of new assessments and career interventions through the remainder of the twentieth century (Herr, 2001). Concurrently, the use of computer-assisted career guidance and information delivery systems in the provision of career services began to emerge (Niles & Harris-Bowlsbey, 2002).

Beginning in the 1970s, the attention to the career development needs of diverse client populations has been increasing. Research related to career development theory and practice has changed from dominantly focusing on addressing the career development of white middle-class men to exploring issues of gender and cultural biases in career development theories and practices. This resulted in greater attention to including the cultural and gender context in career development theories and interventions (Herr, 2001; Niles & Harris-Bowlsbey, 2002).

Another important event was the development of career education. Career education has evolved since the late 1960s, and it has become a stimulus for the provision of career guidance and career counseling in educational and corporate settings in the United States and abroad (Herr & Cramer, 1996). During the 1970s, the emergence of career education as a concept and as a federal priority reestablished the fundamental importance of career guidance for youth and for adults (Herr & Cramer,

1996; Niles & Harris-Bowlsbey, 2002). Herr and Cramer (1996) highlighted the importance of providing career development interventions to young people and adults:

The term 'career education' also symbolized the need to address systematically a range of conditions that were changing the relationship between education and work, particularly with regard to preparing students to understand the linkages between educational opportunities and the subsequent implications of these in work choice and work adjustment. (p. 34)

Hoyt and Shylo (1989) further contended the importance of career education. They believed that career education places great emphasis and a high priority on bringing an appropriate goal of education as preparation for work among all basic goals of American education.

As for the future trends in career development interventions, computer-assisted career guidance systems will continue to become a core element in the delivery of career and educational guidance. Furthermore, global economic and political factors between nations will also influence the development of career interventions. Bingham and Ward (1994) noted that "if vocational counseling was born from the changing demographics and economic needs of this century, then clearly career counseling will need to change in response to the changing needs of the coming century" (p. 168). Continually in the future, career development interventions need to be revised in order to meet evolving career development tasks. Some of these shifts include the rapid

changes occurring in the world-of-work influenced by technological progress, the development of an interdependent global economy, and an increasing awareness and respect of cultural and individual differences.

Herr (2001) noted that in the 21st century, career development professionals will be increasingly expected to assist persons to identify and learn the skills by which they can be more effective in planning for and choosing jobs, in making effective transitions and adjustments to work, and in working cross-culturally and cross-nationally. People need to know how to change with change and to be able to plan and act on shifting career opportunities. In addition, people will need to be encouraged to make a commitment to their culture and community as well as to learn how to develop and express their values in the real world (Niles & Harris-Bowlsbey, 2002).

The History of Career Development in Taiwan

Throughout the past 100 years, major social changes have instigated the birth and subsequent development of career counseling in the United States (Brewer, 1942). Industrial development and commerce are keys to economic construction in highly industrial countries today. Similar to the United States, Taiwan has undergone

significant social change, particularly in the last forty years, due to economic and industrial growth.

Although Taiwan is an island of 36,000 km² (about the size of Holland), with a population of 22,545,000 and population density (Persons / km²) is 623.01 (Department of Statistics, Ministry of the Interior, 2003), Taiwan's trade economy was ranked as the 15th most productive in the world (Chang, 2002) and Taiwan's ratio for output in overseas production bases jumped to 21 percent (Ministry of Economic Affairs, 2001) with the third largest foreign exchange reserves in the world (Department of Statistics, Ministry of the Interior, 2002).

Especially, since the 1980s, high-tech industries have been developing rapidly. As such, Taiwan ranks number one in the world in the manufacture of information technology (Lee, 2000; Yang, 2001). Taiwan has encountered dramatic social and economic changes in recent few decades due to this economic and industrial growth. According to this trend, the future Taiwanese society will be more information and service industry oriented and the average age of life will be longer. Furthermore, the interest in humanitarian issues and the demand for an educational revolution will increase (Yang, 1990).

Inception and Evolution of Career Development in Taiwan

In 1956, the government set up the first vocational center in Taipei to regulate the employment agencies. The purpose of the vocational centers was to help people find jobs and help employers find qualified employees (Chang, 2002). In 1966, the National Youth Commission (NYC) was established. It mainly provides vocational services such as helping applicants network with employers, providing vocational guidance, and facilitating relationships between employers and employees. The NYC is directed to focus especially on college or university graduates from higher educational institutions in Taiwan and abroad to assist their job placement. Through these governmental agencies, the labor market has been guided toward responsible economic growth and the creation of a stable society (Chang, 2002).

Nine years of education has been compulsory since 1968. After nine years of compulsory education, most junior high school graduates may choose to either continue their education or enter work fields. Most junior high graduates (about 93.9%) continue their studies in secondary schools (Lee, 2000). In 1968, a Guidance Activities Course was put into the junior high school curriculum. As part of this program, school counselors should spend one hour per week in each classroom to

provide classroom guidance to students. These classroom guidance activities include learning and overcoming pressure, career, life, puberty health, evaluation and potential development, rationality and communication, and social concern and adaptation (Cheng, 1998).

In 1980, the word *career* gained popularity in Taiwan. Hsu (1982) wrote a book *American Career Education*, which introduced concepts and methods of career guidance to Taiwan's education and guidance fields. Later, three scholars (Lin, 1987; Jin, 1987; Yang, 1989) elaborated career guidance paradigm and tried to give the term *career* a new definition from Chinese cultural perspectives (Jin, 1997). Those new definitions (Chang, 2002) are as follows: Lin (1987) defined career as what a person is doing throughout his or her life-tasks and roles, while also being involved in other non-job related activities; Jin (1987) defined *career* in three points: (a) a nonstop process; (b) individual experiences at family, school, and society that relate to work; and (c) the experiences that build up a unique life-style, and Yang (1989) defined *career* as a person's important position and role in that person's pre-occupational, occupational, as well as post-occupational life. From their definitions, it is clear that the focus of career guidance has moved from vocational choice to a person's lifelong planning process.

Since then, in the schools, vocational guidance has gradually become career guidance. Career guidance emphasizes self-awareness, knowledge of the world-of-work, effective time management, improvement of social and decision-making skills, application of career information systems, and development of career plans (Cheng, 1998; Jin, 1997). As such, career guidance can be attained through activities, such as interest and aptitude tests, personality assessment, career group activities, workshops, job fairs, and individual counseling, which explore students' careers and enhance the understanding of themselves and diverse workforces (Lin, 1987; Jin, 1997; Chang, 2002).

The Present and Future Trends in Career Development

Domestic and global economic and social trends will continue to have impacts on educational development in Taiwan. In 1998, Commission for promoting Education Reform proposed twelve educational reform mandates. One of them was to improve guidance program in the school system (Yang, 2001). Thus, the importance of school guidance has been perceived and will be continually emphasized in the future according to this reform mandate.

Since 1990, career development research has been increasingly focused on issues of diversity. Tien (1998) did a comprehensive literature review on career development in Taiwan from 1990-1995 and categorized three research areas based on her review, including (a) students in different stages, (b) special populations such as women, handicapped groups, dual-career families, athletes, soldiers and ethnic minorities, and (c) career development programs in public or private enterprises and professions. As such, the focus of career development on diverse populations, individual difference and cross-cultural issues has been gradually brought to attention in this professional practice.

Another important trend has been the development of culturally appropriate psychological tests. The psychological assessments have been widely used in career development practices in Taiwan. In the past, the Western psychological tests were introduced and directly applied in the field. The awareness of cultural biases of assessment application has been raised. Thus, more and more scholars dedicate their expertise to revising the original tests and developing culturally appropriate assessments by using domestic subjects (Jin, 1997; Tien, 1997).

Along with the global trends, such as information orientation and technological development, computer use will prevail rapidly in Taiwan. More and more career

guidance information and curricula have been designed for computer-based use. In addition, people can easily assess career related information through computer by using the Internet. Furthermore, self-directed computerized tests have the potentiality for future development in Taiwan, and it is expected that more and more tests will be computerized in the future (Chang, 2002).

In the Twenty-First century, counselors have to think about changing social and economic tasks to prepare their students or clients for upcoming challenges. Career guidance professionals need to increase their knowledge of information about this aspect of job and meaning of work that people perceive in the rapidly changing context of this new era. The challenges of planning for change need to be advocated by diverse professionals in order to facilitate the individual's career development (Chang, 2002; Tien, 1998).

Career Guidance Programs in Comprehensive High Schools in the U.S.A.

Major goals of career guidance for high school students are to provide specific planning of next steps in education and work. Students learn decision-making skills, career planning, educational and occupational exploration, and self-understanding. Career guidance techniques in high school include classroom activities, group and

individual counseling, workshops, computer-assisted programs, self-directed activities, use of information systems, assessment, the integration of work and education for reality-testing, exploration, behavioral modification, and job placement (Herr & Cramer, 1996; Niles & Harris-Bowlsbey, 2002).

Herr and Cramer (1996, p. 432) stated that career guidance activities must have three emphases: stimulating career development, providing treatment, and aiding placement, the latter refers to student movement to the next education level or to the immediate life of worker, consumer, and citizen. The three career guidance emphases depend on where the individual student is in career development and what he or she needs most at a given time: assurance, information, reality testing, emotional release, attitude clarification, or work exposure. Therefore, career guidance activities at the high school level, same as at other educational levels, must be based on individual needs, readiness, and motivations.

Goals for Career Guidance in High School

For high school populations, the goals emphasize specific planning and awareness of life-roles. National Occupational Information Coordinating Committee (NOICC) developed National Career Development Guidelines (NOICC, 1992) for

high school students which emphasize student requirement in the domains of self-knowledge, educational and occupational exploration, and career planning:

1. Self-Knowledge

- (1) Understanding the influence of a positive self-concept
- (2) Skills to interact positively with others
- (3) Knowledge of the importance of growth and change

2. Educational and Occupational Exploration

- (1) Knowledge of the benefits of educational achievement to career opportunities
- (2) Understanding the relationship between work and learning
- (3) Skills to locate, understand, and use career information
- (4) Knowledge of skills necessary to seek and obtain jobs
- (5) Understanding how work relates to the needs and functions of the economy and society

3. Career Planning

- (1) Skills to make decisions
- (2) Understanding the interrelationship of life-roles
- (3) Knowledge of different occupations and changing male/female roles

(4) Understanding the process of career planning

Each of the twelve competencies has indicators that represent emphases or goals to be facilitated by the career guidance program. And the facilitation of some of these goals might be best achieved by teachers, counselors, various specialists, and others in cooperative activities (Herr & Cramer, 1996).

Design and Implementation of Career Guidance Programs and Services

Engaging in program design is very important. Schools typically have counselor-student ratios ranging from 1:300 to 1:1000, and among the various services provided by school counselors, attention to career concerns is low (Nile & Harris-Bowlsbey, 2002). Thus, without having a systematic program of career planning services that can be offered to groups of students, only a very small percentage of students will receive assistance (Gysbers and Henderson, 1994; Herr & Cramer, 1996).

The goals of career guidance services should be to provide the maximum benefit to students and clients at the lowest per-person cost. In schools, counselors play a variety of roles related to design and implementation of career development programs and services in their work settings (Gysbers and Henderson, 1994).

Gysbers and Henderson (1994) wrote a book *Developing and Managing Your School Guidance Program*, in which comprehensive guidelines for designing a guidance program are provided. The general phases of the design include: (1) planning: statement of values; selection of a curriculum model; selection of program goals; determination of desired student outcomes; assessment of current program; and establishment of priority; (2) designing: development of program objectives; selection of program strategies; assignment of program components; analysis of staff competencies; and provision of staff development; (3) implementing: administration of measurement instruments; installation of program; and modification based on evaluation data; and (4) evaluating: formulation of the questions to be answered by the evaluation design; selection of measurement instruments; development of procedures for data collection; establishment of a monitoring system; performance of data reduction, summary, and analysis task; and preparation of reports.

In an extensive review of thirty years of literature, Borders and Drury (1992) identified seven major characteristics of school counseling programs. The first characteristic focused on the nature and scope of the program and included the four core principles of being an independent educational program, an integrative program, a developmental program, and an equitable program. The second characteristic dealt

with program resources, including staff, facilities, and materials. Program intervention such as counseling, classroom guidance, consultation, and coordination made up the third characteristic. Program evaluation was the fourth characteristic, while program renewal was the fifth characteristic. The sixth and seventh characteristics were written policies and program climate.

They further suggested that comprehensive guidance programs should consist of a number of key features. One key feature is the focus on student outcomes (competencies); students' achievements of these outcomes are the responsibility of the program and are variously grouped as: (a) personal, social, career, and educational; (b) knowledge of self and others, career planning and exploration, and educational vocational development; or (c) learning, personal/social, and career/vocational. These categories provide identified domains or content areas of human growth and development from which student competencies are drawn. Thus, guidance activities and resources should be designed to assist students achieve these competencies.

In addition, most programs describe the ways by which guidance activities are resources organized to assist students in achieving their outcomes. They also include a curriculum component incorporating guidance goals, objectives, and activities into such disciplines as English, social studies, and science. Most desired programs also

provide for placement and follow-up activities to assist students in their next step educationally and occupationally. In addition, direct provision of counseling, such as individual or group counseling and other guidance activities on a demand basis, is a part of service of these guidance programs (Borders & Drury, 1992; Gysbers & Henderson, 1994). As such, students can fully benefit from guidance program through various guidance activities, classroom teaching and direct service from counselors.

Career Guidance Programs in Comprehensive High Schools in Taiwan

The comprehensive high school model (CHSm) has prevailed in the United States and in the United Kingdom for a long time. In 1991, 98% of the overall American high school population studied at comprehensive high schools, and 94% of high schools were comprehensive. As for British high schools, in 1988, 86% of overall English high school students studied at comprehensive high schools. Moreover, the percentage in Wales was as high as 98. However, in Taiwan, less than 10% of high schools are comprehensive because the comprehensive high school model has only recently been introduced, beginning in 1996 (Wu, 1999).

Comprehensive High School System in Taiwan

In Taiwan, comprehensive high school model has increasingly become a focus in current educational reform movements in Taiwan. Because the 21st century will be characterized by high technology and information, the Seventh National Education Committee in 1994 recommended a number of educational reforms to cope with the future changes. One of the most important reforms related to secondary education is the planning of comprehensive high schools. In a broad view, CHSm curricula offer the potential for improved education to all senior high school students who are not ready to commit to either an occupational or traditional college pre goal (Lee, 1997; Wu, 1999).

Wu (1996) noted that the impetus for improving secondary education, by integrating vocational and academic programs, has come from a number of sources, including: the increase of educational alternatives, the integration of academic and vocational education resources to upgrade the quality of education, the combination of the two educational objectives, and the flexibility of curriculum to meet students' career development needs and to help students explore career potentials.

In Taiwan, academic-oriented Senior High Schools (SHS) and occupational-oriented Senior Vocational Schools (SVS) have been separated. The

occupational programs in SVS have normally been three-year occupational preparation programs. Sponsored and directed by the Ministry of Education (MOE), eighteen SHS or SVS have begun to try out a three-year (grades 10-12) American-style CHSm since the 1996 school year. Students in the system are required to take one-year core courses in grade 10 and to select from one of the following three pathways at the beginning of grade 11 (Lee, 1997): academic (college-bound), occupational (job-training-oriented), and general (a mix of academic and occupational options). In 1997, a total of 45 schools were CHSm. The number of CHSm schools increased to 65 and since 1998 the number of those have dramatically increased each year.

Career Guidance Programs in Taiwan

According to Taiwan's Ministry of Education (1995), the career guidance goals of Comprehensive High Schools are as follows:

1. Enhance understanding of self-aptitude
2. Enhance knowledge toward vocation
3. Assist students in career planning
4. Assist students in course selection

Therefore, there are four main domain included in Comprehensive High School guidance programs (MOE, 1998):

1. Career-planning guidance:

(1) Goal: Through teaching and activities, students are able to understand themselves, are capable of making decisions, and are able to handle career development in the future.

(2) Implementing strategies:

a. Fully provide educational and vocational information.

b. Carry out psychological tests including personality tests, aptitude tests, interest inventories, and IQ tests.

c. Set up career guidance curriculum and systematically introduce the concepts and ways of career planning.

2. Course-selecting guidance:

(1) Goal: Help students fully understand the content of each subject, course selection, and appropriate decision-making by considering their own unique abilities and intentions.

(2) Implementing strategies:

- a. During first semester of the 10th grade, introduce and analyze the connotation of each curriculum's pathway to students.
- b. Help students understand the principles and skills of selecting courses through teaching and activities.
- c. Practice how to fill out the sheet of selecting courses.
- d. Hold teacher and parent conferences in order to help students and parents select courses together.

3. Learning guidance:

- (1) Goal: Help students establish appropriate learning attitudes and concepts, cultivate learning interest, develop satisfactory learning methods and habits; enable students to make good use of library equipment, gather information, and develop independent learning skills; also, to investigate learning difficulties of students and to provide guidance.
- (2) Implementing strategies:
 - a. Enhance schoolwork guidance: help students understand the educational objectives of Comprehensive High School, and goals,

characteristics, learning methods, school equipment/resources, and grade calculations of each pathway.

- b. Invite teachers or professionals to introduce learning methods of each subject to assist students in developing good learning habits and attitudes.
- c. Implement aptitude, interest, and academic achievement tests, in order to identify special talent students and to locate individual difficulties and programs; by providing individual counseling and group guidance, helping students learn satisfactorily.

4. Vocational guidance:

- (1) Goal: Assist students in establishing right vocational ethics in order to have work attitudes of respect and gregariousness for their jobs; help students choose their vocation based on their aptitudes, interests, and abilities.
- (2) Implementing strategies:
 - a. Guide vocational-bound students to choose vocational courses appropriately.

- b. Assist students in participating in occupational certificate examinations.
- c. Introduce occupational world and conduct field trips to help students understand work environment.
- d. Upon graduation, provide students job information and conduct job placement guidance to help students find jobs.

From the literature review on career guidance goals between the two nations, it can be concluded that compared to career guidance goals of comprehensive high schools in U.S.A, Taiwan's guidance objectives put more emphasis on providing external assistance (i.e., how to assist course selection and provide information) rather than on helping students know themselves, enhancing the importance of self-growth and dealing with issues independently. In addition, the developmental perspectives of career guidance (i.e., life-roles, developmental stage of students) seem to be absent. These differences might be due to cultural factors between the two nations. Further investigation on cross-cultural issues needs to be achieved.

Research on Career Development Interventions in the United States

In this dissertation, a four cluster taxonomy of career development

interventions will be employed. The titles of the four taxa are: Field, Advising, Awareness, and Curriculum. The career development intervention taxonomy was developed in an empirical study by Dykeman, et al. (2001). Through extensive consultation with career development practitioners and scholars across the United States, researchers compiled a comprehensive list of 44 career development interventions that occur in America's secondary schools.

In a survey, the 44 career development interventions were then rated across five variables (time, mode, control, place, and size) by a random sample of the Guidance Division of the Association for Career and Technical Education. The ratings were then cluster analyzed and a four taxa solution was produced.

The taxon named "Field" consists of career development interventions that occur in the community as opposed to interventions that occur within the school. The "Advising" taxon is comprised of interventions that are designed to provide the student with educational direction and occupational planning. Interventions designed to make students aware of career options and the need to plan for their lives upon the completion of school are in the "Awareness" taxon. Finally, the "Curriculum" taxon includes interventions with formal and informal instruction designed to build foundational work skills and knowledge in students.

In order to understand the current state of research in the area of career development, it is important to understand the career development needs of high school students. Later, the recent research regarding career development interventions will be discussed.

Career Development Status of High School Students

Understanding the career development status of high school students is crucial for developing goals for career development interventions. As at other school levels, counselors in secondary school settings also view providing career assistance to students as central to their work (Campbell & Dahir, 1997).

Most students at this age indicate that they have at least started the process of thinking about a future job (Herr and Cramer, 1996). Specifically, high school students are required to learn about themselves and the world-of-work and, consequently, to translate this learning into an educational or vocational plan.

Categorical consideration of high school level career development competencies reveals how student acquirement of the necessary knowledge and skills can facilitate students in their career development advancement (Niles & Harris-Bowlsbey, 2002). In designing interventions to cultivate the development of these competencies, Herr

and Cramer (1996, p. 433) described several potential issues facing high school students:

1. Because many students will complete their formal education with the senior high school, efforts need to be undertaken to reach all students with career guidance opportunities and to help them develop and implement an individual career plan.
2. The major career guidance emphasis in senior high school needs to be on the specific and comprehensive planning of immediate, intermediate, and future educational and occupational choice after high school.
3. Career guidance in senior high schools should include counseling and developmental guidance experiences dealing with study habits, human relations at work, career and educational planning, job search techniques, and job interview skills.
4. Decisions must be made about how career guidance and placement will correspond or differ among senior high schools.
5. Career guidance should help students deal effectively with internal and external pressures.

6. High school students are more developed in terms of verbal and conceptual skills. These competencies permit career guidance to proceed along multiple and complex dimensions.

7. Career guidance should help students to consider the advantages and disadvantages of various post-secondary educational and vocational options.

