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The Structure of School Career Development Interventions: A Review and Research Implication for Taiwanese Comprehensive High School

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Abstract: Economic and social trends, both domestic and global, have continued to have an impact on the educational development in Taiwan. With very limited natural resources, Taiwan has seen the need for developing a career guidance program to help increase the quality of human resources, and further its economic development. High school students have at least started projecting ideas about their future jobs and have a strong need to learn about themselves and the working world. Thus, the development of the taxonomic model of career development interventions plays a crucial role in helping to evaluate whether the interventions have been appropriately implemented. This paper aimed to exam the literature related to the structure of school career development interventions and yielded critical topics to discuss. Finally, the implication of research and practice were addressed.

Taiwan, officially the Republic of China (ROC), is a beautiful island located in East Asia. In the early 1960s, Taiwan entered a period of rapid economic growth and industrialization, creating a stable industrial economy. Taiwan, like the United States, is facing the challenges of a labor shortage and the 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 (Tien et al., 2012). Furthermore, the interest in humanitarian issues and the need for an educational revolution will increase (Hooley et al., 2012).

In 1980, the word career gained popularity in Taiwan because of western career development influence (Jin, 1991). In the educational system, vocational guidance has become career guidance and has begun to emphasize self-awareness, cultivating knowledge of the working world, managing time effectively, improving social skills and decision-making skills, applying career information systems, and developing and implementing career plans (Cheng, 1998). "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). Thus, career development interventions, defined broadly, involve any activities through one's lifetime designed to enhance a person's career development or to enable that person to make more effective career decisions.

High school students have started projecting ideas about their future jobs and have strong needs to learn about themselves and the working world. Therefore, understanding the career development status of high school students is crucial in developing goals for career development interventions. For high school populations, the goals should emphasize career planning, occupational exploration, and awareness of life-roles. In 1992, the U.S. National Occupational Information Coordinating Committee (NOICC) developed the National Career Development Guidelines for high school students, which emphasize the domains of self-knowledge, educational and occupational exploration, and career planning.

In Taiwan, due to correctly speculating that the 21st century would be characterized by high technology and information, the Seventh National Education Committee in 1994 recommended some educational reforms to cope with future changes (Wu, 1996). One of the most important reforms related to secondary education is the planning of Comprehensive High Schools (CHS). 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, or 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. Unlike the United States, Taiwan has only recently developed the Comprehensive High School system, beginning in 1996.

According to the Taiwanese Ministry of Education, there are four main domains included in CHS guidance programs in Taiwan: career planning guidance, course-selecting guidance, learning guidance, and vocational guidance. Recent empirical studies have had varying focuses including the effectiveness of certain career interventions (Huang et al., 2006; Kuo, 2000; Liu, 2000; Lu et al., 2015; Wang, 2002; Wang, 2015; Wu, 2001) and the implementation or impact of guidance programs (Chen, 2002; Cheng, 2002; Lai, 2002; Li, 2000; Lin, 2000; Liu, 2000, Tien et al., 2018; Wang & Ye, 2017). Those results indicated that career development interventions, as employed in the studies, contribute to a variety of positive student outcomes. Furthermore, evidence of the impact of the implementation of guidance programs is mostly positive in counselors', teachers', and students' attitudes toward school guidance programs.

For these reasons, 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. 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. Accordingly, the development of a taxonomic model of career development interventions plays a crucial role in helping to evaluate whether the interventions have been appropriately implemented.

An examination of the literature related to the structure of school career development interventions yielded five critical topics. These topics were: (a) history of career development interventions: (b) evolution of career development in Taiwan; (c) research on career development interventions in Taiwan; (d) research on the structure of career development interventions for comprehensive high schools. points are reviewed. After these (e) implications for school counselor practice and research will be addressed.

History of Career Development Interventions

In the early part of the 20th century, the emphasis on 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

occupational emphasized client testing, information provision, and vocational advising, appropriate help clients make an to occupational choice. This was the approach proposed by Frank Parsons in the early 1900s. The Parsons' model encouraged practitioners to objectify clients' interests, values, and abilities by using a 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.

Another significant influence in the evolution of career development interventions occurred in 1951 when Donald E. Super recommended 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 individuals to jobs 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 on-going process of career development model that involves the person's self-concept of life-roles across the life span.