Indeed, high school students need career guidance to provide them the information of world-of-work and the trainings of decision-making and job-searching skills. Niles and Harris (2002) further suggested that it is also important at this development level that career interventions continue to stimulate curiosity in students. Students who are curious about their emerging self-concepts (e.g., their interests, skills, and values) are more likely to engage in exploratory behavior to acquire their need for self-concept clarification.

In short, high school students at this development stage are eager to understand more about themselves, explore possible educational and occupational opportunities, and advance their career planning and decision-making skills. As such, career interventions at this level should facilitate students' development of their competencies and provide career information and assistance they need.

Research on Effectiveness of K-12 Career Development Interventions

Research on career interventions with K-12 students has been somewhat limited in the past few decades. There are few studies which investigate career development with elementary students. Lee (1993) conducted a study of elementary school guidance, and found that classroom guidance lessons significantly increased student academic achievement.

At the middle school level, several studies have investigated the impact of career guidance interventions on middle school students and have found positive findings (Luzzo & Pierce, 1996; Mau, 1995; Peterson, Long, & Billups, 1999). Evaluating the relationship between career planning and students' academic achievement, Mau (1995) presented evidence that educational planning and aspirations are closely related to current academic achievement. Luzzo and Pierce (1996) also found that middle school students significantly increased their career maturity after employing a computer guidance system (i.e., DISCOVER).

Studying of the effects of career interventions on the educational choices of eighth grade students during their transition time to high school, Peterson, Long, and Billips (1999) implemented three levels of career interventions for students. Level One included instructing students in completing a trial high school program of study.

Level Two comprised the completion of a college prep curriculum and a vocational prep curriculum in addition to the level one treatment. Level Three consisted of computer assisted classroom instruction which was designed to foster career problem-solving and decision-making skills by enhancing self-knowledge, occupational knowledge, decision-making skills as well as meta-cognitive skills. A chi-square analysis revealed treatment effects regarding a significantly greater number of students in the level two and three treatment groups achieving mastery at post-test.

Studies on high school students have similar findings at the elementary and middle school levels. These studies have indicated that the academic curricula incorporating career guidance can lead to positive outcomes for students (Hughey, Lapan, & Gysbers, 1993; Lapan, Gysbers, Hughey, & Arni, 1993). Hughey et al. (1993) found that these students reported a better understanding of the career decision-making process and an increased confidence in the career-planning process. As for academic outcomes, Lapan et al. (1993) found that a program with a career guidance and language arts unit significantly increased both the English GPAs and the vocational identity scores of high school juniors.

Loughead, Liu, and Middleton (1995) investigated the efficacy of career guidance interventions in terms of program evaluations. They found that career

development educational programs, such as PRO 100, have demonstrated the ability to improve students' career planning abilities and job-search skills.

In 1983, Office of Vocational and Adult Education reviewed studies related to career guidance effects concerning grades 9 through 14 since 1970. The majority of these studies reported positive outcomes as a result of various methods of career guidance intervention. These positive outcomes included improved school involvement and performance, personal and interpersonal working skills, preparation for careers, career planning skills, and career awareness and exploration.

Studies on the Implementation of Career Development Interventions

One significant part of guidance programs is career development. To study the implementation of career development intervention is mainly to study this part of guidance programming. Comprehensive Guidance Programs are educational programs designed to assist students with career development, academic/educational planning, decision-making skills and other student competencies. Many of such programs are based on the Missouri Comprehensive Guidance Model (Gysbers & Henderson, 1994). This guidance model organizes services around four components: (a) a guidance curriculum, such as classroom presentations, (b) individual planning, such as

advising, (c) responsive services, such as individual/group counseling, and (d) system support, such as consultation with teachers/administrators. This model provides comprehensive structural components that can be adapted and implemented according to the desire of given schools/districts.

Various studies assessed the impact of career guidance programs in high schools (Gysbers, Hughey, Starr, & Lapan, 1992; Gysbers, Lapan, Blair, Starr, & Wilmes, 1999; Hotchkiss & Dorsten, 1985; Lapan, Gysbers, & Sun, 1997; Whiston & Sexton, 1998). Hotchkiss and Dorstein (1985) studied the effects of career guidance programs on five outcomes: locus of control, self-esteem, perceived ability to complete college, educational expectation, and occupational expectation. Students attending schools with active guidance programs and students not attending such schools were compared across these five outcomes. Results showed that attending a school with an active career guidance program did not have much effect on the five outcome variables.

Whiston and Sexton (1998) conducted a major review of the school counseling research outcomes from 1988 to 1995. They indicated that research methodology problems made it difficult to draw any definite conclusions about the relationship between guidance and academic achievement.

As for research on the implementation of guidance programs, Lapan, Gysbers, and Sun (1997) conducted a statewide evaluation of the implementation of comprehensive guidance programs and their subsequent effects on student outcomes. Data from 22,964 students in 236 high schools was evaluated using a previously established framework for measuring outcomes (Gysbers et al., 1992).

The study established four outcome goals to investigate: (1) if student achievement was enhanced in schools with more fully implemented comprehensive guidance programs, (2) if all students would benefit from the program irrespective of gender, ethnicity/racial status, size of school, and socioeconomic level, (3) if there is a direct link between fully implemented programs and student perceptions of a more positive school climate, and (4) if there is a connection between increased availability of career information and enhanced student expectations that their school experiences were adequately preparing them for their future. Results indicated that students enrolled in a school with a more fully implemented comprehensive guidance program earned higher grades. This relationship was established after removing the effects of school size, socioeconomic status, and minority student attendance.

A similar study, Gysber et al. (1999) reported that students attending schools with more fully implemented guidance programs indicated that they felt the quality of

their education adequately prepared them for their future and reported a more positive school climate and greater feelings of safety and belonging.

In 1998, Sink and MacDonald conduct a study investigating the national trend toward development and implementation of comprehensive guidance and counseling programs. They conducted a nationwide survey and determined that 24 states had produced some type of comprehensive guidance and counseling model. An additional 17 states either had a model under development or allowed individual districts to create guidance programs. However, only 11 states included a guidance curriculum in their models and all the state models seemed to lack a developmental emphasis.

MacDonald and Sink (1999) further investigated the content of guidance programs and found that comprehensive guidance and counseling programs were weak in developmental attention. In particular, guidance programs did not seem to address cultural development issues. Additionally, in most of the models, developmental components such as personal/social, cognitive, and career development were not integrated in any thorough or systematic manner. Moreover, the researchers found that within the models, tasks were not well-grounded in theory.

How do the school counselors feel about guidance program implementation?

Gysbers, Lapan, Blair, Starr, and Wilmes (1999) conducted a survey of 430 school

counselors in Missouri. The school counselors were asked to evaluate the extent to which their district had implemented a district-wide comprehensive guidance program, what changes in their roles had taken place, and to what extent were non-guidance tasks eliminated from their current duties. Research results indicated that 80% to 96% of the school counselors felt the major program components were in place and two-thirds felt they had the means available to carry out the program. Although many thought that significant changes in their role had taken place, most indicated that non-guidance tasks had not been reduced or eliminated.

From the previous literature review on guidance programs, it is clear that the foundational research around the implementation of guidance program is lacking. Although most school counselors felt guidance programs in their school included major program components, the studies on the content of guidance programs criticized current guidance programs in the United States for not being comprehensive enough to include some important components, such as development issues. The lack of foundation establishing the connection between how school counselors perceive helpfulness of guidance programs to students as well as the lack of formative evaluations of the implementation of guidance programs would inhibit the direction of future research.

Research on Career Development Interventions in Taiwan

Since the 1960s, career guidance/counseling in Taiwan has been gradually developing. The initial term, *vocational guidance*, had mainly focused on helping junior and high school graduates find a job. Influenced by the changing definition from vocational guidance to career guidance in the United States, the term *vocational guidance* was also gradually replaced by *career guidance* in Taiwan. The meaning of *work* no longer focuses exclusively on earning a living. Rather, the meaning of *career* has broadened its old definition. Now it is regarded as a lifelong process of learning and work, which includes other non-job-related activities (Chang, 2002; Jin 1997; Tien, 1998).

Career guidance activities are designed to help students explore careers, enhance the understanding of themselves and diverse workforces, and develop the necessary decision-making and transition skills for career development. As such, facing significant shifts in the social structure and the rapid development of economics and technology in Taiwan, we as school counselors need to provide students in the new era with opportunities for potential development (Tien, 1998). Empirical studies regarding career development interventions and guidance programs will be reviewed as following.

Research on Effectiveness of K-12 Career Development Interventions

Recent research on career interventions with K-12 students has been sparse in Taiwan. Few studies investigate career development with elementary students (Lin, 2001; Lu, 1991; Wu, 2001). A study on the effects of a career group counseling project on career awareness and occupational gender-role stereotypes was developed for a group of fifth-graders. By conducting an experimental design, twenty students were involved in the study: ten were in the experimental group; the other 10 were in the control group. Students were given 12 group sessions, each session lasting 90 minutes. The results indicated that this career group intervention improved students' self-awareness and understanding of occupational function, prestige and characteristics (Wu, 2001).

Lin (2001) investigated the effects of career development curriculum on career maturity in elementary school children. This research was made in accordance with Super's career development theory. It also referred to the ability levels of "Cooperative Learning" by designing a curriculum that suited the sixth graders. The research intended to explore its influence on the students' career maturity. The samples were selected from 64 six-graders of two classes in the same elementary school. 34 students were in the experimental group. The co-variance analysis was conducted after

implementing this teaching curriculum. The major results revealed that (1) career development curriculum helps to improve students' career maturity levels; (2) career development curriculum helps to enhance students' career maturity regardless of students' sex and/or economical background; and (3) students involved hold a positive and supporting attitude towards career development curriculum.

To study the effects of peer tutoring on elementary school students' mathematics learning, Lu (1991) assigned thirty-two peer tutors from sixth grade to give one-on-one tutoring to thirty-two fourth graders who had mathematic learning difficulties. Twenty-two tutoring sessions were given to each student, 30-40 minutes each time. The results showed that this intervention helped students improve their scores in mathmatics.

At the middle school level, several studies have investigated the impact of career guidance interventions on middle school students (Kuo, 2000; Wang, 2002; Zhang, 1985). The investigation of the effectiveness of computer-assisted vocational and school-selecting guidance on the career development of middle school students was performed. The results indicated that after using this program, students had better career development than the students who didn't accept treatment (Zhang, 1985).

Wang (2002) conducted research on the effectiveness of technological and vocational education using general survey as the research method. The research subjects included three groups: the students and teachers who were in the technological and vocational education program of An-ping and Wen-xian Junior High Schools, as well as the parents whose children were in the education program of the two schools. Through this comprehensive research, it was anticipated that the effectiveness of technological and vocational education would be examined and a training system could be determined. The findings of this research were organized as follows: First, most of the students, parents, and teachers have a positive attitude toward the technological and vocational education. They think the students' performance could achieve the goal of the technological and vocational education program of junior high school. Second, technological and vocational education successfully decreases the proportion of students' deviant behavior and the proportion of dropouts. Finally, the practice of technological and vocational education could help junior high school students construct a better concept of the many different possible career choices.

Evaluating the experiment of "Infused Vocational Awareness Curriculum", Kuo (2000) tried to figure out the degree of influence to junior high school students who

accepted both the single subject and infused vocational awareness curriculum. The study added the vocational awareness curriculum to courses such as “Citizens and Virtue”, “Geography”, “Guidance Activity” and “Living Technology”. The experiment's duration lasted six weeks, totaling 12 hours. The results revealed: (1) the performance of students' outer value to their career was better when the study adopted the infused vocational awareness curriculum strategy rather than the single subject one; (2) there was a noticeable positive relationship between the achievement of vocational awareness learned and attitudes learned if students adopted the infused method; and (3) the infused vocational awareness curriculum strategy seemed to promote their families' status in their part performance of vocational knowledge.

Studies at the high school level have exhibited similar positive findings (Fang, 1985; Hou, 1985; He, 1982; Lin, 1986; Wang, 1997; Wu, 1984; Zeng, 1989). As for studying career group counseling, Wang (1997) investigated the effect of Career Search Group toward vocational construct system and career self-efficacy for female senior high school students. Subjects were twenty-four students from Taipei Municipal Ta-Tone High School. They were divided into two groups; twelve of them were in the experimental group and others were in the control group. The Major Selection Grids was administered before, within, and after the intervention. The

CDMSE was administered before and after the intervention. One-way ANCOVA was used to analyze the data. The results found that Career Search Group has a strong influence on the career self-efficacy. The career self-efficacy of the experimental group students was significantly higher than that of the control group students.

Fang (1985) also conducted group counseling that enhanced self-assurance and value clarification for the 10th grade female students. The results showed that this kind of group intervention could improve self-assuredness, and role trial of the 10th grade females.

A computer-assisted vocational guidance program was designed to help students choose vocations and assess the program's effectiveness. The results showed that after using this program, students improved their vocational decision-making behavior; furthermore, this computer-assisted program could increase the efficiency of the implementation of career guidance (Wu, 1984). Another study designed a career decision-making computer system to help students choose their future career. It provided a useful tool to help school counselors manage and relate career information materials while providing students a comprehensive career knowledge database from which to choose their careers (Zeng, 1989).

To study the effects of a career development curriculum on career maturity and

vocational self-concept of academic high school and vocational high school students, Hou (1985) designed a career development curriculum and researched its effectiveness. There were 431 students involved and 12 teaching sessions were administrated. Each session was 50 minutes. The results indicated that this curriculum can help students improve their vocational self concepts and their behaviors concerning career planning and career exploration.

He (1982) studied the effects of types of career information distribution on cognitive complexity, career decision-making behavior and person-environment congruence of tenth-grade female students. The results showed that different types of career information giving influenced students' career certainty.

Lin (1986) investigated the effectiveness of peer tutoring on academic and interpersonal adjustment difficulties facing students in vocational high schools. Thirty-nine students who have academic and interpersonal difficulties and forty-three peer tutors who received education on a tutor's role and ethics, communication skills, and group counseling training. The results indicated that by implementing peer tutoring intervention, only educational attitudes were significantly improved. The improvement of academic achievement and interpersonal relationships of students was not seen in this study.

Studies on Implementation of Career Development Interventions

Studies have assessed the impact of career guidance programs in Taiwan (Chen, 2002; Cheng, 2002; Chou, 1998; Lai, 2002; Li, 2000; Lin, 2000; Liu, 2000; Yu, 1998).

Some research attempted to understand the perspectives of school counselors, teachers, or other staff concerning program implementation (Cheng, 2002; Li, 2000).

Li (2000) analyzed Taiwanese junior high teachers about their beliefs, methods and predicaments in classroom discipline so as to find out the practical strategies of the integrated model of instruction, discipline and guidance. Twelve junior high teachers in four schools were included in a qualitative research study. The findings showed that students get more support from students' affair departments in discipline programs than from guidance programs.

A study explored the elementary classroom school teachers' and guidance teachers' perspectives toward students' guidance and school guidance work. Cheng (2002) selected ten elementary school teachers (including six classroom teachers and four guidance teachers), and utilized the insight interview method of qualitative research.

The conclusions about perspectives of school guidance work were: (1) the guidance office has a function of providing assistance, which proves to be inefficient;

students seldom voluntarily seek help through the guidance office; (2) teachers tend to project negative attitudes toward the evaluation of schools' guidance work; (3) schools' guidance meetings are not routinely held as scheduled appointments, and consequently the effectiveness of the meetings is minimized; (4) the main reasons why guidance teachers unable to perform effective guidance work are: (a) insufficient manpower to handle heavy workloads; (b) ambiguous ideas of classroom teachers' guidance attitudes; (c) failure to cope with classroom teachers; (d) failure to retain school principals' support; and (e) heavy workloads of classroom teachers; (5) most interviewed teachers (eight out of ten) think that classroom teachers stand in the front line of guidance work, guidance teachers simply provide assistance and resource; (6) the content of guidance study should be mainly practice-oriented; and (7) most teachers (seven out of ten) approve and support that counselors exert their professions in elementary schools.

As for evaluating the program, Yu (1998) conducted a study to understand the evaluation of the disciplinary and guidance affairs of junior high schools in Taiwan. Three hundred and thirty-two teachers, including deans and master teachers, were selected to answer the questionnaires in Yilang County in eastern Taiwan. Some 79 teachers of the subjects were interviewed to both verify and complement the empirical

data. The conclusions were as follows: First, the evaluation can carry out its posited objectives to improve both disciplinary and guidance affairs and to grade the accountability on the other. Second, the evaluation criteria play an important role both in self evaluation and on-site evaluation phases.

Some studies focused on students' satisfaction with the content of guidance programs (Chen, 2002; Lai, 2002; Liu, 2000; Wu, 1999). The researcher studied the learning satisfaction of vocational exploration and guidance in a course of junior high school students by investigating the effects and aspects of students' learning satisfaction. The results indicated that all the students were highly satisfied with course arrangement, teaching quality, learning environment, personal relationship, career planning, and overall performance (Liu, 2000).

To gain an understanding of student satisfaction, Lai (2002) conducted a study that investigated comprehensive high school students' satisfaction with the contents of schooling guidance. The target group of this study was determined by a stratified purposive sampling with juniors and seniors from 79 comprehensive high schools. A self-arranged questionnaire, "The Satisfaction of Comprehensive Students on Schooling Guidance", was used as a research tool for 2155 students from 41 schools. The final conclusions were as follows: (1) the general level of satisfaction of

Comprehensive High School students with the schooling guidance services leaned towards "satisfactory"; (2) Comprehensive High School students were most satisfied with the "Higher Education Guidance" and least satisfied with the "Learning Guidance", which required further improvements by the schools; (3) Comprehensive High School students thought that schools value students' attendance of professional license certifying exams in order to receive great results; and (4) different backgrounds of students including grade levels, types of schools, reasons for choosing the class, educational achievements, and taking the aptitude and interest tests did affect "the satisfaction of students on the schooling guidance".

Chen (2002) conducted a similar study to investigate graduates' satisfaction of the counseling guidance and curricula in the comprehensive high schools. A questionnaire survey and an in-depth interview were conducted in this study. The results showed: (1) most of the graduates were satisfied in the sense of the counseling guidance of the comprehensive high schools, in addition to vocational guidance; (2) most of the graduates were satisfied in the sense of the curricula of the Comprehensive High Schools, in addition to vocational curricula; and (3) most of the occupations that post-secondary graduates applied for were technical or semi-technical, thus their occupational adjustments were above average; furthermore, some of them were

confident of their skillful abilities and professional growth.

A similar study, Wu (1999) investigated the practice of the project of the advanced a schooling and employment guidance for comprehensive high school students. Moreover, it further made an exploration about the students' attitude and opinions of selected vocational curriculum. Document analysis, expert meeting, and questionnaires were implemented. The results revealed: (1) students most highly value teacher's instruction. On the contrary, they consider facilities and environment being in need of urgent improvement; and (2) all the students appreciate guidance teachers passionate and admire their eagerness in classroom inquiry. Moreover, the survey showed that the students joining in the project of advanced schooling and employment guidance get higher grades in technical ability diploma qualification.

Some studies were interested in assessing the impact of career guidance programs (Chou, 1998; Lin, 2000). One study intended to understand the career beliefs of students in comprehensive schools. Through a stratified random sampling questionnaire survey, 9 out of 18 experimental comprehensive schools in 1996 were chosen to conduct a survey of their freshmen, sophomores, and seniors. A Career Belief Scale and a survey about current counseling in each school were conducted.

The results indicated: (1) for the students in those schools, approval and

recognition from others played an important role in their career choices. They also believed they could be outstanding in their studies and jobs as long as they were interested; (2) students who took half to one year of counseling courses had more reasonable career beliefs than those who did not; and (3) career belief counseling, along with psychological tests and explanation of them could challenge their career beliefs (Chou, 1998).

Another study examined the career maturity of secondary education students in Taiwan, and compared the differences of the background variables among the comprehensive high schools, senior high schools, and vocational schools (Lin, 2000). Subjects were 12th grade secondary education students drawn from procedures of stratified sampling in the 2000 academic year. The instrument used was the "Career Development Inventory". Results of this study indicated: (1) the students in Comprehensive High School showed higher career maturity; (2) in comparing the career maturity of students among different educational systems with the same level of background variation, results revealed that the career maturity scores of the students in comprehensive high schools were higher than vocational school students in terms of gender, academic record, the sector of school, and expectancy of family. Also, students in comprehensive high schools scored higher than those in senior high

schools in terms of middle-low expectancy of family, and schools located in cities; and (3) to implement the guidance courses in comprehensive high schools might increase the career maturity of students.

According to the above studies, most results indicated that teachers had positive attitudes toward the function of guidance programs and that students showed satisfaction with most of the contents in guidance programs. Furthermore, students benefited from guidance program implementation although there were still some weaknesses in terms of program implementation.

Conclusion

From this literature review, it is still difficult to draw clear conclusions from the research in the area. There is some evidence which suggests that career development interventions contribute to a variety of positive student outcomes from career planning abilities to career-decision-making to job-search skills and even to an increased academic performance. Also, evidence of the impact of guidance program implementation is mostly positive in counselors', teachers' and students' attitudes toward school guidance programs. Although the literature on career development

interventions supports several points, there are many unique challenges in attempting to investigate career development interventions.

In some studies of guidance programs and vocational education, a consistent definition of what constitutes a career development intervention has yet to be made. Similarly, a poor definition of treatment in some studies was found. Thus, it is more difficult to investigate the implementation of career development interventions. Furthermore, there is no research found that has studied the implementation of career development interventions either in the U.S.A. or in Taiwan.

Most of the studies have investigated the implementation of guidance programs; it is difficult to understand if career development interventions included in guidance programs themselves contributed benefits to students' achievement and growth. Furthermore, school counselors will be unlikely to decide what kinds of career development interventions should be included if the studies on the implementation of career development interventions are not investigated. The lack of studies on specific career interventions and career development activities is a hindrance to designing and implementing effective comprehensive guidance programs.

CHAPTER 3: METHOD

This chapter explains the methods used for data collection in this study. The description of participants is followed by the procedures for school selection and mailing process. Finally, the variable coding and data analysis are described in detail.

Participants

The research population consisted of comprehensive high school directors of guidance program in Taiwan. The questionnaires were sent to all Comprehensive High Schools in Taiwan. A total of 153 questionnaires were mailed, adhering to the Dillman Total Design Method (2000). A total of 119 guidance directors of Comprehensive High Schools in Taiwan responded to the questionnaire, resulting in a response rate of 78 percent. All received questionnaires were used in data analysis.

There are 65 females (55%) and 52 (44%) males responding the questionnaires. As for respondents' educational level, 70 (59%) respondents indicate they have completed four-year college and 47 (40%) respondents have graduate degree. However, there were two respondents who didn't identify their genders as well as educational levels.

Procedures

School Selection

All directors of guidance programs (N=153) in comprehensive high schools in Taiwan were included as research population in the study.

Mailing

The contents of the mailings and the mailing procedures followed the Total Design Method proposed by Dillman (2000). Beginning on April 7, 2003, each guidance director was mailed a questionnaire (See Appendix B), a self-addressed stamped envelope, and an assigned cover letter, which described the purpose of the study and emphasized that confidentiality was ensured (See Appendix C).

One week later, on April 14, a follow-up postcard was sent to all recipients of the first mailing. This follow-up thanked those who had already returned their questionnaire and served as a reminder to those who had not (See Appendix D).

A second follow-up was sent to non-respondents exactly three weeks after the original mailing on April 28, 2003 (See Appendix E). The third and final follow-up occurred on May 26, exactly seven weeks after the original mailing, with a different cover letter (See Appendix F).

Each appendix mentioned above includes English version and Chinese version. Because all participants are Chinese, the Chinese versions of appendixes were sent to the participants. The estimated time commitment for the participants is 15-20 minutes.

Measures

The instrument, Career Development Intervention Survey, used in this survey (Appendix B) was designed by a team of career development experts (Dykeman, et al., 2001) to measure the 44 career interventions and four career development taxa. Each career intervention was described in behavioral terms to prevent confusion with technical terms or career development jargon. National career development experts critiqued the survey instrument and recommendations for improvements were incorporated into subsequent drafts of the survey. In addition to respondent information on the career development interventions, the survey also collected information on participant gender, position and education level.

To construct a culturally sensitive instrument, three steps of translating instrument into other language is utilized (Rubin & Babbie, 2001). First, I translated instrument into Chinese. Second, Chinese version of instrument was translated back into English by a doctoral student studying in Counseling Psychology at University of

Missouri, who is fluent in both Chinese and English languages. Third, the re-translated English version instrument was compared with the original one by a professor in Counseling to validate its content validity.

Background Variables

Gender

Description. Gender was determined by respondent choice between the categories male or female on the survey instrument.

Coding. Gender was coded for data analyses in the following manner:

0 = Female

1 = Male

Participant Educational Level

Description. Participant educational level was also determined by respondents' selection from the following categories: master's degree/doctorate, four-year college, two-year college. Respondents were asked to select one of the categories as the highest degree. Respondents were asked to select one of three categories: (a) two year

college (AA, AS, AAS, etc.), (b) four-year college (BA, BS, etc.), or (c) master's degree or doctorate.

Coding. Participant education level was coded as:

1 = Two-year college

2 = Four year college

3 = Master's degree or doctorate

Criterion Variables

Field Career Development Interventions

Description. The taxon named "Field" consists of career development interventions that occur in the community as opposed to interventions that occur within the school. The field taxon includes the following career development interventions: cooperative education, internships, job-shadowing, job-coaching, job-placement, mentorship programs, service learning/volunteer programs, work-based learning projects, work-study, and youth apprenticeship.

Coding. The participants responded to the survey questions by putting a mark in the blank to signify the occurrence of career development interventions. For items (e.g., job-shadow) that occur episodically during a school year (e.g., 10th grade), the

participants were simply asked to put a check mark in the blank under that grade and also put a mark in the blank under the "helpful" column if participants perceived the career intervention that occurs in their school as helpful. The total for each year of all three years of high school was computed and entered into the database. Some participants entered responses such as "don't know," or other unexpected words. These responses were coded as "99" when entered into the database and excluded from the frequencies run for the data.

Advising Career Development Interventions

Description. The "Advising" taxon is comprised of interventions that are designed to provide the student with educational direction and occupational planning. The Advising taxon includes the following career development interventions: academic planning counseling, career-focused parent/student conference, career-peer advising/tutoring, career map, career maturity assessment, career counseling, career interests assessments, career library/career resource center, career cluster/pathway/major, career skill certificate, college admissions testing, computer-assisted career guidance, cooperative/dual enrollment, information interviewing, job-hunting preparation, personal/social counseling, portfolio/individual

career plan, recruiting, referral to external training programs, and referral to external counseling/assessment.

Coding. The participants responded to the survey questions by putting a mark in the blank signifying the occurrence of career development interventions. For items (e.g., career-focused parent/student conference) that occur episodically during a school year (e.g., 10th grade), the participants were simply asked to put a check mark in the blank under that grade and also to put a mark in the blank under the "helpful" column if participants perceived the career intervention that occurs in their school as helpful. The total for each year of all three years of high school was computed and entered into the database. Some participants entered responses such as "don't know," or other unexpected words. These responses were coded as "99" when entered into the database and excluded from the frequencies run for the data.

Awareness Career Development Interventions

Description. Interventions designed to make students aware of career options and the need to plan for life after school are in the "Awareness" taxon. The Awareness taxon includes the following career development interventions: career day/career fair, career field trip, career aptitude assessment, community members

teaching in the classroom, guidance lessons on personal/social development, guidance lessons on career development, and guidance lessons on academic planning.

Coding. The participants responded to the survey questions by putting a mark in the blank signifying the occurrence of career development interventions. For items (e.g., career day) that occur episodically during a school year (e.g., 10th grade), the participants were simply asked to put a check mark in the blank under that grade and also to put a mark in the blank under the "helpful" column if participants perceived the career intervention that occurs in their school as helpful. The total for each year of all three years of high school was computed and entered into the database. Some participants entered responses such as "don't know," or other unexpected words. These responses were coded as "99" when entered into the database and excluded from the frequencies run for the data.

Curriculum Career Development Interventions

Description. The "Curriculum" taxon includes the career development interventions with formal and informal instruction designed to build foundational work skills and knowledge in students. The Curriculum taxon includes the following career development interventions: career information infused into the curriculum,

career/technical education courses, career skills infused into the classroom, career academy/magnet school, school based enterprise, student clubs/activities, and Tech Prep/ 2+2 curriculum.

Coding. The participants responded to the survey questions by putting a mark in the blank signifying the occurrence of career development interventions. For items (e.g., Tech. Prep./2+2) that occur episodically during a school year (e.g., 10th grade), the participants were simply asked to put a check mark in the blank under that grade and also to put a mark in the blank under the "helpful" column if participants perceived the career intervention that occurs in their school as helpful. The total for each year of all three years of high school was computed and entered into the database. Some participants entered responses such as "don't know," or other unexpected words. These responses were coded as "99" when entered into the database and excluded from the frequencies run for the data.

Data Analysis

Analysis for Research Questions

Research Question 1: To establish the level of the implementation of career development interventions in comprehensive high schools in Taiwan, frequency,

mean, standard deviation and percentile rank of each career intervention was computed. The computer program SPSS was utilized.

Research Question 2: To answer career interventions perceived as helpful by school counselors in comprehensive high schools in Taiwan, frequency, mean, standard deviation and percentile rank of the perceived helpfulness of each career intervention was computed. The computer program SPSS was utilized.

Missing Values

There was no missing value found while data analysis was conducted in this study.

CHAPTER 4: RESULTS

This chapter presents the results of the statistical analyses of research variables. The research purpose of this dissertation is to investigate the implementation of career interventions in Taiwanese comprehensive high schools. The questionnaires were sent to all comprehensive high schools in Taiwan. A total of 153 questionnaires were mailed, adhering to the Dillman Total Design Method (2000).

A total of 119 guidance directors of comprehensive high schools in Taiwan responded to the questionnaire, resulting in a response rate of 78 percent. All received questionnaires were used in data analysis.

The research variables in this dissertation included (a) two background variables (Gender, and Parent Educational Level) and (b) four career development intervention taxa variables (Field, Awareness, Advising, and Curriculum). All data in each variable were put into SPSS statistical analysis.

First, the chapter will detail the descriptive statistics of respondents' demographics. Second, the descriptive statistics of implementation and perceived helpfulness of the career development intervention taxon by using Sum, Mean, Standard Deviation, and Percentage will be presented to answer research questions.

Respondents Demographics: Descriptive Statistics

Sixty-five females (55%) and fifty-two males (44%) responded to the questionnaires. As for respondents' educational level, seventy respondents (59%) indicated having completed a four-year college program and forty-seven respondents (40%) reported earning a graduate degree. However, there were two respondents who failed to identify their gender and educational level.

Career Development Interventions: Descriptive Statistics

This study asked respondents to indicate if each career development intervention occurred in their schools. A check mark was placed to respond to the question if the career intervention occurred. When put into data analysis, "1" indicates the career intervention occurred; "0" represented the intervention that didn't occur.

Table 2.1 shows the descriptive statistics for the career development interventions. Each career development intervention is listed, followed by a Roman numeral that indicates in which taxon the intervention belongs. The table gives the sum/total quantity for each intervention as well as the average and standard deviation.

Table 2.1

Descriptive Statistics for Career Development Interventions

| Item Number | Intervention | Sum | Mean | Standard Deviation |
|-------------|---|-----|-------|--------------------|
| 1 | Job Shadowing (I) | 134 | 44.67 | 14.64 |
| 2 | Work Based Learning Project (I) | 100 | 33.33 | 13.87 |
| 3 | Internship (I) | 84 | 28 | 12.17 |
| 4 | Job Placement (I) | 111 | 37 | 36.43 |
| 5 | Mentorship Programs (I) | 104 | 34.67 | 17.50 |
| 6 | Job Coaching (I) | 104 | 34.67 | 17.79 |
| 7 | Personal/Social Counseling (II) | 277 | 92.33 | 14.98 |
| 8 | Career Focused Parent/Student Conference (II) | 243 | 81 | 6.24 |
| 9 | Career Maturity Assessment (II) | 218 | 72.67 | 13.43 |
| 10 | Referral to external counseling/assessment (II) | 127 | 42.33 | 7.09 |
| 11 | Referral to external training programs (II) | 74 | 24.67 | 11.72 |
| 12 | Career Interests Assessment (II) | 184 | 61.33 | 17.04 |
| 13 | Recruiting (II) | 162 | 54 | 43.28 |
| 14 | College Admissions Testing (II) | 123 | 41 | 60.63 |
| 15 | Job Hunting Preparation (II) | 147 | 49 | 42.46 |

Table 2.1, continued

| Item Number | Intervention | Sum | Mean | Standard Deviation |
|-------------|---|-----|-------|--------------------|
| 16 | Information Interviewing (II) | 129 | 43 | 3.61 |
| 17 | Career Peer Advising/Tutoring (II) | 199 | 66.33 | 7.51 |
| 18 | Computer Assisted Career Guidance (II) | 241 | 80.33 | 6.43 |
| 19 | Portfolio/Individual Career Plan (II) | 190 | 63.33 | 15.37 |
| 20 | Career Cluster/Pathway/Major (II) | 172 | 57.33 | 12.01 |
| 21 | Career Library/Resource Center (II) | 252 | 84 | 10.15 |
| 22 | Career Map (II) | 129 | 43 | 5.20 |
| 23 | Career Counseling (II) | 288 | 96 | 10.44 |
| 24 | Guidance Lessons on Personal/Social Development (III) | 196 | 65.33 | 5.77 |
| 25 | Guidance Lessons on Academic Planning (III) | 166 | 55.33 | 10.41 |
| 26 | Career Aptitude Assessment (III) | 155 | 51.67 | 9.87 |
| 27 | Career Field Trip (III) | 156 | 52 | 18.36 |
| 28 | Career Skills Infused into the Classroom (IV) | 178 | 59.33 | 11.59 |
| 29 | Career Information Infused into the Classroom (IV) | 184 | 61.33 | 6.35 |
| 30 | Cooperation Education (I) | 99 | 33 | 13.11 |
| 31 | Youth Apprenticeship (I) | 102 | 34 | 10.58 |
| 32 | Work Study Service (I) | 79 | 26.33 | 11.24 |
| 33 | Learning/Voluntary Program (I) | 76 | 25.33 | 6.35 |

Table 2.1, continued

| Item Number | Intervention | Sum | Mean | Standard Deviation |
|-------------|--|-----|-------|--------------------|
| 34 | Cooperative/Dual Enrollment (II) | 49 | 16.33 | 13.05 |
| 35 | Career Passport/Skill Certificate (II) | 175 | 58.33 | 17.67 |
| 36 | Student Clubs/Activities (IV) | 207 | 69 | 11.27 |
| 37 | School Based Enterprise (IV) | 60 | 20 | 13.53 |
| 38 | Guidance Lessons on Career Development (III) | 134 | 44.67 | 13.58 |
| 39 | Community Members Teach in the Classroom (III) | 105 | 35 | 9.17 |
| 40 | Career Day/Career Fair (III) | 207 | 69 | 11.27 |
| 41 | Tech Pre/2+2 Curriculum (IV) | 65 | 21.67 | 15.63 |
| 42 | Career Academy (IV) | 104 | 34.67 | 4.16 |
| 43 | Career/Technical Education Course (IV) | 216 | 72 | 9 |
| 44 | Academic Planning Counseling (II) | 259 | 86.33 | 2.08 |

Note: N = 119

I = Field

II = Advising

III = Awareness

IV = Curriculum

As indicated by the data in Table 1, “Career Counseling” and “Personal/Social Counseling” are the interventions that most schools employ according to respondents.

The sum of the schools that employ each intervention among 10th, 11th, and 12th

grades are 288 schools and 277 schools respectively. The average of school numbers

in each grade for employing "Career Counseling" was 96 ($SD=10.44$) and 92.33 ($SD = 14.98$) for "Personal/Social Counseling". Each intervention is part of the Advising taxon as well.

The career development intervention "Academic Planning Counseling" (Advising taxon) was the third most employed among comprehensive high schools. The sum of schools across three grades is 259 and an average of 86.33 ($SD = 2.08$) schools in each grade.

The final three interventions that the least schools employed are "Tech Pre/2+2 Curriculum (Curriculum taxon)", "School Based Enterprise (Curriculum taxon)", and "Cooperative/Dual Enrollment (Advising taxon)". The intervention "Cooperative/Dual Enrollment" in the Advising taxon had the least school employment. The sum of schools is 49, and the average schools in each grade are 16.33 ($SD = .44$). "Tech Pre/2+2 Curriculum (Curriculum taxon)" and "School Based Enterprise (Curriculum taxon)" had a total of 65 and 60 respectively and an average of 21.67 ($SD = 15.63$) and 20 ($SD = 13.53$). Both of these interventions are in the Curriculum taxon.

Table 2.2 ranks 44 career development interventions from the most employed to the least used in Taiwanese comprehensive high schools. As indicated in Table 2.2, the top ten career intentions that most schools used are as follows: Career Counseling

Table 2.2

Career Intervention Ranking Table

| Rank | Intervention (Taxon)(Item Number) |
|------|--|
| 1 | Career Counseling (II) 23 |
| 2 | Personal/Social Counseling (II) 7 |
| 3 | Academic Planning Counseling (II) 44 |
| 4 | Career Library/Resource Center (II) 21 |
| 5 | Career Focused Parent/Student Conference (II) 8 |
| 6 | Computer Assisted Career Guidance (II) 18 |
| 7 | Career Maturity Assessment (II) 9 |
| 8 | Career/Technical Education Course (IV) 43 |
| 9 | Student Clubs/Activities (IV) 36 |
| 10 | Career Day/Career Fair (III) 40 |
| 11 | Career Peer Advising/Tutoring (II) 17 |
| 12 | Guidance Lessons on Personal/Social Development (III) 24 |
| 13 | Portfolio/Individual Career Plan (II) 19 |
| 14 | Career Information Infused into the Classroom (IV) 29 |
| 14 | Career Interests Assessment (II) 12 |
| 16 | Career Skills Infused into the Classroom (IV) 28 |
| 17 | Career Passport/Skill Certificate (II) 35 |
| 18 | Career Cluster/Pathway/Major (II) 20 |
| 19 | Guidance Lessons on Academic Planning (III) 25 |
| 20 | Recruiting (II) 13 |
| 21 | Career Field Trip (III) 27 |
| 22 | Career Aptitude Assessment (III) 26 |
| 23 | Job Hunting Preparation (II) 15 |
| 24 | Guidance Lessons on Career Development (III) 38 |
| 24 | Job Shadowing (I) 1 |
| 26 | Career Map (II) 22 |
| 26 | Information Interviewing (II) 16 |
| 28 | Referral to external counseling/assessment (II) 10 |
| 29 | College Admissions Testing (II) 14 |
| 30 | Job Placement (I) 4 |
| 31 | Community Members Teach in the Classroom (III) 39 |
| 32 | Career Academy (IV) 42 |
| 32 | Job Coaching (I) 6 |

Table 2.2, continued

| Rank | Intervention (Taxon Field)(Item Number) |
|------|--|
| 32 | Mentorship Programs (I) 5 |
| 35 | Youth Apprenticeship (I) 31 |
| 36 | Work Based Learning Project (I) 2 |
| 37 | Cooperation Education (I) 30 |
| 38 | Internship (I) 3 |
| 39 | Work Study Service (I) 32 |
| 40 | Learning/Voluntary Program (I) 33 |
| 41 | Referral to external training programs (II) 11 |
| 42 | Tech Pre/2+2 Curriculum (IV) 41 |
| 43 | School Based Enterprise (IV) 37 |
| 44 | Cooperative/Dual Enrollment (II) 34 |

Note: N = 119

I = Field

II = Advising

III = Awareness

IV = Curriculum

(II), Personal/Social Counseling (II), Academic Planning Counseling (II), Career

Library/Resource Center (II), Career Focused Parent/Student Conference (II),

Computer Assisted Career Guidance (II), Career Maturity Assessment (II),

Career/Technical Education Course (IV), Student Clubs/Activities (IV), and Career

Day/Career Fair (III). Seven of these are in the Advising taxon; two are in the

Curriculum taxon; one is in the Awareness taxon.

The last ten career interventions that the least schools employ are as follows:

Youth Apprenticeship (I), Work Based Learning Project (I), Cooperation Education (I), Internship (I), Work Study Service (I), Learning/Voluntary Program (I), Referral to external training programs (II), Tech Pre/2+2 Curriculum (IV), School Based Enterprise (IV), and Cooperative/Dual Enrollment (II). Six of them are in the Field taxon; two are in the Advising taxon; two are in the Curriculum taxon.

The Implementation of Career Interventions in 10th, 11th, and 12th Grade

The previous section described the general implementation of career development interventions across grades and taxon areas. Further, this section indicated the implementation of career interventions in each grade and in each taxon area in response to research question one.

The implementation of career intervention in 10th grade in each taxon area is respectively shown in Table 2.3, Table 2.4, Table 2.5, and Table 2.6. Table 2.3 indicates that in the Field taxon in the 10th grade, the top three career interventions most schools employ are "Job Shadowing" ($n=29$), "Youth Apprenticeship" ($n=22$), and "Cooperation Education" ($n=21$). The last three were: "Internship" ($n=14$), "Job Placement" ($n=14$), and "Work Study Service" ($n=14$).

Table 2.3

Field Career Interventions in the 10th Grade

| Rank | Taxon | Contents | Item | 10 th grade |
|------|-------|-----------------------------|------|------------------------|
| | | | | School n (%) |
| 1 | I | Job Shadowing | 1 | 29(24.4%) |
| 2 | I | Youth Apprenticeship | 31 | 22(18.5%) |
| 3 | I | Cooperation Education | 30 | 21(17.6%) |
| 4 | I | Job Coaching | 6 | 19(16%) |
| 5 | I | Work Based Learning Project | 2 | 18(15.1%) |
| 5 | I | Learning/Voluntary Program | 33 | 18(15.1%) |
| 7 | I | Mentorship Programs | 5 | 17(14.3%) |
| 8 | I | Internship | 3 | 14(11.8%) |
| 8 | I | Job Placement | 4 | 14(11.8%) |
| 8 | I | Work Study Service | 32 | 14(11.8%) |

N=119

Table 2.4 reveals that in the Advising taxon in the 10th grade, the top three career interventions most schools employ were "Person/Social Counseling" ($n=109$), "Career Counseling" ($n=89$), and "Career Maturity Assessment" ($n=88$). The last three were: "Referral to External Training Program" ($n=16$), "Cooperative/Dual Enrollment" ($n=6$), and "College Admission Testing" ($n=5$).

Table 2.4

Advising Career Interventions in the 10th Grade

| Rank | Taxon | Contents | Item | 10 th grade |
|------|-------|--|------|------------------------|
| | | | | School n (%) |
| 1 | II | Person/Social Counseling | 7 | 109(91.6%) |
| 2 | II | Career Counseling | 23 | 89(74.8%) |
| 3 | II | Career Maturity Assessment | 9 | 88(73.9%) |
| 4 | II | Computer Assisted Career Guidance | 18 | 85(71.4%) |
| 5 | II | Academic Planning Counseling | 44 | 84(70.6%) |
| 6 | II | Career Interest Assessment | 12 | 81(68.1%) |
| 7 | II | Career Focused Parent/Student Conference | 8 | 76(63.9%) |
| 8 | II | Career Library/Resource | 21 | 75(63%) |
| 9 | II | Career Peer Advising/Tutoring | 17 | 59(49.6%) |
| 10 | II | Portfolio/Individual Career Plan | 19 | 53(44.5%) |
| 11 | II | Career Map | 22 | 46(38.7%) |
| 12 | II | Career Cluster/Pathway/Major | 20 | 45(37.8%) |
| 13 | II | Information Interviewing | 16 | 40(33.6%) |
| 14 | II | Career Passport/Skill Certificate | 35 | 38(31.9%) |
| 15 | II | Referral to External Counseling/Assessment | 10 | 36(30.3%) |
| 16 | II | Job Hunting Preparation | 15 | 23(19.3%) |
| 17 | II | Recruiting | 13 | 21(17.6%) |
| 18 | II | Referral to External Training Program | 11 | 16(13.4%) |
| 19 | II | Cooperative/Dual Enrollment | 34 | 6(5%) |
| 20 | II | College Admission Testing | 14 | 5(4.2%) |

N=119

Table 2.5 indicates that in the Awareness taxon in the 10th grade, the top three career interventions most schools employ are "Guidance Lessons on Personal and Social Development" ($n=72$), "Guidance Lessons on Academic Planning" ($n=67$), and "Career Aptitude Assessment" ($n=63$). The last three are: "Career Day/Career Fair" ($n=32$), "Career Field Trip" ($n=31$), and "Community Members Teach in the Classroom" ($n=25$).

Table 2.5

Awareness Career Interventions in the 10th Grade

| Rank | Taxon | Contents | Item | 10 th grade |
|------|-------|---|------|------------------------|
| | | | | School n (%) |
| 1 | III | Guidance Lessons on Personal and Social Development | 24 | 72(60.5%) |
| 2 | III | Guidance Lessons on Academic Planning | 25 | 67(56.3%) |
| 3 | III | Career Aptitude Assessment | 26 | 63(52.9%) |
| 4 | III | Guidance Lessons on Career Development | 38 | 43(36.1%) |
| 5 | III | Career Day/Career Fair | 40 | 32(26.9%) |
| 6 | III | Career Field Trip | 27 | 31(26.1%) |
| 7 | III | Community Members Teach in the Classroom | 39 | 25(21%) |

N=119

Table 2.6 illustrates that in the Curriculum taxon in the 10th grade, the top three career interventions most schools employ are "Student Clubs/Activity" ($n=63$), "Career/Technical Education Course" ($n=63$), and "Career Skills Infused into the Classroom" ($n=61$). The last three are: "Career Academy" ($n=30$), "School Based Enterprise" ($n=7$), and "Tech pre/2+2 curriculum" ($n=5$).

Table 2.6

Curriculum Career Interventions in the 10th Grade

| Rank | Taxon | Contents | Item | 10 th grade |
|------|-------|---|------|------------------------|
| | | | | School n (%) |
| 1 | IV | Student Clubs/Activity | 36 | 63(52.9%) |
| 1 | IV | Career/Technical Education Course | 43 | 63(52.9%) |
| 3 | IV | Career Skills Infused into the Classroom | 28 | 61(51.3%) |
| 4 | IV | Career Information Infused into the Classroom | 29 | 54(45.4%) |
| 5 | IV | Career Academy | 42 | 30(25.2%) |
| 6 | IV | School Based Enterprise | 37 | 7(5.9%) |
| 7 | IV | Tech Pre/2+2 Curriculum | 41 | 5(4.2%) |

N=119

The implementation of career intervention in 11th grade in each taxon area is respectively showed in Table 2.7, Table 2.8, Table 2.9, and Table 2.10. Table 2.7 reveals that in the Field taxon in the 11th grade, the top three career interventions most

schools employ are "Job Shadowing" ($n=47$), "Youth Apprenticeship" ($n=38$), and "Work Based Learning Project" ($n=37$). The last three are: "Work Study Service" ($n=29$), "Learning/Voluntary Program" ($n=29$), and "Job Placement" ($n=18$).

Table 2.7

Field Career Interventions in the 11th Grade

| Rank | Taxon | Contents | Item | 11 th grade |
|------|-------|-----------------------------|------|------------------------|
| | | | | School n (%) |
| 1 | I | Job Shadowing | 1 | 47(39.5%) |
| 2 | I | Youth Apprenticeship | 31 | 38(31.9%) |
| 3 | I | Work Based Learning Project | 2 | 37(31.1%) |
| 4 | I | Mentorship Programs | 5 | 35(29.4%) |
| 5 | I | Internship | 3 | 34(28.6%) |
| 6 | I | Job Coaching | 6 | 31(26.1%) |
| 6 | I | Cooperation Education | 30 | 31(26.1%) |
| 8 | I | Work Study Service | 32 | 29(24.4%) |
| 8 | I | Learning/Voluntary Program | 33 | 29(24.4%) |
| 10 | I | Job Placement | 4 | 18(15.1%) |

N=119

Table 2.8 indicates that in the Advising taxon in the 11th grade, the top three career interventions most schools employ are "Career Counseling" ($n=91$), "Person/Social Counseling" ($n=88$), and "Academic Planning Counseling" ($n=88$). The last three are: "Referral to External Training Program" ($n=20$), "Cooperative/Dual Enrollment" ($n=12$), and "College Admission Testing" ($n=7$).

Table 2.8

Advising Career Interventions in the 11th Grade

| Rank | Taxon | Contents | Item | 11 th grade |
|------|-------|--|------|------------------------|
| | | | | School n (%) |
| 1 | II | Career Counseling | 23 | 91(76.5%) |
| 2 | II | Person/Social Counseling | 7 | 88(73.9%) |
| 2 | II | Academic Planning Counseling | 44 | 88(73.9%) |
| 4 | II | Career Library/Resource | 21 | 82(68.9%) |
| 5 | II | Career Focused Parent/Student Conference | 8 | 79(66.4%) |
| 6 | II | Computer Assisted Career Guidance | 18 | 73(61.3%) |
| 7 | II | Career Passport/Skill Certificate | 35 | 70(58.8%) |
| 8 | II | Career Cluster/Pathway/Major | 20 | 69(58%) |
| 9 | II | Career Maturity Assessment | 9 | 67(56.3%) |
| 10 | II | Career Peer Advising/Tutoring | 17 | 66(55.5%) |
| 11 | II | Portfolio/Individual Career Plan | 19 | 56(47.1%) |
| 12 | II | Career Interest Assessment | 12 | 52(43.7%) |
| 13 | II | Information Interviewing | 16 | 42(35.3%) |
| 14 | II | Referral to External Counseling/Assessment | 10 | 41(34.5%) |
| 15 | II | Recruiting | 13 | 38(31.9%) |
| 16 | II | Career Map | 22 | 37(31.1%) |
| 17 | II | Job Hunting Preparation | 15 | 26(21.8%) |
| 18 | II | Referral to External Training Program | 11 | 20(16.8%) |
| 19 | II | Cooperative/Dual Enrollment | 34 | 12(10.1%) |
| 20 | II | College Admission Testing | 14 | 7(5.9%) |

N=119

Table 2.9 reveals that in the Awareness taxon in the 11th grade, the top three career interventions most schools employ are "Career Field Trip" ($n=65$), "Guidance Lessons on Personal and Social Development" ($n=62$), and "Guidance Lessons on Academic Planning" ($n=52$). The last three are: "Career Aptitude assessment" ($n=45$), "Community Members Teach in the Classroom" ($n=37$), and "Guidance Lessons on Career Development" ($n=32$).

Table 2.9

Awareness Career Interventions in the 11th Grade

| Rank | Taxon | Contents | Item | 11 th grade |
|------|-------|---|------|------------------------|
| | | | | School n (%) |
| 1 | III | Career Field Trip | 27 | 65(54.6%) |
| 2 | III | Guidance Lessons on Personal and Social Development | 24 | 62(52.1%) |
| 3 | III | Guidance Lessons on Academic Planning | 25 | 52(43.7%) |
| 4 | III | Career Day/Career Fair | 40 | 47(39.5%) |
| 5 | III | Career Aptitude Assessment | 26 | 45(37.8%) |
| 6 | III | Community Members Teach in the Classroom | 39 | 37(31.1%) |
| 7 | III | Guidance Lessons on Career Development | 38 | 32(26.9%) |

N=119

Table 2.10 indicates that in the Curriculum taxon in the 11th grade, the top three career interventions most schools employ are "Student Clubs/Activity" ($n=82$),

"Career/Technical Education Course" ($n=81$), and "Career Skills Infused into the Classroom" ($n=70$). The final three are: "Career Academy" ($n=36$), "Tech Pre/2+2 curriculum" ($n=24$), and "School Based Enterprise" ($n=19$).

Table 2.10

Curriculum Career Interventions in the 11th Grade

| Rank | Taxon | Contents | Item | 11 th grade |
|------|-------|---|------|------------------------|
| | | | | School n (%) |
| 1 | IV | Student Clubs/Activity | 36 | 82(68.9%) |
| 2 | IV | Career/Technical Education Course | 43 | 81(68.1%) |
| 3 | IV | Career Skills Infused into the Classroom | 28 | 70(58.8%) |
| 4 | IV | Career Information Infused into the Classroom | 29 | 65(54.6%) |
| 5 | IV | Career Academy | 42 | 36(30.3%) |
| 6 | IV | Tech Pre/2+2 Curriculum | 41 | 24(20.2%) |
| 7 | IV | School Based Enterprise | 37 | 19(16%) |

N=119

The implementation of career intervention in 12th grade in each taxon area is respectively shown in Table 2.11, Table 2.12, Table 2.13, and Table 2.14. Table 2.11 illustrates that in the Field taxon in the 12th grade, the top three career interventions most schools employ are "Job Placement" ($n=79$), "Job Shadowing" ($n=58$), and "Job Coaching" ($n=54$). The last three are: "Internship" ($n=36$), "Work Study Service" ($n=36$), and "Learning/Voluntary Program" ($n=29$).

Table 2.11

Field Career Interventions in the 12th Grade

| Rank | Taxon | Contents | Item | 12 th grade |
|------|-------|-----------------------------|------|------------------------|
| | | | | School n (%) |
| 1 | I | Job Placement | 4 | 79(66.4%) |
| 2 | I | Job Shadowing | 1 | 58(48.7%) |
| 3 | I | Job Coaching | 6 | 54(45.4%) |
| 4 | I | Mentorship Programs | 5 | 52(43.7%) |
| 5 | I | Cooperation Education | 30 | 47(39.5%) |
| 6 | I | Work Based Learning Project | 2 | 45(37.8%) |
| 7 | I | Youth Apprenticeship | 31 | 42(35.3%) |
| 8 | I | Internship | 3 | 36(30.3%) |
| 8 | I | Work Study Service | 32 | 36(30.3%) |
| 10 | I | Learning/Voluntary Program | 33 | 29(24.4%) |

N=119

Table 2.12 indicates that in the Advising taxon in the 12th grade, the top three career interventions most schools employ are "College Admission Testing" ($n=111$), "Career Counseling" ($n=108$), and "Recruiting" ($n=103$). The final three are: "Career Map" ($n=46$), "Referral to External Training Program" ($n=38$), and "Cooperative/Dual Enrollment" ($n=31$).

Table 2.12

Advising Career Interventions in the 12th Grade

| Rank | Taxon | Contents | Item | 12 th grade |
|------|-------|--|------|------------------------|
| | | | | School n (%) |
| 1 | II | College Admission Testing | 14 | 111(93.3%) |
| 2 | II | Career Counseling | 23 | 108(90.8%) |
| 3 | II | Recruiting | 13 | 103(86.6%) |
| 4 | II | Job Hunting Preparation | 15 | 98(82.4%) |
| 5 | II | Career Library/Resource | 21 | 95(79.8%) |
| 6 | II | Career Focused Parent/Student Conference | 8 | 88(73.9%) |
| 7 | II | Academic Planning Counseling | 44 | 87(73.1%) |
| 8 | II | Computer Assisted Career Guidance | 18 | 83(69.7%) |
| 9 | II | Portfolio/Individual Career Plan | 19 | 81(68.1%) |
| 10 | II | Person/Social Counseling | 7 | 80(67.2%) |
| 11 | II | Career Peer Advising/Tutoring | 17 | 74(62.2%) |
| 12 | II | Career Passport/Skill Certificate | 35 | 67(56.3%) |
| 13 | II | Career Maturity Assessment | 9 | 63(52.9%) |
| 14 | II | Career Cluster/Pathway/Major | 20 | 58(48.7%) |
| 15 | II | Career Interest Assessment | 12 | 51(42.9%) |
| 16 | II | Referral to External Counseling/Assessment | 10 | 50(42%) |
| 17 | II | Information Interviewing | 16 | 47(39.5%) |
| 18 | II | Career Map | 22 | 46(38.7%) |
| 19 | II | Referral to External Training Program | 11 | 38(31.9%) |
| 20 | II | Cooperative/Dual Enrollment | 34 | 31(26.1%) |

N=119

Table 2.13 reveals that in the Awareness taxon in the 12th grade, the top three career interventions most schools employ are "Career Day/Career Fair" ($n=72$), "Guidance Lessons on Personal and Social Development" ($n=62$), and "Career Field Trip" ($n=60$). The last three are: "Guidance Lessons on Academic Planning" ($n=47$), "Career Aptitude Assessment" ($n=47$), and "Community Members Teach in the Classroom" ($n=43$).

Table 2.13

Awareness Career Interventions in the 12th Grade

| Rank | Taxon | Contents | Item | 12 th grade |
|------|-------|---|------|------------------------|
| | | | | School n (%) |
| 1 | III | Career Day/Career Fair | 40 | 72(60.5%) |
| 2 | III | Guidance Lessons on Personal and Social Development | 24 | 62(52.1%) |
| 3 | III | Career Field Trip | 27 | 60(50.4%) |
| 4 | III | Guidance Lessons on Career Development | 38 | 59(49.6%) |
| 5 | III | Guidance Lessons on Academic Planning | 25 | 47(39.5%) |
| 5 | III | Career Aptitude Assessment | 26 | 47(39.5%) |
| 7 | III | Community Members Teach in the Classroom | 39 | 43(36.1%) |

N=119

Table 2.14 illustrates that in the Curriculum taxon in the 12th grade, the top three career interventions most schools employ are "Career/Technical Education Course"

($n=72$), "Career Information Infused into the Classroom" ($n=65$), and "Student Clubs/Activity" ($n=62$). The final three are: "Career Academy" ($n=38$), "Tech Pre/2+2 Curriculum" ($n=36$), and "School Based Enterprise" ($n=34$).

Table 2.14

Curriculum Career Interventions in the 12th Grade

| Rank | Taxon | Contents | Item | 11 th grade |
|------|-------|---|------|------------------------|
| | | | | School n (%) |
| 1 | IV | Career/Technical Education Course | 43 | 72(60.5%) |
| 2 | IV | Career Information Infused into the Classroom | 29 | 65(54.6%) |
| 3 | IV | Student Clubs/Activity | 36 | 62(52.1%) |
| 4 | IV | Career Skills Infused into the Classroom | 28 | 47(39.5%) |
| 5 | IV | Career Academy | 42 | 38(31.9%) |
| 6 | IV | Tech Pre/2+2 Curriculum | 41 | 36(30.3%) |
| 7 | IV | School Based Enterprise | 37 | 34(28.6%) |

N=119

In the following Tables 2.15, 2.16, 2.17, and 2.18, the previous results of the implementation of career development interventions were put together to compare the implementation of each grade in terms of the four taxon areas. The summary table of Field career interventions in each grade is shown in Table 2.15. "Job Shadowing" is the career intervention always in the top three interventions employed among three

grades. "Youth Apprenticeship" is in the second rank of career intervention implementation in both 10th and 11th grade while "Job Placement" and "Job Coaching" moves up to the top three list as the grade goes up to 12th grade.

Table 2.15

Field Career Intervention Summary Table

| 10 th grade | 11 th grade | 12 th grade |
|-----------------------------|-----------------------------|-----------------------------|
| Job Shadowing | Job Shadowing | Job Placement |
| Youth Apprenticeship | Youth Apprenticeship | Job Shadowing |
| Cooperation Education | Work Based Learning Project | Job Coaching |
| Job Coaching | Mentorship Programs | Mentorship Programs |
| Work Based Learning Project | Internship | Cooperation Education |
| Learning/Voluntary Program | Job Coaching | Work Based Learning Project |
| Mentorship Programs | Cooperation Education | Youth Apprenticeship |
| Internship | Work Study Service | Internship |
| Job Placement | Learning/Voluntary Program | Work Study Service |
| Work Study Service | Job Placement | Learning/Voluntary Program |

However, "Job Placement" is listed in the final three of the least used interventions in both grade 10 and 11. "Work Study Service" is always in the final three among three grades.

In Table 2.16, the summary table of Advising career interventions indicates that "Career Counseling" is always in the top three of the most used career interventions among three grades. "Person/Social Counseling" is in the first three lists

Table 2.16

Advising Career Intervention Summary Table

| 10 th grade | 11 th grade | 12 th grade |
|--|--|--|
| Person/Social Counseling | Career Counseling | College Admission Testing |
| Career Counseling | Person/Social Counseling | Career Counseling |
| Career Maturity Assessment | Academic Planning Counseling | Recruiting |
| Computer Assisted Career Guidance | Career Library/Resource | Job Hunting Preparation |
| Academic Planning Counseling | Career Focused Parent/Student Conference | Career Library/Resource |
| Career Interest Assessment | Computer Assisted Career Guidance | Career Focused Parent/Student Conference |
| Career Focused Parent/Student Conference | Career Passport/Skill Certificate | Academic Planning Counseling |
| Career Library/Resource | Career Cluster/Pathway/Major | Computer Assisted Career Guidance |
| Career Peer Advising/Tutoring | Career Maturity Assessment | Portfolio/Individual Career Plan |
| Portfolio/Individual Career Plan | Career Peer Advising/Tutoring | Person/Social Counseling |
| Career Map | Portfolio/Individual Career Plan | Career Peer Advising/Tutoring |
| Career Cluster/Pathway/Major | Career Interest Assessment | Career Passport/Skill Certificate |
| Information Interviewing | Information Interviewing | Career Maturity Assessment |
| Career Passport/Skill Certificate | Referral to External Counseling/Assessment | Career Cluster/Pathway/Major |
| Referral to External Counseling/Assessment | Recruiting | Career Interest Assessment |
| Job Hunting Preparation | Career Map | Referral to External Counseling/Assessment |
| Recruiting | Job Hunting Preparation | Information Interviewing |
| Referral to External Training Program | Referral to External Training Program | Career Map |
| Cooperative/Dual Enrollment | Cooperative/Dual Enrollment | Referral to External Training Program |
| College Admission Testing | College Admission Testing | Cooperative/Dual Enrollment |

in both grade 10 and 11. Although "College Admission" is listed as the last one of the least used interventions in both grade 10 and 11, "College Admission Testing" and "Recruiting" change the ranking in the previous grades and become the first and the third order in the 12th grade. Among the least used career interventions in the Advising taxon, "Cooperative/Dual enrollment" and "Referral to External Training Program" were always in the last three lists among three grades.

The summary table of Awareness career interventions in each grade is shown in Table 2.17. "Guidance Lessons on Personal and Social Development" is always in the top three interventions employed among three grades. "Guidance Lessons on Academic Planning" is listed in the top three in both grade 10 and 11. "Career Field Trip" is in the first three lists in both grade 11 and 12. "Career Day/ Career Fair" moves up to the first place in the 12th grade while it is listed in the last three in grade 10.

"Career Aptitude Assessment" is ranked third place in the 10th grade but it moved down to the last three lists in both grade 11 and 12. "Community Members Teach in the Classroom" was always listed in the last three of the least school-used career interventions among three grades.

Table 2.17

Awareness Career Intervention Summary Table

| 10 th grade | 11 th grade | 12 th grade |
|---|---|---|
| Guidance Lessons on Personal and Social Development | Career Field Trip | Career Day/Career Fair |
| Guidance Lessons on Academic Planning | Guidance Lessons on Personal and Social Development | Guidance Lessons on Personal and Social Development |
| Career Aptitude Assessment | Guidance Lessons on Academic Planning | Career Field Trip |
| Guidance Lessons on Career Development | Career Day/Career Fair | Guidance Lessons on Career Development |
| Career Day/Career Fair | Career Aptitude Assessment | Guidance Lessons on Academic Planning |
| Career Field Trip | Community Members Teach in the Classroom | Career Aptitude Assessment |
| Community Members Teach in the Classroom | Guidance Lessons on Career Development | Community Members Teach in the Classroom |

In Table 2.18, the summary table of Curriculum career interventions reveals that "Student Clubs/Activity" and "Career/ Technical Education" are always in the top three of the most school-used career interventions among three grades. "Career Skills Infused into the Classroom" is in the first three lists in both grade 10 and 11. "Career Information Infused into the Classroom" moves up to the top three lists in the 12th grade. Speaking of the least school-used career interventions in Curriculum taxon, "Career Academy", "School Based Enterprise" and "Tech Pre/2+2 Curriculum" are always in the last three among three grades.

Table 2.18

Curriculum Career Intervention Summary Table

| 10 th grade | 11 th grade | 12 th grade |
|---|---|---|
| Student Clubs/Activity | Student Clubs/Activity | Career/Technical Education Course |
| Career/Technical Education Course | Career/Technical Education Course | Career Information Infused into the Classroom |
| Career Skills Infused into the Classroom | Career Skills Infused into the Classroom | Student Clubs/Activity |
| Career Information Infused into the Classroom | Career Information Infused into the Classroom | Career Skills Infused into the Classroom |
| Career Academy | Career Academy | Career Academy |
| School Based Enterprise | Tech Pre/2+2 Curriculum | Tech Pre/2+2 Curriculum |
| Tech Pre/2+2 Curriculum | School Based Enterprise | School Based Enterprise |

In conclusion, by observing the Means and Standard Deviations of four taxon areas in the three grades shown in Table 2.19, comprehensive high schools in Taiwan tend to employ more Advising career interventions than any other three kinds of career interventions regardless of grade. In the 10th grade, Advising career interventions ($M=53.75$, $SD= 30.84$) were the most school-implemented interventions followed by Awareness career interventions ($M=47.57$, $SD= 19.41$), Curriculum career interventions ($M=40.43$, $SD= 26.17$), and Field career interventions ($M=18.6$, $SD= 5.62$).

In the 11th grade, Advising career interventions ($M=55.20$, $SD= 26.15$) were the most schools-implemented interventions followed by Curriculum career

interventions ($M=53.86$, $SD= 26.89$), Awareness career interventions ($M=48.57$, $SD= 12.15$), and Field career interventions ($M=32.90$, $SD= 7.50$).

In the 12th grade, Advising career interventions ($M=72.95$, $SD= 24.15$) were the most schools-implemented interventions followed by Awareness career interventions ($M=55.71$, $SD= 10.39$), Curriculum career interventions ($M=50.57$, $SD= 15.58$), and Field career interventions ($M=47.80$, $SD= 14.17$).

Table 2.19

Means and Standard Deviations of Four Taxon Areas Among Grades

| Grades and Fields | | Mean | Std. Deviation |
|------------------------|-----------|-------|----------------|
| 10 th grade | Taxon I | 18.60 | 4.62 |
| | Taxon II | 53.75 | 30.84 |
| | Taxon III | 47.57 | 19.41 |
| | Taxon IV | 40.43 | 26.17 |
| 11 th grade | Taxon I | 32.29 | 7.50 |
| | Taxon II | 55.20 | 26.15 |
| | Taxon III | 48.57 | 12.15 |
| | Taxon IV | 53.86 | 26.89 |
| 12 th grade | Taxon I | 47.80 | 14.17 |
| | Taxon II | 72.95 | 24.15 |
| | Taxon III | 55.71 | 10.39 |
| | Taxon IV | 50.57 | 15.58 |
| Total | Taxon I | 33.10 | 15.28 |
| | Taxon II | 60.63 | 28.14 |
| | Taxon III | 50.62 | 14.26 |
| | Taxon IV | 48.29 | 23.01 |

N=119

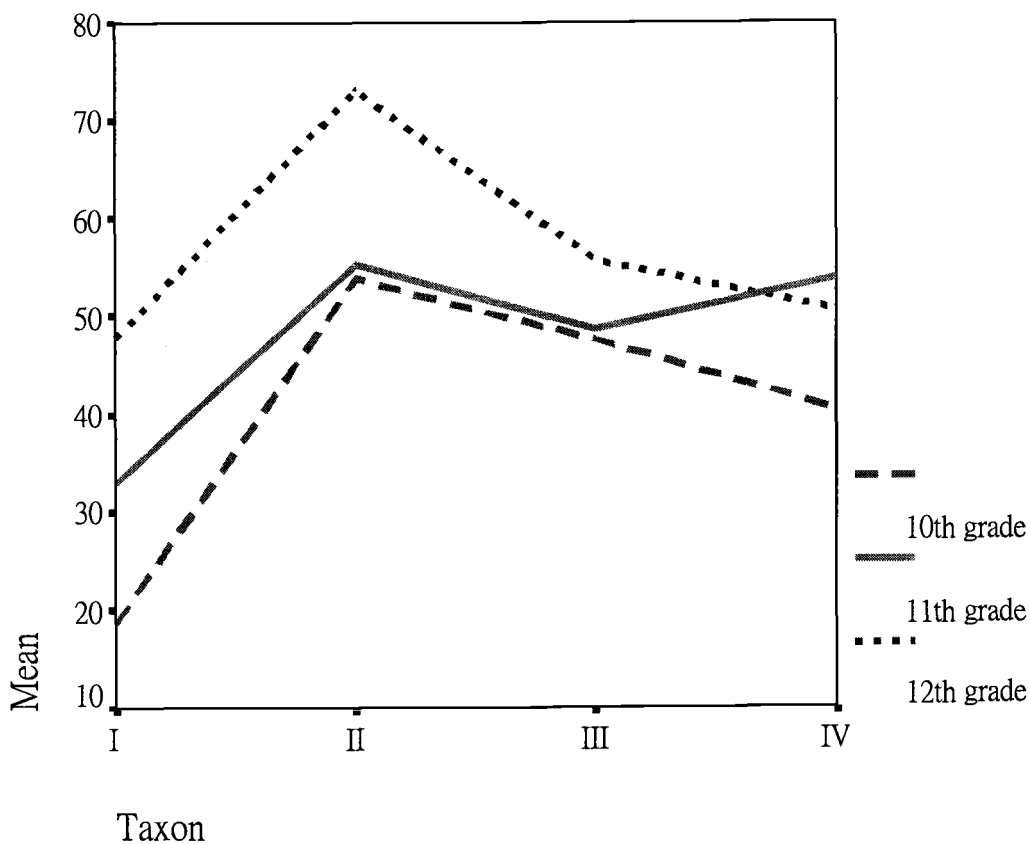
Generally speaking, based on the results of total means of three grades, Advising career interventions ($M=60.63$, $SD= 28.14$) were the most school-implemented interventions followed by Awareness career interventions ($M=50.62$, $SD= 14.26$), Curriculum career interventions ($M=48.29$, $SD= 23.01$), and Field career interventions ($M=33.10$, $SD= 15.28$).

The results were further illustrated in Figure 1: Schools tend to employ more of each taxon career intervention when the grade goes up; however, the Curriculum taxon is exceptional, which was implemented more in grade 11.

Concerning Field career interventions, more schools employed these in the 12th grade followed by 11th grade and 10th grade; for Advising career interventions, more schools employed these in the 12th grade followed by 11th grade and 10th grade.

Speaking of Awareness career interventions, more schools employed these in the 12th grade followed by 11th grade and 10th grade; for Curriculum career interventions, more schools employed these in the 11th grade followed by 12th grade and 10th grade.

Figure 1. A line graph of mean of implementing four taxon areas of career interventions in each grade



Perceived Helpfulness of Career Development Interventions

The perceived helpfulness of career intervention by guidance directors for each taxon area is respectively showed in Table 2.20, Table 2.21, Table 2.22, and Table 2.23. In Table 2.20, in the Field taxon, the first three rankings of career interventions that most school guidance directors considered helpful are "Job Placement" ($n=72$), "Job Shadowing" ($n=69$), "Work Based Learning Project" ($n=58$), "Mentorship

Programs" ($n=58$), and "Job Coaching" ($n=58$). The last three are: "Youth Apprenticeship" ($n=38$), "Learning/Voluntary Program" ($n=32$), and "Work Study Service" ($n=30$).

Table 2.20

Perceived Helpfulness of Field Career Development Interventions

| Rank | Taxon | Contents | Item | Helpful School n (%) |
|------|-------|-----------------------------|------|----------------------|
| 1 | I | Job Placement | 4 | 72(60.5%) |
| 2 | I | Job Shadowing | 1 | 69(58%) |
| 3 | I | Work Based Learning Project | 2 | 58(48.7%) |
| 3 | I | Mentorship Programs | 5 | 58(48.7%) |
| 3 | I | Job Coaching | 6 | 58(48.7%) |
| 6 | I | Internship | 3 | 51(42.9%) |
| 7 | I | Cooperation Education | 30 | 41(34.5%) |
| 8 | I | Youth Apprenticeship | 31 | 38(31.9%) |
| 9 | I | Learning/Voluntary Program | 33 | 32(26.9%) |
| 10 | I | Work Study Service | 32 | 30(25.2%) |

N=119

In Table 2.21, in the Advising taxon, the first three ranking career interventions that most school guidance directors perceived as being helpful are "Person/Social Counseling" ($n=90$), "Academic Planning Counseling" ($n=90$), "Career Maturity Assessment" ($n=89$), "Career Library/Resource" ($n=89$), and "Career Counseling" ($n=89$). The last three are: "Referral to External Counseling/Assessment" ($n=50$),

Table 2.21

Perceived Helpfulness of Advising Career Development Interventions

| Rank | Taxon | Contents | Item | Helpful |
|------|-------|--|------|--------------|
| | | | | School n (%) |
| 1 | II | Person/Social Counseling | 7 | 90(75.6%) |
| 1 | II | Academic Planning Counseling | 44 | 90(75.6%) |
| 3 | II | Career Maturity Assessment | 9 | 89(74.8%) |
| 3 | II | Career Library/Resource | 21 | 89(74.8%) |
| 3 | II | Career Counseling | 23 | 89(74.8%) |
| 6 | II | Career Focused Parent/Student Conference | 8 | 88(73.9%) |
| 7 | II | Recruiting | 13 | 86(72.3%) |
| 8 | II | Career Interest Assessment | 12 | 85(71.4%) |
| 8 | II | College Admission Testing | 14 | 85(71.4%) |
| 10 | II | Portfolio/Individual Career Plan | 19 | 84(70.6%) |
| 11 | II | Job Hunting Preparation | 15 | 82(68.9%) |
| 12 | II | Computer Assisted Career Guidance | 18 | 79(66.4%) |
| 13 | II | Career Cluster/Pathway/Major | 20 | 73(61.3%) |
| 14 | II | Information Interviewing | 16 | 72(60.5%) |
| 15 | II | Career Peer Advising/Tutoring | 17 | 68(57.1%) |
| 16 | II | Career Passport/Skill Certificate | 35 | 67(56.3%) |
| 17 | II | Career Map | 22 | 54(45.4%) |
| 18 | II | Referral to External Counseling/Assessment | 10 | 50(42%) |
| 19 | II | Referral to External Training Program | 11 | 42(35.3%) |
| 20 | II | Cooperative/Dual Enrollment | 34 | 25(21%) |

N=119

"Referral to External Training Program" ($n=42$), and "Cooperative/Dual Enrollment" ($n=25$).

Table 2.22 indicates that in the Awareness taxon, the first three rankings of career interventions that most school guidance directors considered helpful are "Guidance Lessons on Personal and Social Development" ($n=84$), "Career Aptitude Assessment" ($n=80$), "Guidance Lessons on Academic Planning" ($n=75$), "Career Field Trip" ($n=75$) and "Guidance Lessons on Career Development" ($n=75$). The last two are: "Career Day/Career Fair" ($n=68$), and "Community Members Teach in the Classroom" ($n=48$).

Table 2.22

Perceived Helpfulness of Awareness Career Development Interventions

| Rank | Taxon | Contents | Item | Helpful School n (%) |
|------|-------|---|------|----------------------|
| 1 | III | Guidance Lessons on Personal and Social Development | 24 | 84(70.6%) |
| 2 | III | Career Aptitude Assessment | 26 | 80(67.2%) |
| 3 | III | Guidance Lessons on Academic Planning | 25 | 75(63%) |
| 3 | III | Career Field Trip | 27 | 75(63%) |
| 3 | III | Guidance Lessons on Career Development | 38 | 75(63%) |
| 6 | III | Career Day/Career Fair | 40 | 68(57.1%) |
| 7 | III | Community Members Teach in the Classroom | 39 | 48(40.3%) |

N=119

In Table 2.23, in the Curriculum taxon, the top three career interventions that most school guidance directors perceived as helpful are "Career/Technical Education Course" ($n=79$), "Career Skills Infused into the Classroom" ($n=75$), and "Student Clubs/Activity" ($n=73$). The last three are: "Career Academy" ($n=36$), "Tech Pre/2+2 Curriculum" ($n=35$), and "School Based Enterprise" ($n=27$).

Table 2.23

Perceived Helpfulness of Curriculum Career Development Interventions

| Rank | Taxon | Contents | Item | Helpful School n (%) |
|------|-------|---|------|----------------------|
| 1 | IV | Career/Technical Education Course | 43 | 79(66.4%) |
| 2 | IV | Career Skills Infused into the Classroom | 28 | 75(63%) |
| 3 | IV | Student Clubs/Activity | 36 | 73(61.3%) |
| 4 | IV | Career Information Infused into the Classroom | 29 | 63(52.9%) |
| 5 | IV | Career Academy | 42 | 36(30.3%) |
| 6 | IV | Tech Pre/2+2 Curriculum | 41 | 35(29.4%) |
| 7 | IV | School Based Enterprise | 37 | 27(22.7%) |

N=119

The results of perceived helpfulness of career interventions are summarized in Table 2.24. In conclusion, the lists in the top three of career interventions perceived as helpful by most guidance directors regardless of taxon areas are "Personal/ Social

Table 2.24

Helpful Intervention Summary Table

| Field | Advising | Awareness | Curriculum |
|-----------------------------|--|---|---|
| Job Placement | Person/Social Counseling | Guidance Lessons on Personal and Social Development | Career/Technical Education Course |
| Job Shadowing | Academic Planning Counseling | Career Aptitude Assessment | Career Skills Infused into the classroom |
| Work Based Learning Project | Career Maturity Assessment | Guidance Lessons on Academic Planning | Student Clubs/Activity |
| Mentorship Programs | Career Library/Resource | Career Field Trip | Career Information Infused into the Classroom |
| Job Coaching | Career Counseling | Guidance Lessons on Career Development | Career Academy |
| Internship | Career Focused Parent/Student Conference | Career Day/Career Fair | Tech Pre/2+2 Curriculum |
| Cooperation Education | Recruiting | Community Members Teach in the Classroom | School Based Enterprise |
| Youth Apprenticeship | Career Interest Assessment | | |
| Learning/Voluntary Program | College Admission Testing | | |
| Work Study Service | Portfolio/Individual Career Plan | | |
| | Job Hunting Preparation | | |
| | Computer Assisted Career Guidance | | |
| | Career Cluster/Pathway/Major | | |
| | Information Interviewing | | |
| | Career Peer Advising/Tutoring | | |
| | Career Passport/Skill Certificate | | |
| | Career Map | | |
| | Referral to External Counseling/Assessment | | |
| | Referral to External Training Program | | |
| | Cooperative/Dual Enrollment | | |

Counseling" ($n=90$), "Career Counseling" ($n=90$), "Career Maturity Assessment" ($n=89$), "Career Library/Resource" ($n=89$), and "Career Counseling" ($n=89$).

All of these are in the Advising taxon. However, the final three career interventions perceived as helpful by the least number of guidance directors are "Work Study Service" ($n=30$), "School Based Enterprise" ($n=27$), and "Cooperative/Dual Enrollment" ($n=25$). These are in the Field taxon, Curriculum taxon, and Advising taxon respectively.

Generally speaking, based on the results in Table 2.25, most school guidance directors perceived the Advising career interventions ($M=74.35$, $SD=18.41$) helpful, followed by the Awareness ($M=72.14$, $SD=11.73$), Curriculum ($M=55.43$, $SD=22.01$), and Field career interventions ($M=50.70$, $SD=14.84$).

Table 2.25

Means and Standard Deviations of Perceived Helpfulness of Career Interventions

| Helpful, Taxon | N | Sum | Mean | Std. Deviation |
|----------------|----|------|-------|----------------|
| Field | 10 | 507 | 50.70 | 14.84 |
| Advising | 20 | 1468 | 74.35 | 18.41 |
| Awareness | 7 | 505 | 72.14 | 11.73 |
| Curriculum | 7 | 388 | 55.43 | 22.01 |

Summary of Findings

This chapter presented the results of this study. The following results were explained: (a) descriptive statistics for respondents demographics, (b) descriptive statistics for the career development interventions, (c) descriptive statistics for the implementation of career development interventions in 10th, 11th, and 12th grade, and (d) descriptive statistics for the perceived helpfulness of career development interventions.

The descriptive statistics for the career development interventions indicated that the top ten career interventions that most schools used are as follows: Career Counseling (II), Personal/Social Counseling (II), Academic Planning Counseling (II), Career Library/Resource Center (II), Career Focused Parent/Student Conference (II), Computer Assisted Career Guidance (II), Career Maturity Assessment (II), Career/Technical Education Course (IV), Student Clubs/Activities (IV), and Career Day/Career Fair (III). Seven of these are in the Advising taxon; two are in the Curriculum taxon; one is in the Awareness taxon.

The last ten career interventions that the least schools employed are as follows: Youth Apprenticeship (I), Work Based Learning Project (I), Cooperation Education (I), Internship (I), Work Study Service (I), Learning/Voluntary Program (I), Referral

to external training programs (II), Tech Pre/2+2 Curriculum (IV), School Based Enterprise (IV), and Cooperative/Dual Enrollment (II). Six of these are in the Field taxon; two are in the Advising taxon; two are in the Curriculum taxon.

The descriptive statistics for the implementation of career development interventions in the 10th, 11th, and 12th grades show that comprehensive high schools in Taiwan tend to employ more Advising career interventions than any other three kinds of career interventions regardless of the grades.

In the 10th grade, Advising career interventions ($M=53.75$, $SD= 30.84$) were the most school-implemented interventions followed by Awareness career interventions ($M=47.57$, $SD= 19.41$), Curriculum career interventions ($M=40.43$, $SD= 26.17$), and Field career interventions ($M=18.6$, $SD= 5.62$).

In the 11th grade, Advising career interventions ($M=55.20$, $SD= 26.15$) were the most school-implemented interventions followed by Curriculum career interventions ($M=53.86$, $SD= 26.89$), Awareness career interventions ($M=48.57$, $SD= 12.15$), and Field career interventions ($M=32.90$, $SD= 7.50$).

In the 12th grade, Advising career interventions ($M=72.95$, $SD= 24.15$) were the most school-implemented interventions followed by Awareness career interventions ($M=55.71$, $SD= 10.39$), Curriculum career interventions ($M=50.57$, $SD= 15.58$), and

Field career interventions ($M=47.80$, $SD= 14.17$),.

Generally speaking, based on the results of total means of three grades, Advising career interventions ($M=60.63$, $SD= 28.14$) were the most schools implemented interventions followed by Awareness career interventions ($M=50.62$, $SD= 14.26$), Curriculum career interventions ($M=48.29$, $SD= 23.01$), and Field career interventions ($M=33.10$, $SD= 15.28$).

As for Field career interventions, more schools employed these in the 12th grade followed by 11th grade and 10th grade; for Advising career interventions, more schools employed these in the 12th grade followed by 11th grade and 10th grade.

Speaking of Awareness career interventions, more schools employed these in the 12th grade followed by 11th grade and 10th grade; for Curriculum career interventions, more schools employed these in the 11th grade followed by 12th grade and 10th grade.

The descriptive statistics for the perceived helpfulness of career development interventions presented that the lists in the first three ranking status of career interventions perceived helpful by most guidance directors regardless of taxon areas were Personal/ Social Counseling ($n=90$), Academic Planning Counseling ($n=90$), Career Maturity Assessment ($n=89$), Career Library/Resource ($n=89$), and Career

Counseling ($n=89$). All of these were in the Advising Taxon. However, the last three career interventions perceived as helpful by the least number of guidance directors were Work Study Service ($n=30$), School Based Enterprise ($n=27$), and Cooperative/Dual Enrollment ($n=25$). They were in the Field taxon, Curriculum taxon, and Advising taxon respectively.

Generally speaking, this indicates that most school guidance directors perceived the Advising career interventions ($M=74.35$, $SD=18.41$) as being helpful, followed by the Awareness ($M=72.14$, $SD=11.73$), Curriculum ($M=55.43$, $SD=22.01$), and Field career interventions ($M=50.70$, $SD=14.84$). Chapter 5 will discuss the findings in greater detail.

CHAPTER 5: DISCUSSION AND CONCLUSION

Discussion of Results

Taiwan has undergone significant social change, particularly in the last forty years, due to economic and industrial growth. Career development intervention is increasingly urgent in helping students face upcoming challenges.

This study investigates the implementation of career development interventions in Taiwanese comprehensive high schools. High school students indicate that they have at least started projecting ideas about their future jobs. They have a strong desire to learn about themselves and the working world. Consequently, these needs must be translated into an educational plan for the remainder of their secondary school education (Niles & Harris-Bowlsbey, 2002). Therefore, the investigation of the implementation of career development interventions for high school students is crucial.

However, based on literature review, it is difficult to conclude whether or not career development interventions are comprehensively included in the guidance programs of Taiwanese comprehensive high schools. Furthermore, school counselors will be unlikely to decide what kinds of career development interventions should be included if the implementation of career development interventions is not investigated.

The lack of studies concerning the implementation of career intervention is a hindrance to designing and implementing effective comprehensive guidance programs.

This dissertation applies the taxonomic structure (Dykeman et al., 2001) to investigate types of career development interventions in addition to exploring the quantity of interventions implemented in Taiwanese comprehensive high schools. Questionnaires were sent to all comprehensive high schools in Taiwan. A total of 153 questionnaires were mailed, adhering to the Dillman Total Design Method (2000).

A total of 119 guidance directors of comprehensive high schools in Taiwan responded to the questionnaire, resulting in a response rate of 78 percent. All received questionnaires were used in data analysis.

This chapter provides a discussion of the results of this study. Limitations of the study will follow the discussion. Implications for guidance programs will be explored. Finally, suggestions for future research in the area will be posited.

Implementation of Career Development Interventions

The descriptive statistics for the career development interventions indicated that the top ten career interventions that most schools used are as follows: Career

Counseling (II), Personal/Social Counseling (II), Academic Planning Counseling (II), Career Library/Resource Center (II), Career Focused Parent/Student Conference (II), Computer Assisted Career Guidance (II), Career Maturity Assessment (II), Career/Technical Education Course (IV), Student Clubs/Activities (IV), and Career Day/Career Fair (III). Seven of these are in the Advising taxon; two are in the Curriculum taxon; one is in the Awareness taxon.

The ten career interventions that the least schools employed are as follows:

Youth Apprenticeship (I), Work Based Learning Project (I), Cooperation Education (I), Internship (I), Work Study Service (I), Learning/Voluntary Program (I), Referral to External Training Programs (II), Tech Pre/2+2 Curriculum (IV), School Based Enterprise (IV), and Cooperative/Dual Enrollment (II). Six of these are in the Field taxon; two are in the Advising taxon; two are in the Curriculum taxon.

The descriptive statistics for the implementation of career development interventions in 10th, 11th, and 12th grade showed that comprehensive high schools in Taiwan tend to employ more Advising career interventions than any other three kinds of career interventions regardless of the grade.

In the 10th grade, Advising career interventions ($M=61$, $SD= 36.30$) were the most school-implemented interventions followed by Awareness career interventions

($M=47.57$, $SD= 19.41$), Curriculum career interventions ($M=40.43$, $SD= 26.17$), and Field career interventions ($M=18.86$, $SD= 5.15$).

In the 11th grade, Advising career interventions ($M=55$, $SD= 24.25$) were the most school-implemented interventions followed by Curriculum career intervention ($M=53.86$, $SD= 26.89$), Awareness career interventions ($M=48.57$, $SD= 12.15$), and Field career interventions ($M=33.29$, $SD= 8.65$).

In the 12th grade, Advising career interventions ($M=67.57$, $SD= 23.47$) were the most school-implemented interventions followed by Awareness career intervention ($M=55.71$, $SD= 10.39$), Field career interventions ($M=53$, $SD= 13.49$), and Curriculum career interventions ($M=50.57$, $SD= 15.58$).

Generally speaking, based on the results of total means of three grades, Advising career interventions ($M=61.19$, $SD= 27.65$) were the most school-implemented interventions followed by Awareness career interventions ($M=50.62$, $SD= 14.26$), Curriculum career interventions ($M=48.29$, $SD= 23.01$), and Field career interventions ($M=35.05$, $SD= 17.05$).

As for Field career interventions, more schools employed these in the 12th grade followed by 11th grade and 10th grade; for Advising career interventions, more schools employed these in the 12th grade followed by 10th grade and 11th grade.

Speaking of Awareness career interventions, more schools employed these in the 12th grade followed by 11th grade and 10th grade; for Curriculum career interventions, more schools employed these in the 11th grade followed by 12th grade and 10th grade.

This result is consistent with the statements in Gysbers' (1994) book, *Develop and Management Your School Guidance Program*. In the United States, many guidance programs are based on this Missouri Comprehensive Guidance Model. This guidance model organizes services around four components: (a) a guidance curriculum, such as classroom presentations and structured groups, (b) individual planning, such as advising, assessment, placement and follow-up, (c) responsive services, such as individual/group counseling, consultation, and referral, and (d) system support, such as management activities, community outreach, consultation with teachers/administrators and public relations.

This model provides comprehensive structural components that can be adapted and implemented according to the desire of given schools/districts. The estimated distribution of counselor time to these four program components is shown in Table 3.1 (Gysbers, 1994, p. 67).

Based on the definitions of these four program components, Advising taxon, Awareness taxon, and Curriculum taxon in this study are similar to those three structural components, Individual Planning, Responsive Service, and Guidance Curriculum respectively.

Table 3.1

Example Distribution of Counselor Time

| | Percentage | | |
|---------------------|-------------------|---------------------------|-------------|
| | Elementary School | Middle/Junior High School | High School |
| Guidance Curriculum | 35-45 | 25-35 | 15-25 |
| Individual Planning | 5-10 | 1-25 | 25-35 |
| Responsive Service | 30-40 | 30-40 | 25-35 |
| System Support | 10-15 | 10-15 | 15-20 |
| Total | 100 | 100 | 100 |

Table 3.1 indicated that at the high school level, Individual Planning and Responsive Service are implemented more than the other two components. This shows the congruence with the result in this study: Advising career interventions ($M=61.19$, $SD= 27.65$) and Awareness career intervention ($M=50.62$, $SD= 14.26$) were the two most school-implemented interventions among four taxon areas.

Moreover, the need of Individual Planning and System Support increases as the grade goes up but the other two are reverse. The need of Guidance Curriculum gradually declines while Responsive Service has a slight decrease at the high school

level.

Based on the observation of the implementation of guidance program components, the results are somewhat consistent with this pattern. In this study, the implementation of Advising and Awareness career interventions increase as the grade goes up. However, the need of Curriculum taxon slightly declines at grade 12, which is similar to the Gysbers' study (1994).

Another study (Hughey & Gysbers, 1993) investigated high school students' participation in the guidance program. Results showed that the most frequent response given to activities in which students participated with a counselor was individual sessions (72.9%). In addition, students reported participating in classroom presentations (65%) and small groups (49.6%). Approximately 30% of the students were involved in the guidance program through workshops, seminars, or large groups. This result indicated that students participated in more Advising/Awareness and Curriculum activities in terms of four taxon areas, which is also consistent with the results of this study.

However, in a recent study, Wood (2001) used the same taxonomy structure to investigate the implementation of career development interventions from senior high school students' perspectives. His results indicated that the Advising taxon had the

largest average of quantity followed by Curriculum, Field, and Awareness taxa. In his study, Awareness taxon was the least implemented career interventions. And according to respondents, the first three greatest total quantity of interventions are “Career Information Infused into the Classroom”, “Career Skills Infused into the Classroom”, and “Computer Assisted Guidance”, in which two of these were under Curriculum taxon, while the last three were "Job Placement", " Tech Pre/2+2 Curriculum", and "Referral to External Counseling/Assessment".

The results of this study were different from those of Wood's (2001) study. “Career Counseling”, "Personal/Social Counseling" and “Academic Planning Counseling”, in which two of these were under Advising taxon, were the top three most employed career interventions among comprehensive high schools while the final three were "Tech Pre/2+2 Curriculum", "School Based Enterprise", and "Cooperative/Dual Enrollment".

The major explanation for this discrepancy is due to the different research designs between the two studies. Wood's (2001) study investigated the number of times the respondent indicated that senior high school students were engaged in a given intervention across high school, while this study examined whether a given intervention occurred in comprehensive high schools from the perspective of a

guidance director in each school.

Perceived Helpfulness of Career Development Interventions

The descriptive statistics for the perceived helpfulness career development interventions revealed that the lists in the first three ranking statuses of career interventions perceived as helpful by most guidance directors regardless of taxon areas were "Personal/ Social Counseling" ($n=90$), "Career Counseling" ($n=90$), "Career Maturity Assessment" ($n=89$), "Career Library/Resource" ($n=89$), and "Career Counseling" ($n=89$). All of these were in the Advising taxon.

However, the last three career interventions perceived as helpful by the least guidance directors were "Work Study Service" ($n=30$), "School Based Enterprise" ($n=27$), and "Cooperative/Dual Enrollment" ($n=25$). These were in the Field taxon, Curriculum taxon, and Advising taxon respectively.

Generally speaking, this indicates that most school guidance directors perceived the Advising career interventions ($M=74.35$, $SD=18.41$) as helpful, followed by the Awareness ($M=72.14$, $SD=11.73$), Curriculum ($M=55.43$, $SD=22.01$), and Field career interventions ($M=50.70$, $SD=14.84$).

Hughey and Gysbers (1993) obtained a similar result which demonstrated that the student competency areas of the guidance programs were career planning and exploration, knowledge of self and others, and educational development. Career planning and exploration was the area rated highest by students in terms of the ways counselors and teachers had helped them during the year. Most students (88%) reported receiving help with planning their high school courses, and about 65% indicated receiving assistance with making decisions. Approximately 60% received help in planning and exploring careers and planning postsecondary education and training. About half of the students indicated receiving help in dealing with personal problems, learning how drugs and alcohol affect them and their friends, and learning about themselves. However, the lowest percentages were for preparing for a job and understanding how being male or female relates to jobs and careers.

This previous study supports the research findings of this study. The Field taxon was considered as the least satisfactory of the interventions among four taxon areas. The activities related to Advising and Awareness taxon areas were perceived as most helpful interventions.

From Taiwan's study results, to gain an understanding of student satisfaction, Lai (2002) conducted a study that investigated comprehensive high school students'

satisfaction with the contents of schooling guidance. The final conclusions revealed that the general level of satisfaction of comprehensive high school students with the schooling guidance services leaned towards "satisfactory" and Comprehensive High School students were most satisfied with the "Higher Education Guidance".

Chen (2002) conducted a similar study to investigate graduates' satisfaction of the counseling guidance and curricula in the Comprehensive High School. A questionnaire survey and an in-depth interview were conducted in this study. The results showed that most of the graduates were satisfied with counseling guidance in comprehensive high schools; most of the graduates were satisfied in the sense of the curricula of the Comprehensive High School.

Another similar result was found in Wu's (1999) study that investigated the satisfaction of Comprehensive High School students with school-based guidance and work-based guidance in their schools. The results demonstrated that the satisfaction level toward school-based guidance services was higher than that toward work-based guidance services.

These previous findings concerning satisfaction toward the implementation of guidance programs support this study. The interventions related to Advising and Awareness taxon areas were perceived as the most helpful interventions while the

Field taxon was considered the least satisfactory.

In addition, Wu (1999) further indicated that the major reason why the Field taxon was employed least and perceived as least helpful among four taxa is because in Taiwan, most Comprehensive High School Graduates (77%) choose to go to college while only 15% graduates enter work forces. Their preference for academic-based career interventions certainly affected school counselors by putting more emphasis on academic-related career interventions rather than on work-related interventions.

Limitations of the Study

There are two primary areas of limitation for the results of this dissertation: (a) sample, and (b) instrument.

Sample

This study surveyed all guidance programs of Taiwanese comprehensive high schools regarding the implementation of career interventions. This population study method that includes entire targeted populations could reduce sampling error and cause the least problems when it comes to generalizing the research findings (Rubin &

Babbie, 2001). Nevertheless, there are several considerations which limit the generalizability of the findings.

These include the following: (1) only one individual completed the survey in each guidance program of comprehensive high schools. Thus, the findings of this study can not accurately reflect the total perspectives regarding the implementation of guidance services from all staff members of guidance programs, (2) since the participants were all directors/heads of guidance programs, it could have some bias that they might tend to favor their guidance services in their schools. The views from students, teachers and parents regarding the implementation of guidance service are unknown.

In addition, the results are biased in favor of programs with persons who are willing to take time to response a survey on this topic. Although the response rate for this survey was 78 percent -- a fairly good response rate which brings down a chance of significant response bias (Rubin & Babbie, 2001) -- it is still a limitation that not all guidance programs of Taiwanese comprehensive high schools are represented.

Instrument

There are limitations of the instrument used in this study for investigating the implementation of career development interventions. The study instrument used in the present study simply determines the occurrences of the interventions. The quantity of occurrences of interventions is unknown and there is no assessment of quality.

The survey only sought dichotomous answers from respondents. It merely presented whether a given career intervention occurred in respondents' schools. The answer could not detect how many times or hours the school implemented a given intervention.

For example, from the results, the top three career interventions that most schools employed are as follows: Career Counseling, Personal/Social Counseling, and Academic Planning Counseling. If the information of frequency or duration of the implementation of each intervention was sought, it might change the entire rankings of the current results.

As for quality assessment, although respondents gave their opinions of whether a given intervention was helpful to the students, the level of satisfaction was unknown since the instrument was designed for a dichotomous response. Moreover, the

information of the perceived helpfulness of a given intervention in each grade is absent due to the design of the survey.

The respondents could only communicate their overall impression toward a given intervention regardless of grade level. This problematic design of the survey might cause respondents' confusion when putting their response. For example, if respondents think "Internship" is helpful for 12th graders but not for 10th and 11th graders, it is very difficult for respondents to mark their response if only a yes/no answer is available. The questionnaire should be clear and unambiguous (Rubin & Babbie, 2001) to ensure the validity of the survey.

Implications

Implications for Comprehensive High School Guidance Programs

The findings have several important implications for guidance programs in Taiwanese comprehensive high schools. Most notably, this study presents that constituent patterns of implementing career interventions in each grade is different. For 10th grade, it would be "Low Field, Low Advising, Low Awareness, and Low Curriculum"; for 11th grade, it would be "Moderate Field, Moderate Advising,

Moderate Awareness, and High Curriculum"; for 12th grade, it would be "High Field, High Advising, High Awareness, and Moderate Curriculum".

Advising career interventions were the most school-implemented interventions followed by Awareness career intervention, Curriculum career interventions, and Field career interventions. The similar order in the perceived helpfulness of career interventions was that most school guidance directors perceived the Advising career interventions helpful, followed by the Awareness, Curriculum, and Field career interventions.

Both of these results indicated that Field career interventions were the least employed among schools and perceived as the least helpful interventions among four taxa by guidance directors. The results of Wu's (1999) study also showed that the satisfaction level of Taiwanese Comprehensive High School students toward school based guidance services was higher than that toward work-based guidance services.

This unequal emphasis of different areas of career interventions is a phenomenon existing most schools. It doesn't mean that school counselors should implement more Field career interventions on the basis of this finding without considering the actual needs of served populations. Thus, as a school counselor or guidance program planner, a question of how to design a comprehensive guidance

program that includes enough amounts and variety of career interventions to meet students' needs should be answered prior to implementing them.

Gysbers and Henderson (1994) described four major phases that lead to a comprehensive guidance model: planning, designing, implementing, and evaluating.

Each of these phases contains specific tasks to be completed. The phases and tasks are as follows (p. 46):

1. Planning

- Statement of values;
- Selection of a curriculum model;
- Selection of program goals;
- Determination of desired student outcomes;
- Assessment of current program; and
- Establishment of priorities

2. Designing

- Development of program objectives;
- Selection of program strategies;
- Assignment of program components;
- Analysis of staff competencies; and
- Provision of staff development.

3. Implementing

- Administration of measurement instruments;
- Installation of program; and
- Modification based on evaluation data.

4. Evaluating

- Formulation of the questions to be answered by the evaluation;
- Selection of evaluation design;
- Selection of measurement instruments;
- Development of procedures for data collection;
- Establishment of a monitoring system;
- Performance of data reduction, summary, and analysis tasks;
- Administration of measurement instruments; and
- Preparation of reports.

They further pointed out the premises for developing and managing school guidance programs (p. 31). First, guidance should be as a program. Concerning guidance programs, they have characteristics similar to other programs in education, including: student outcomes (student competencies); activities and processes to assist students in achieving these outcomes; professionally recognized personnel; materials and resources; and evaluation.

Second, guidance programs should be developmental and comprehensive. They need to be developmental because guidance activities are conducted on a regular, planned, and systematic basis to assist students in achieving specified competencies. A main focus of a developmental program is to provide all students with experiences to help them grow and develop. Guidance programs need to be comprehensive in that a

full range of activities and services, such as assessment, information, consultation, counseling, referral, placement, follow-up, and follow-through, are provided.

Third, guidance programs feature a team approach. A comprehensive, developmental guidance program needs all school staff involved while professionally certified school counselors are central to the program. School counselors provide direct services to students and work consultatively and collaboratively with other members of a guidance team, members of a school staff, parents, and members of the community.

Career development interventions are the key components in school guidance programs. Major goals of career guidance for high school students are to provide specific planning of next steps in education and work. Students learn decision-making skills, career-planning, educational and occupational exploration, and self-understanding (Herr & Cramer, 1996). As such, career interventions should facilitate students' development of their competencies and provide career information and assistance they need.

Therefore, it is imperative that a director or school counselor of a particular guidance program makes a decision of how many career development interventions should be included in the guidance program to be comprehensive enough to meet

students' needs. There are six steps suggested for designing and implementing a career development program, adopted from Niles and Harris-Bowlsbey (2002).

Step One is to define the target population and its needs. The purpose of this step is to get a clear picture of the people the program will service and what their needs are. For example, if most students come from a small country area and most of their family members engage in farming types of work in your school, as a school counselor, you might want to design and implement more career interventions which help students explore a variety within the work-of-world.

Step Two is to develop measurable objectives. An objective needs to be a clear and measurable goal statement to be able to determine whether or not the goal has been reached. These measurable objectives should be developed on the basis of the identified needs of the target population. The statement of the objective needs to be written in some way to be able to measure its accomplishment. For example, after taking this guidance lesson on academic planning, students will be able to (1) describe the courses or curricula available in their schools; (2) select classes that match their goals.

Step Three is to determine the content of the program and the ways of delivering the services. The content of the program is determined by its objectives. When

determining the content of the program, the methods of how to deliver the career interventions need to be decided. There are varying ways to deliver service, such as one-to-one interviews, group discussions, offering courses, providing workshops, and via computerized information. The methods chosen to provide career intervention activities will relate to the available time, staff, budget, and resources that fit the population's needs and objectives. For example, if "Career/Technical Education Course" is determined as one career activity in the program, this intervention will be employed in a classroom format once a week in both 11th and 12th grade and conducted by a school counselor.

Step Four is to determine the cost of the program. The cost of the program needs to fit the school's budget. In addition to the cost of staff time for designing and implementing career interventions, other kinds of costs are included, such as printing cost, cost for using facilities, technical cost, and cost for equipment and materials (e.g., assessment inventories, reference books). The judgment of the budget of career guidance programs needs to be based on the benefits that are expected from the services.

Step Five is to start promoting and delivering program services. It is important to introduce any new program and existing services. That some services are under

employed sometimes is only because students or teachers don't even know they exist. Moreover, it is very important at the same time the content is being designed, to plan how the program and interventions will be promoted.

Step Six is to evaluate the program and revise it as needed. It is essential to examine whether the program is helping students achieve the objectives that were set at Step two. The program needs to be evaluated and revised so that it can be improved to meet the needs of students. Two methods, *quantitative* and *qualitative* inquiries, are suggested. *Quantitative* methods includes developing questionnaires, surveys, and experimental studies while *qualitative* data are sought from open-ended questions, interview, focus group, testing results, and students' records. In addition, seeking feedback from teachers, parents, and other related school staff is also essential for the revision of the program.

In summation, the results of this dissertation have three major implications for guidance programs in Taiwanese comprehensive high schools. First, the career taxonomy validated from this study provides a systematic and comprehensive structure for planning career interventions and designing guidance programs. The steps of how to design and incorporate these career interventions into educational programs in schools were suggested in the earlier section. Second, generally speaking,

Field career interventions are implemented least and perceived as least helpful among those four taxa. A further re-evaluation of the implementation and the effectiveness of Field career is needed. Finally, although the constituent patterns of implementing career interventions in each grade of Comprehensive High School were obtained from this study, the patterns are expected to serve as a reference, not a requisition when it comes to planning career guidance program because the needs for involving different kinds of career interventions in each school varies. The implications for future studies are addressed in the following section.

Implications for Future Research

The results of this study revealed areas that need to be addressed in future studies. First, this study focused on the implementation of career development interventions in Taiwanese comprehensive high schools. Additional studies could examine the quality of implementing career interventions and the amount of time that is spent on each career intervention. Incorporating an inquiry with both quality and quantity measures would be beneficial to future research in the area in that it could measure the best practice and correct implementation of career development interventions.

Second, since the subjects of this study were all directors of guidance programs, the perspectives of students, teachers, parents, and even other guidance staff are unknown regarding the implementation of career interventions. It is assumed that there would have been discrepancy of opinions between those populations. It is suggested for future studies that various group populations be included in order to provide a more global view of the implementation of career interventions in Taiwanese comprehensive high schools.

Third, the taxonomy structure used in this study was developed based on the American population. Thus, the taxonomy of career development intervention in Taiwan might be different. To develop a taxonomy structure of career interventions based on Taiwanese cultures and populations has an urgent need if future researchers would like to have better understanding of the implementation of career development interventions in Taiwanese comprehensive high schools.

Conclusion

This study investigates the implementation of career development interventions in Taiwanese comprehensive high schools. Taiwan has undergone significant social change, particularly in the last forty years, due to economic and industrial growth.

Career development intervention is increasingly urgent in helping students face upcoming challenges.

Career guidance activities are designed to help students explore careers, enhance the understanding of themselves and diverse workforces, and develop the necessary decision-making and transition skills for career development. High school students indicate that they have at least started projecting ideas about their future jobs. They have strong needs to learn about themselves and the working world. Consequently, it is imperative that these needs be translated into an educational plan for their secondary school education.

Facing significant shifts in the social structure and the rapid development of economics and technology in Taiwan, we as school counselors need to provide students in the new era with opportunities for their career development.

This exploratory study brings an unprecedented perspective regarding the implementation of career development interventions in Taiwanese comprehensive high schools. It provides information for sound decision-making on the part of school district administrators, principals, and school counselors. Thus, financial planning regarding career development interventions can be conducted judiciously.

Moreover, it has profound implications for current Comprehensive High School system reform movements. As Taiwan is in a time of economic and political transition, the planning of Comprehensive High School is one of the most important reforms in secondary education. The findings of this study provide needed support for this educational reform.

REFERENCES

- Agresti, A., & Finlay, B. (1997). *Statistical methods for the social sciences* (3rd ed.). Englewood Cliffs, NJ: Prentice Hall, Inc..
- Beyer, B. K. (1995). *How to conduct a formative evaluation*. Association for Supervision & Curriculum Development. (ISBN: 0871202441)
- Bingham, R. P., & Ward, C. M. (1994). Career counseling with ethnic minority women. In W. B. Walsh & S. H. Osipow (Eds.), *Career counseling for women* (pp. 165-196). Hillsdale, NJ: Erlbaum.
- Borders, L. D., & Drury, S. M. (1992). Comprehensive school counseling programs: A review for policymakers and practitioners. *Journal of Counseling & Development*, 70, 4, 487-498.
- Borow, H. (1964). (Ed.). *Man in a world at work*. Boston, MA: Houghton Mifflin.
- Brewer, J. M. (1942). *History of vocational guidance*. New York: Harper.
- Campbell, C. A., & Dahir, C. A. (1997). *The national standards for school counseling programs*. Alexandria, VA: American School Counselor Association.
- Campbell, R. E., & Cellini, J. V. (1981). A diagnostic taxonomy of adult career problems. *Journal of Vocational Behavior*, 19, 175-190.
- Chang, D. H. F. (2002). The past, present, and future of career counseling in Taiwan. *The Career Development Quarterly*, 50(3), 218-225.
- Chen, M.-N. (2002). *Follow-up of the Comprehensive High School graduates*. National Chang-Hwa Normal University Master Dissertation.
- Cheng, A.-L. (2002). *The research of the elementary school teachers' perspectives toward school guidance work and students' guidance*. National Ping-Tung Teachers' College Master Dissertation.

- Cheng, S.-C. (1998). *Education and guidance* (2nd ed.). Taipei, Taiwan: Psychological Publishing Co., Ltd.
- Chou, S.-L. (1998). *Research on the career belief of Comprehensive School students in our country*. National Kaohsiung Normal University Master Dissertation.
- Crities, J. O. (1981). *Career models: Models, methods, and materials*. NY: McGraw-Hill.
- Dillman, D. (2000). *Mail and internet surveys: The tailored design method*. NY: John Wiley & Sons. Inc.
- Drier, H. N. & Ciccone, J. K. (1988). Career guidance: The missing link in educational excellence and work transition. *Journal of career development*, 15, 3-12.
- Dykeman, C., Ingram, M.A., Wood, C., Charles, S., Chen, M. Y. & Herr, E. L. (2001). *The Taxonomy of Career Development Interventions That Occur in America's Secondary Schools*. ERIC Document Reproduction Service [EDO-CG-01-04].
- Fang, J.-S. (1987). *Working outline of the graduates of nine year graduates for employment guidance*. Taipei, Taiwan: National Youth Commission, Yearly Report of Youth Employment Guidance.
- Fang, Z.-W. (1985). *The impact of a group counseling of enhancing self-integration and value clarification on the 10th grade female students*. National Taiwan Normal University Master Dissertation.
- Gilligan, C. (1982). *In a difference voice*. Cambridge, MA: Harvard University Press.
- Girden, E. R. (1996). *Evaluating research articles from start to finish*. CA: Sage Publication, Inc..
- Grimm, L. G., & Yarnold, P. R. (1995). *Reading and understanding multivariate statistics*. Washington, DC: American Psychological Association.

- Gysbers, N. C. (1992). The Comprehensive Guidance Program Model. In Walz, G. R. (Ed.), *Counseling and guidance in the schools: Three exemplary guidance approaches. Reference and resource series* (pp. 9-24). Washington, DC: National Education Association.
- Gysbers, N. C., & Henderson, P. (1994). *Developing and managing your school guidance program* (2nd ed.). Alexandria, VA: American Counseling Association.
- Gysbers, N. C., & Moore, E. J. (1971). Career development in the schools. In G. F. Law (Ed.), *Contemporary concepts in vocational education* (pp. 82-95). Washington, DC: American Vocational Association.
- Gysbers, N. C., Hughey, K. F., Sattr, M., & Lapan, R. T. (1992). Improving school guidance programs: A framework for program, personnel, and results evaluation. *Journal of Counseling & Development, 70*, 565-570.
- Gysbers, N. C., Lapan, R. T., Blair, M., Starr, M. F., & Wilmes, D. (1999). Closing in on the statewide implementation of a comprehensive guidance program model. *Professional School Counseling, 2*, 357-366.
- He, X.-E. (1982). *The effects of career information giving type on cognitive complexity, career decision-making behavior and person- environment congruence of the tenth-grade female students*. National Taiwan Normal University Master Dissertation.
- Henderson, P., & Gysbers, N. C. (1998). *Leading and managing your school guidance program staff: A manual for school administrators and directors of guidance*. Alexandria, VA: American Counseling Association.
- Herr, E. L. (1984). Links among training, employability, and employment. In N. C. Gysbers (Ed.), *Designing careers. Counseling to enhance education, work, and leisure*. San Francisco: Jossey-Bass.
- Herr, E. L. (1992). Emerging trends in career counseling. Special Section: Counseling and health concerns. *International Journal for the Advancement of Counseling, 15*, 255-288.

- Herr, E. L. (2001). Career development and its practice: A historical perspective. *The Career Development Quarterly*, 49, 196-211.
- Herr, E. L., & Cramer, S. H. (1996). *Career guidance and counseling through the life span: system approaches* (5th ed.). New York, NY: HarperCollins.
- Holland, J. L. (1966). *The psychology of vocational choice*. Waltham, MA: Blaisdell.
- Hotchkiss, L., & Dorsten, L. E. (1985). *Outcomes of career guidance and counseling in high school*. Columbus, Ohio: National Center for Research in Vocational Education. (ERIC Document Reproduction Service No. ED 261196).
- Hou, Y.-R. (1985). *The effects of a career development curriculum on career maturity and vocational self-concept of academic high school and vocational high school students*. National Taiwan Normal University Master Dissertation.
- Hoyt, K. B., & Shylo, K. R. (1989). *Career education in transition: Trends and implications for the future*. Columbus, OH: The National Center for Research in Vocational Education.
- Hsu, C. W. (1982). *American career education*. Taipei, Taiwan: You Shi Culture Enterprise Co..
- Hsu, Y. C. & Yang, K. T. (1993). *The research of career guidance application in the elementary school*. Taipei: Ministry of Education.
- Huang, C. H., & Lin, E. J. (1993). *Manual of what I like to do*. Taipei, Taiwan: Employment and Vocational Training Bureau of Labor Committee.
- Huang, W. W. (1993). *Transition-How to plan career development for adults*. Taipei: Living Psychology Co.
- Hughey, K. F., & Gysbers, N. C. (1993). Evaluating comprehensive school guidance programs: Assessing the perceptions of students, parents, and teachers. *School Counselor*, 41, 1, 31-35.

- Hughey, K. F., Lapan, R. T., & Gysbers, N. C. (1993). Evaluating a high school guidance-language arts career unit: a qualitative approach. *The School Counselor, 41*, 96-101.
- Jin, S. R. (1987). The concept and apply of career guidance. *Journal of Counseling and Guidance, 1*, 14-15.
- Jin, S. R. (1991). *The study of junior high school career guidance*. Taipei, Taiwan: Ministry of Education, Committee on School Discipline and Moral Education.
- Jin, S. R. (1997). *Career counseling and guidance*. Taipei, Taiwan: Dong-Hua Bookstore Co., Ltd.
- Jin, S. R., Lin, H. T., Chen, C. P., & Ou, Y. L. (1994). *Manual of the Interest Test*. Taipei, Taiwan: University Entrance Examination Center.
- Jo, L. Y. (1993). *Aging and retirement*. Taichung, Taiwan: Social Department of Province.
- Kapes, J. T., Mastie, M. M., & Whitfield, E. A. (1994). *A counselor's guide to career assessment instruments* (3rd ed.). Alexandria, VA: National Career Development Association.
- Krumboltz, J. D. (1979). A social learning theory of career decision making. In A. M. Mitchell, G. B. Jones, & J. D. Krumboltz (Ed.), *Social learning and career decision making* (pp.19-49). Cranston, RI: Carroll Press.
- Ku, P. L. (1990). Woman searching for herself: Cold in the highlands. In T. W. Hsu (Ed.), *The career of a Chinese woman* (pp. 99-112). Taipei, Taiwan: Living Psychology Publishing Co.
- Kuo, C.-Y. (2000). *An experimental study of infused Vocational Awareness Curriculum in junior high school*. National Chang-Hwa Normal University Master Dissertation.

- Lai, U.-J. (2002). *A study on the satisfaction of school guidance for Comprehensive High School students*. National Taiwan University Master Dissertation.
- ✓ Lapan, R. T., & Jingeleski, J. (1992). Circumscribing vocational aspirations in junior high school. *Journal of Counseling Psychology*, 39, 81-90.
- Lapan, R. T., Gysbers, N. C., & Sun, Y. (1997). The impact of more fully implemented guidance programs on the school experiences of high school students: A statewide evaluation study. *Journal of Counseling & Development*, 75, 292-302.
- Lapan, R. T., Gysbers, N. C., Hughey, K., & Arni, T. J. (1993). Evaluating a guidance and language arts unit for high school juniors. *Journal of Counseling & Development*, 71, 444-451.
- ✓ Lee, L.-S. (1997). *A comparison of occupational programs in Comprehensive High Schools in the U. S. A., Japan, and Taiwan*. Paper presented at the International Vocational Education and Training Association Conference, Helsinki, Finland, August, 24-28.
- Lee, L.-S. (2000). *Technology education and its promotion in Taiwan*. Paper presented for the Group Training Course in Industrial Technology Education in Fiscal Year 2000, Japan International Cooperation Agency (JICA), Aichi University of Education (AUE), Japan, July 5.
- Lee, R. S. (1993). Effects of classroom guidance on student achievement. *Elementary School Guidance & Counseling*, 27, 163-171.
- ✓ Lent, R. W., & Worthington, R. L. (1999). Applying career development theories to the school-to-work transition process. *Career Development Quarterly*, 47, 291-296.
- Li, M.-W. (2000). *The study of the practical strategies of the integrated model of instruction, discipline and guidance on Taiwanese junior high teachers*. National Taiwan Normal University Doctoral Dissertation.
- Lin, H.-T. (1987). *Theory and practice of career guidance*. Taipei, Taiwan: Wu Nan Book Co., Ltd.

- Lin, H.-T. (1993). *The study of high school career guidance*. Taipei, Taiwan: Ministry of Education, Committee on School Discipline and Moral Education.
- Lin, H.-T., Tien, S.-L., Chang, H.-F., & Chang, T.-C. (1997). *Career counseling*. Taipei, Taiwan: National Open University.
- Lin, J.-M. (2000). *Comparative study on career maturity of senior high secondary education students*. National Chang-Hwa Normal University Master Dissertation.
- Lin, S.-C. (2001). *The research of the effects of career development curriculum on career maturity of elementary school children*. Taipei Municipal Teachers' College Master Dissertation.
- Lin, Y.-S. (1986). *The effects of peer tutoring on academic and interpersonal adjustment difficulty students in vocational high schools*. National Taiwan Normal University Master Dissertation.
- Liu, A.-L. (2000). *A study on learning satisfaction in course of vocational exploration and guidance of junior high school students*. National Taipei Technology University.
- Loughead, T. A., Liu, S.-H., & Middleton, E. B. (1995). Career development for at-risk youth: A program evaluation. *Career Development Quarterly*, 43, 274-284.
- Lu, S.-X. (1991). *The effects of the peer tutoring on elementary school students' mathematics learning*. National Taiwan Normal University Master Dissertation.
- Luzzo, D. A., & Pierce, G. (1996). Effects of DISCOVER on the career maturity of middle school students. *Career Development Quarterly*, 45, 170-172.
- MacDonald, G., & Sink, C. A. (1999). A qualitative development analysis of comprehensive guidance programs in schools in the United States. *British Journal of Guidance & Counseling*, 27, 415-430.

- ✓ Mau, W. C. (1995). Educational planning and academic achievement of middle school students: A racial and cultural comparison. *Journal of Counseling & Development, 73*, 518-526.
- National Occupational Information Coordinating Committee (NOICC). (1992). *The National Career Development Guidelines, Local Handbook*. Washington, DC: Author.
- Niles, S. G., & Harris-Bowlsbey, J. (2002). *Career development interventions in the 21st century*. NJ: Merrill Prentice Hall.
- Parson, F. (1909). *Choosing a vocation*. Boston: Houghton Mifflin.
- Peterson, G. W., Long, K. L., & Billips, A. (1999). The effect of three career interventions on educational choices of eighth grade students. *Professional School Counseling, 3*, 34-42.
- Pierce, A. (1933). *Vocations for women*. New York: Macmillan.
- Roe, A. (1956). *The psychology of occupation*. New York: Macmillan.
- Rubin, A., & Babbie, E. (2001). *Research methods for social work* (4th ed.). Pacific Grove, CA: Brooks/Cole.
- Savickas, M. L. (1993). Predictive validity criteria for career development measures. *Journal of Career Assessment, 1*, 93-104.
- Sink, C. A., & MacDonald, G. (1998). The status of comprehensive guidance and counseling in the United States. *Professional School Counseling, 2*, 88-102.
- Spokane, A. R. (1991). *Evaluating career intervention*. Englewood Cliffs, NJ: Prentice-Hall.
- Super, D. E. (1951). Vocational adjustment: implementing a self concept. *Occupations, 30*, 88-92.

- Super, D. E. (1980). A life-span, life-space approach to career development. *Journal of Vocational Behavior*, 16, 282-298.
- Super, D. E. (1981). Approaches to occupational choice and career development. In A.G. Watts, D. E. Super, & J. M. Kidd (Eds.), *Career development in Britain*. Cambridge, England: Hobson's Press.
- Super, D. E. (1990). Career and life development. In D. Brown & L. Brooks (Eds.), *Career choice and development: Applying contemporary theories to practice* (2nd ed., pp. 197-261). San Francisco: Jossey-Bass.
- Super, D. E., Savickas, M. L., & Super, C. (1996). A life-span, life space approach to career development. In D. Brown, L. Brook, & Associates (Eds.), *Career choice and development* (3rd ed.). San Francisco, CA: Jossey-Bass.
- Taiwan Government. (1996). *Number of people employed in the industrial sector*. Taipei, Taiwan: Executive Yuan, Directorate General of Budget, Accounting & Statistics.
- Tien, H. L. (1997). The vocational interest structure of Taiwanese high school students. Paper presented at Annual Meeting of the American Psychological Association, Chicago, IL, U. S. A., August)
- Tien, H.-L. (1998). *Research and practice of career counseling in Taiwan*. Paper presented at the Annual Convention of American Psychology Association, San Francisco, CA, U. A. A., August 14-18.
- Wang, S.-L. (2002). *The effectiveness of technological and vocational education program of An-ping and Wen-xian Junior High School*. National Kaohsiung Normal University Master Dissertation.
- Wang, Y.-J. (1997). *The effect of Career Search Group toward vocational construct system and career self-efficacy for female senior high school students*. National Taiwan Normal University Master Dissertation.

- Whiston, S. C., & Sexton, T. L. (1998). A review of school counseling outcome research: Implications for practice. *Journal of Counseling & Development, 76*, 412-426.
- Wood, C. (2001). *The Relationship of career development interventions to English self-efficacy and English motivation in high school students*. Unpublished doctoral dissertation, Oregon State University.
- Wrenn, C. G. (1964). Human values and work in American life. In H. Borow (Ed.), *Man in a world at work* (pp. 24-44). Boston: Houghton Mifflin.
- Wu, H.-M. (2001). *The effects of Career Group Counseling Project on career awareness and occupational gender-role stereotypes for the fifth-grade students*. National Ping-Tung Teachers' College Master Dissertation.
- Wu, K.-C. (1999). *The research of the advanced schooling and employment guidance and its related problems for Comprehensive High School students*. National Taiwan Normal University Master Dissertation.
- Wu, R. T. Y. (1996). *Comprehensive High School: An effective way to integrate academic and vocational education in Taiwan, Republic of China*. Paper presented at the American Vocational Association Convention, Cincinnati, OH, U.S.A., December 7.
- Wu, Z.-J. (1984). *The application study of computer assisted vocational guidance*. National Taiwan Normal University Master Dissertation.
- Yang, C. S. (1989). *Career guidance? Life long process*. Taipei, Taiwan: National Youth Commission.
- Yang, C. S. (1990). Looking toward the 21st Century: A Social perspective view. Chinese Guidance Association (Eds.), *The guidance new movement on 21st century* (pp.26-42). Taipei, Taiwan: Psychological Publishing Co., Ltd.

- Yang, S.-K. (2001). Dilemmas of education reform in Taiwan: Internationalization or localization? Paper presented at the Annual Meeting of the Comparative and International Education Society, Washington, DC, U. S. A., March 14-17.
- Yu, C.-N. (1998). *A case study on the evaluation on the disciplinary and guidance affairs of junior high school in Taiwan in terms of CIPP Model*. National Taiwan Normal University Doctoral Dissertation.
- Zeng, S.-H. (1989). *Career Decision Support System for career guidance of vocational high school students*. National Taiwan Normal University Master Dissertation.
- Zhang, L.-W. (1985). *The effectiveness of computer assisted vocational and school selecting guidance on career development of middle school students*. National Taiwan Normal University Master Dissertation.
- Zunker, V. G. (2002). *Career counseling: Applied concepts of life planning* (6th. ed.). Pacific Grove, CA: Brooks/Cole.

APPENDICES

APPENDIX A

List of Career Development Interventions

I = Field (10 items), II = Advising (20items),

III = Awareness (7 items) , IV = Curriculum (7 items)

1. (I) Job shadowing
2. (I) Work based learning project
3. (I) Internship
4. (I) Job placement
5. (I) Mentorship programs
6. (I) Job coaching
7. (II) Person/Social counseling
8. (II) Career Focused parent/student conference
9. (II) Career maturity assessment
10. (II) Referral to external counseling/assessment
11. (II) Referral to external training program
12. (II) Career interest assessment
13. (II) Recruiting
14. (II) College admission testing
15. (II) Job hunting preparation

16. (II) Information interviewing
17. (II) Career peer advising/tutoring
18. (II) Computer assisted career guidance
19. (II) Portfolio/individual career plan
20. (II) Career cluster/pathway/major
21. (II) Career library/resource
22. (II) Career map
23. (II) Career counseling
24. (III) Guidance lessons on personal and social development
25. (III) Guidance lessons on academic planning
26. (III) Career aptitude assessment
27. (III) Career field trip
28. (IV) Career skills infused into the classroom
29. (IV) Career information infused into the classroom
30. (I) Cooperation education
31. (I) Youth apprenticeship
32. (I) Work study service
33. (I) Learning/voluntary program
34. (II) Cooperative/dual enrollment
35. (II) Career passport/skill certificate
36. (IV) Student clubs/activity
37. (IV) School based enterprise
38. (III) Guidance lessons on career development
39. (III) Community members teach in the classroom
40. (III) Career day/career fair

41. (IV) Tech pre/2+2 curriculum
42. (IV) Career Academy
43. (IV) Career/technical education course
44. (II) Academic planning counseling

APPENDIX B

Career Development Intervention Survey (English)

Introduction: This survey has 2 parts. In Part 1, we ask you background questions. In Part 2, we ask whether you have certain career activities that occur in you high school. The whole survey takes about 10-20 minutes to finish. Thank you for taking the time to finish this survey.

PART 1: Demographic Information

1. Gender: (*check one*)

- Male
- Female

2. Education level: (*check one*)

- 2 Year College (ALA, AS, ALAS, etc)
- 4 Year College (BA, BS, etc)
- Master's Degree or Doctorate

PART 2: Career Activities

Instructions: Please place a check mark (✓) in each activity while the activity occurs in your high school and if you think this activity is helpful for students in preparing them for the future.

Example: In your high school, students went to a work site and followed a worker around watching what the worker did at the 11th and 12th grade. Students did not do this activity at the 10th grade. Thus, on question #1, you would place a check mark (✓) under 11th and 12th -leaving 10th cell blank. Also, you thought this activity was helpful in preparing student for the future so you placed a check mark (✓) under **Helpful**.

| # | Activity | 10 th | 11 th | 12 th | <u>Helpful</u> (✓) |
|---|---|------------------|------------------|------------------|-------------------------|
| 1 | I visited a work site and followed a worker around watching what he/she did | | ✓ | ✓ | ✓ |

SURVEY OF ACTIVITIES

| # | Activity | 10 th | 11 th | 12 th | Helpful (✓) |
|----|---|------------------|------------------|------------------|----------------|
| 1 | I visited a work site and followed a worker around watching what he/she did | | | | |
| 2 | I went to a work site and completed a project as part of a school assignment | | | | |
| 3 | I did unpaid work at a job site to get a feel for what it was like to work in that industry | | | | |
| 4 | An adult at school helped me find a job | | | | |
| 5 | I was given a mentor who taught me about the world of work | | | | |
| 6 | An adult from school came to my job and gave me feedback on my work skills | | | | |
| 7 | A counselor helped me understand more about myself and/or my family | | | | |
| 8 | My parents, counselor, and I met at school to talk about my career choices and plans | | | | |
| 9 | I took a test that told me about how well I know myself or make decisions | | | | |
| 10 | An adult at school referred me to a counselor in the community | | | | |
| 11 | An adult at school referred me to a training program in the community | | | | |
| 12 | I took a test that told me what careers might interest me | | | | |
| 13 | I learned about further education options from a military, apprenticeship, or college recruiter | | | | |
| 14 | I took a college admissions test | | | | |
| 15 | I was taught how to find a job and get hired | | | | |
| 16 | As a school project, I interviewed someone about their job and industry | | | | |

| # | Activity | 10 th | 11 th | 12 th | Helpful (✓) |
|----|---|------------------|------------------|------------------|----------------|
| 17 | I talked with a <i>peer</i> advisor about a career question or problem that I had | | | | |
| 18 | I used a computer program and/or went online to learn more about careers | | | | |
| 19 | I created a portfolio of the career interests, skills, and experiences that I have had | | | | |
| 20 | I chose a career cluster, pathway, or major | | | | |
| 21 | I went to my school's library or career center to learn more about careers | | | | |
| 22 | I diagramed and/or made a list of all of the steps necessary to reach my career goals | | | | |
| 23 | I talked with a school counselor or teacher about a career question or problem that I had | | | | |
| 24 | I had a lesson about how to better handle a personal or social problem | | | | |
| 25 | I had a lesson about how to select classes to take that match my goals | | | | |
| 26 | I took a test that suggests what jobs best match the skills and talents I have | | | | |
| 27 | I went on a field trip to a work site | | | | |
| 28 | In an English, math, social studies, or science class, the teacher used examples from the world of work to teach a <i>skill</i> | | | | |
| 29 | In an English, math, social studies, or science class, the teacher used examples from the world of work to teach us some <i>facts</i> | | | | |
| 30 | I was in a 1 year long program where I went to school part time and worked part time and got both high school credit and pay | | | | |
| 31 | I was in a 2 to 3 year long program that combined training from both school and work | | | | |
| 32 | I received high school credit for a job I had separate from any school program | | | | |

| # | Activity | 10 th | 11 th | 12 th | Helpful (✓) |
|----|---|------------------|------------------|------------------|----------------|
| 33 | I worked as a volunteer and got high school credit for it | | | | |
| 34 | I earned both high school credit and college credit for a class I took | | | | |
| 35 | I participated in a program where I could earn a certificate to do a certain type of work | | | | |
| 36 | I was a member of a student club that does things which help me learn about different types of work | | | | |
| 37 | I worked in a business that operated out of my school | | | | |
| 38 | I had a lesson about planning for my future after high school | | | | |
| 39 | A person from community came to school and using examples from job, taught one of my classes | | | | |
| 40 | I went to a career day/fair at my school | | | | |
| 41 | I was in a program that combined the last two years of high school with the 2 years of community college to prepare me for a career | | | | |
| 42 | I went to a school that organized itself around a particular career field | | | | |
| 43 | I took a voc-ed/technical-ed class | | | | |
| 44 | I talked with a school counselor or teacher about how the classes I select will fit with my goals | | | | |

~ THANK YOU ~

生涯發展活動問卷
Career Development Intervention Survey (Chinese)

填答說明：這份問卷共分成兩部分：第一部份，將問您的基本背景資料；第二部分，將問您在您的學校是否有該生涯活動。填完這份問卷約需花您十至十五分鐘的時間，在此由衷地感謝您撥出寶貴的時間來填答這份問卷。

第一部份：背景資料

1. 性別：

- 女
- 男

2. 教育程度：(請擇一)

- 專科
- 大學
- 碩士或博士

第二部分：生涯活動

說明：如果您的學校有該生涯活動，並且您認為該生涯活動對學生未來發展是有幫助的，請打(✓)。

範例：在您學校，這項活動"學生訪看工作職場並且跟隨一個職工觀看他們實際做些什麼"提供給高二和高三學生參與，則在高二及高三欄下的空白處打(✓)，並且您覺得這活動是對學生有幫助的，就在有幫助的欄下空白處打(✓)。

| # | 活動名稱 | 高一 | 高二 | 高三 | 有幫助的 (✓) |
|---|----------------------------|----|----|----|-------------|
| 1 | 學生訪看工作職場並且跟隨一個職工觀看他們實際做些什麼 | | ✓ | ✓ | ✓ |

生涯活動問卷

| # | 活動名稱 | 高一 | 高二 | 高三 | 有幫助的 (✓) |
|----|------------------------------------|----|----|----|-------------|
| 1 | 學生訪看工作職場並且跟隨一個職工觀看他們實際做些什麼 | | | | |
| 2 | 學生到一職場並完成一個計劃而這計劃是學校作業的一部份 | | | | |
| 3 | 學生在一職場做未支付薪資的工作,使能感受到在該領域工作是什麼樣的情形 | | | | |
| 4 | 學校師長幫助學生找到工作 | | | | |
| 5 | 被分派的指導者教導學生有關工作職場的事 | | | | |
| 6 | 師長到學生所工作的職場並對於學生的工作技能給予回饋 | | | | |
| 7 | 諮商員幫助學生了解自己以及家庭 | | | | |
| 8 | 學生的父母, 諮商員和學生在學校一起談有關於我的生涯選擇及計劃 | | | | |
| 9 | 學生做一個能了解自己及評估自己做決定能力的測驗 | | | | |
| 10 | 校內師長把學生轉介給社區諮商員 | | | | |
| 11 | 校內師長把學生轉介到社區接受訓練 | | | | |
| 12 | 學生做了一個測驗, 這能告訴學生對什麼職業有興趣 | | | | |
| 13 | 學生透過軍校企業及大學招生人員了解未來的教育選擇 | | | | |
| 14 | 學生參加了大學入學考試 | | | | |
| 15 | 學生被教導如何找工作及應徵工作 | | | | |
| 16 | 為了做一學校方案, 學生訪問一些人有關他們的工作和行業 | | | | |

| # | 活動名稱 | 高一 | 高二 | 高三 | 有幫助的 (✓) |
|----|-------------------------------------|----|----|----|-------------|
| 17 | 學生和同儕輔導員(輔導股長) 談有關的生涯問題或困難 | | | | |
| 18 | 學生使用電腦軟體或上網學習有關生涯課題 | | | | |
| 19 | 學生創作一個包含個人生涯興趣, 技能及經驗的檔案 | | | | |
| 20 | 學生選擇了一個生涯類組, 生涯徑路或主修 | | | | |
| 21 | 學生到學校的生涯資訊中心或輔導室查閱有關生涯的資訊 | | | | |
| 22 | 學生把所有可達成我生涯目標的步驟列成一系列或做一圖示 | | | | |
| 23 | 學生和學校諮商員或老師談有關個人生涯問題及困擾 | | | | |
| 24 | 學生上一有關如何較佳的處理個人或社交上的問題的課程 | | | | |
| 25 | 學生上一有關如何選課來符合自己的目標的課程 | | | | |
| 26 | 學生做一測驗, 這能建議什麼樣的工作可最佳的符合他/她的技能和才能 | | | | |
| 27 | 學生到一工作職場參觀 | | | | |
| 28 | 語文, 數學, 社會或科學課程的老師使用工作職場的例子來教授技能 | | | | |
| 29 | 語文, 數學, 社會或科學課程的老師使用工作職場的例子來教授實務 | | | | |
| 30 | 學生參與為期一年的計劃專案(健教合作), 半工半讀同時可得到學分及薪資 | | | | |
| 31 | 學生參與一為期二至三年, 同時結合工作職場及學校訓練的計劃專案 | | | | |
| 32 | 學生可以藉由工作來拿到高中的學分 | | | | |

| # | 活動名稱 | 高一 | 高二 | 高三 | 有幫助的 (✓) |
|----|---|----|----|----|-------------|
| 33 | 學生可以藉由自願服務來拿到高中的學分 | | | | |
| 34 | 學生上一個同時能拿到高中和大學學分的課 | | | | |
| 35 | 學生參與一個能拿到檢定證明可做該工作的方案 | | | | |
| 36 | 學生參與能學習有關不同型態工作的社團 | | | | |
| 37 | 學生在一以本校經營為主的企業體工作 | | | | |
| 38 | 學生接受一有關高中畢業後如何規劃未來的課程 | | | | |
| 39 | 社區民眾到校, 用工作上的實例來教導我們 | | | | |
| 40 | 學生參加在本校舉辦的生涯職業博覽會 | | | | |
| 41 | 學生參與一個結合二年高中和兩年大學/專科/社區大學課程來幫助我做生涯準備 | | | | |
| 42 | 您的學校是有一特殊生涯領域的專門高中(如; 藝術, 音樂, 體育.. 等高中) | | | | |
| 43 | 學生上一有關職業或技能教育的課程 | | | | |
| 44 | 學生和學校諮商員或老師談有關所選的課將會如何符合自己的目標 | | | | |

~ 謝謝合作 ~

APPENDIX C

Cover Letter/Informed Consent (English)

Dear Director of Guidance Program,

According to the Seventh National Education Committee in 1994, moving towards a more comprehensive high school setting has become a major part of current educational reform in Taiwan. High school students indicate that they have strong needs to learn about themselves and the world-of-work. Thus, career development plays a crucial role in helping students fulfill their personal needs and achieve their career goals. From literature, research results indicated that career development interventions contribute to a variety of positive student outcomes. However, there is no current research that has investigated the effects of implementing career development interventions in Taiwanese comprehensive high schools. The lack of research in this area of career development interventions has hindered the design and implementation of effective comprehensive guidance programs.

Currently I am a doctoral student who is investigating the effect of the implementation of career development interventions in Taiwanese comprehensive high schools. In 2000, in the United States, the Career Guidance Research Team of the National Research Center for Career and Technical Education created the taxonomy of career development intervention. It includes a comprehensive list of interventions that are implemented in America's comprehensive high schools. Being very familiar with this taxonomy and originally from Taiwan, I believe it is a useful tool that can be introduced to investigate which school career guidance efforts are effective or underdeveloped in Taiwan. This study should provide useful information in regards to implications for educational reform in Taiwan in the area of career development. Thus, your participation in this study is highly encouraging.

The answers that you provide will be kept confidential to the extent permitted by law. And all information collected in this study will not be used for any other purpose than the current study. There is no foreseeable risk to participants. To ensure additional confidentiality, your name will never be placed on the questionnaire. Your responses, together with others, will be combined and used for statistical summaries only. All data will be destroyed after analyses are completed. Your participation in this study is voluntary. All recipients of this survey packet have a personal right to not participate. It will take you about 15-20 minutes to complete the

survey. By returning the questionnaire in the return envelope, it will indicate that you have given informed consent.

If you are interested in the results of this survey, you may receive a summary of the results by writing "copy of results requested" on the back of the return envelope, and printing your name and address below it. Please do not put this information on the questionnaire itself.

If you have any questions about the research study or specific procedures, feel free to contact me at (541) 754-3564 or chenm@onid.orst.edu. If you have questions about your rights as a research subject, you can contact the IRB Coordinator at the Oregon State University Research Office at (541) 737-3437 or IRB@oregonstate.edu. Thank you for your help and I appreciate your cooperation.

Sincerely,

Meng-Yin Chen, PhD Candidate at OSU

Cover Letter/Informed Consent (Chinese)

親愛的輔導/實習輔導主任,您好:

第七次全國教育會議提出綜合高中將是台灣未來教育改革的方向. 高中學生正值需要了解自己及未來發展方向的時候. 綜合高中所涵蓋的生涯活動將扮演很重要的角色來幫助學生生涯發展. 根據過去的研究顯示, 生涯活動的實施對學生的發展有正面的貢獻. 然而, 目前並沒有研究實際調查台灣綜合高中生涯活動的實施現狀. 如缺乏這樣研究, 輔導室將難以有效的規劃生涯活動而使輔導室的功能無法得以彰顯.

本人目前是美國俄勒岡州立大學博士候選人, 欲調查生涯發展活動在台灣綜合高中的實施現況. 近來, 在公元兩千年, 美國國家生涯及科技教育中心的生涯輔導研究小組花費數百萬美元的研究經費調查美國綜合高中生涯發展活動的實施現狀, 而得出一生涯發展活動的詳細列表, 並且對在綜合高中的各種生涯活動加以詳盡的分類.

本人很榮幸能成為該研究小組的一員. 我相信這一個生涯活動的列表可作為我國改進綜合高中生涯活動規劃的參考, 所以將它列入此論文研究的一研究工具. 如承蒙您的協助, 此研究結果將對未來生涯課程活動規劃, 教育決策的制定甚至教育改革方向有其正向的影響. 因此, 您的參與約花十至十五分鐘填答這份問卷, 對此研究而言, 將是意義重大.

可以十分確定的是您的填答是完全保密的. 您不需要填你的名字在問卷上, 而您的問卷回答只供作統計分析用, 用完即會銷毀. 您的參與完全出自於您個人的意願, 而把填完的問卷寄回即表示您願意參與這項研究, 同意您的填答結果用於此研究分析. 如果您進一步有興趣想了解此研究結果, 本人很願意與你分享, 只要在所附的回郵信封背面上, 寫上"研究結果摘要", 並附上您的住址及名字或稱謂. 這份研究完成之後, 將會將結果摘要寄給您. 請記住莫將您的姓名住址有關的資料寫在問卷上, 以充分保障您個人的隱私權益.

如果您有任何有關填答這份問卷的問題, 歡迎隨時與我聯繫:
chenm@onid.orst.edu 或(541) 754-3564. 台灣的聯絡電話是: (07) 2412562. 如果您對參與這項研究的權益有任何的問題, 可與俄勒岡州立大學研究處聯繫: (541)

737-3437 或 IRB@oregonstate.edu, 再次感謝您的協助以及您寶貴的時間.

陳孟吟 敬上

美國俄勒岡州立大學博士候選人

APPENDIX D

Thanks Note and Reminder (English)

Dear Director of Guidance Program,

Last week a questionnaire was mailed to you seeking your opinion on the implementation of career development intervention in comprehensive high schools.

If you have already completed and returned it to me please accept my sincere thanks. If not, please do so today. Because it has been sent to all comprehensive high school directors of guidance program in Taiwan, it is extremely important that yours also be included in the study if the results are to accurately represent the directors of guidance program in comprehensive high schools.

If by some chance you didn't receive the questionnaire, or it got misplaced, please call (07) 2412562, and another one will be placed in the mail to you today. Thank you for your time.

Sincerely,

Meng-Yin Chen

PhD Candidate at OSU

Thanks Note and Reminder (Chinese)

親愛的輔導主任, 您好:

上個星期,本人寄給您一份調查問卷欲了解生涯發展活動在台灣綜合高中的實施情形. 如果您已經將填好的問卷寄回了, 在此我將敬上最最深的謝意. 如果還沒寄回問卷的話, 期盼您能今天將它填答寄出. 因為這分問卷是寄給所有綜合高中的輔導主任, 而您是其中重要的一員, 您的參與將對研究結果有莫大的貢獻. 如果沒有您寶貴的觀點, 這研究結果將無法充分代表全國綜合高中輔導主任對生涯發展活動實施的意見.

假如您未收到問卷或問卷遺失了, 請打 (07) 2412562, 新的一份問卷將會在今天儘快的寄出給您. 最後再一次感謝您寶貴的時間.

陳孟吟 敬上

美國俄勒岡州立大學博士候選人

APPENDIX E

Second Reminder Letter (English)

Dear Director of Guidance Program,

About three weeks ago, I wrote to you seeking your opinion on the implementation of career development intervention in comprehensive high schools. As of today, I have not received your completed questionnaire.

I have undertaken this research because of the importance of the issue of implementation of career development interventions and recognizing the unique and important role you play in addressing this phenomena.

I am writing to you again because of the significance each questionnaire has to the usefulness of this study. In order for the results of this study to be truly representative of the opinions of directors of guidance program in comprehensive high schools in Taiwan, it is essential that each member return their questionnaire.

A replacement is enclosed in this envelope in case that your questionnaire has been misplaced. Your cooperation is greatly appreciated.

Sincerely,

Meng-Yin Chen

PhD Candidate at OSU

Second Reminder Letter (Chinese)

親愛的輔導主任, 您好:

約在三個星期前,本人寄給您一份欲了解生涯發展活動在台灣綜合高中的實施情形的調查問卷. 直至今日, 尚未收到您填好寄回的問卷.

本人著手做這研究是因為生涯發展的議題對學生的輔導深具意義, 而您在輔導室所扮演的角色及對這領域的了解, 如反映在此研究上, 有助於對此議題有更深入的了解.

本人再次寫封信邀請您參與研究, 因為每份問卷得到調查的意見都是非常珍貴的. 如果每位參與者的意見都能被收集在此研究中, 而此研究結果則會有顯著且充分的代表性. 因此, 您的填答寄出是非常重要的.

假如您的問卷不小心遺失了, 在這信封裡附有一份新的問卷您可使用. 衷心感謝您的協助與合作.

陳孟吟 敬上

美國俄勒岡州立大學博士候選人

APPENDIX F

Final Reminder Letter (English)

Dear Director of Guidance Program,

I am writing to you about my study of the implementation of career development intervention in comprehensive high schools. I have not received your completed questionnaire.

The large number of questionnaires returned is very encouraging. This is the first national study of comprehensive high school career development interventions in Taiwan. Therefore, the results are of particular importance to you, and your organization. The usefulness of my results depends on how accurately I am able to describe your views of career development interventions in comprehensive high schools.

It is for these reasons that I am sending this questionnaire to you again, in case that my other correspondence didn't reach you. May I urge you to complete and return it as quickly as possible. Your contribution to the success of this study will be greatly appreciated.

Most Sincerely,

Meng-Yin Chen

PhD Candidate at OSU

Final Reminder Letter (Chinese)

親愛的輔導主任, 您好:

本人寫這封信給您是有關了解生涯發展活動在台灣綜合高中實施情形的調查研究. 直至今天, 還是尚未收到您填好寄回的問卷.

令人振奮的是, 大部分的問卷都已填好寄回. 這是第一個全國性有關綜合高中生涯發展活動實施情形的研究. 因此, 相信此研究結果將對您所在的輔導專業及您的學校機構的意義重大. 所以, 您的寶貴意見決不容忽視. 您的觀點對此議題的了解有極大的幫助.

本人再次寄給您一份新問卷以防過去的信件沒能傳達到您手上, 懇切地邀請您參與研究, 並深切期盼您能把問卷儘快填答寄回. 對於您對此研究的貢獻, 在此獻上我最誠摯的謝意!

陳孟吟 敬上

美國俄勒岡州立大學博士候選人