Concurrently, in the 1940s and 1950s, several professional organizations related to career development emerged (Niles & Harris-Bowlsbey, 2002). Since the 1960s, the field of career development has developed a number of developmental, behavioral, and theories. psychoanalytical Similarly. the number of career assessment instruments has also grown dramatically (Kapes et al., 1994). These significant career theories include the psychodynamic effects child-rearing of 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, and the Career Beliefs Inventory.

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 towards including the cultural and gender context in career development theories and interventions. The building of theory has continued since then, and so has the creation of new assessments and career interventions through the remainder of the twentieth century (Arulmani et al., 2014).

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 re-established the fundamental importance of career guidance for youth and adults (Herr & Cramer, 1996; Niles & Harris-Bowlsbey, 2002). The American School Counselor Association (ASCA) National Standards for Students general starting point provided a for constructing career interventions. Additionally, the U.S. Department of Education Office of Vocational and Adult Education (OVAE) contracted with DTI Associates, Inc., A Haverstick Company, to develop very specific National Career Development Guidelines (NCDG) to help counselors identify developmentally appropriate career development goals and interventions across a person's life span. The NCDG guidelines are used as a framework for discussing career

interventions across educational levels. However, the International Association for Educational and Vocational Guidance (IAEVG) provides global leadership, advocacy, and guidance by promoting ethical, socially just, and best practices throughout the world so that educational and vocational guidance and counseling is available to all citizens from competent and qualified practitioners.

As for 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 (Hutchison et al., 2016). Another paradigm is implicit within new the constructivist and narrative methods for career intervention that have emerged in the 21st The paradigm for life-design century. interventions constructs a career through small stories, reconstructs the stories into a life portrait, and helps advance the career story into a new episode (Savickas et al., 2009). Career development interventions need to be continually revised to meet evolving career development tasks in the future. 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 increasing awareness and respect of cultural and individual differences (Hooley et al., 2012). 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.

Evolution of Career Development in Taiwan

Taiwan has seen the need for developing a career guidance program to help increase the quality of its human resource services and further its economic development. In 1966, the

National Youth Commission (NYC) was established to mainly provide vocational services such as helping applicants network with employers, vocational guidance, and facilitation of relationships between employers and employees.

In 1968, a Guidance course was put into the junior high school curriculum. Thereafter, school counselors were expected to spend one hour per week in each classroom to provide classroom guidance to students, which included learning and overcoming pressure, career, life, puberty health, evaluation and potential development, communication, and social adaptation (Cheng, 1998). Since 1980, the word Career gained popularity in Taiwan. The book American Career Education (Hsu, 1982) introduced the important concepts and methods of American career guidance to Taiwanese guidance fields.

Since 1980. career guidance has emphasized 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). 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, all of which explore students' careers and enhance understanding of oneself and diverse workforces (Chang, 2002; Jin, 1997; Lin, 1987). Moreover, domestic and global economic and social trends have continued to have an impact on educational in Taiwan. development In 1998, the Commission for promoting educational reform proposed twelve educational reform mandates. One of them was to improve the guidance program in the school system (Tien & Lu, 2018).

Since 1990, career development research has been increasingly focused on issues of diversity (Tien, 1998). As such, the focus on diverse populations, individual differences, and cross-cultural issues have been gradually brought to the attention of those in the professional practice of career development. Another important trend has been the focus of the development of culturally appropriate psychological tests, and it has helped raise the awareness of cultural biases of assessment application. 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; Tien et al., 2012; Wang & Tien, 2011). Along with the global trends, such as information orientation and technological development, computer utilization has rapidly become prevalent in Taiwan. Furthermore, selfdirected computerized tests have the potential for future development in Taiwan, and it is expected that more and more tests will be computerized in the future.

With the influence of Career Development from the U.S., Taiwan has followed similar trends, from the vocational guidance to career counseling, and from job seeking to life span career development perspectives. Now the broadened meaning of career is defined as a lifelong process of learning and work (Tien et al., 2012). In the 21st century, the challenges of planning for change need to be advocated for by diverse professionals in order to facilitate an individual's career development (Chang, 2002; Tien et al., 2012). In 2014, the Student Guidance and Counseling Act (SGCA) was a milestone for the profession of guidance in Taiwan. Furthermore, according to SGCA, the titles for professionals are "guidance counselor" (within a school system) and "professional guidance counselor" (outside of a school system). Taiwanese guidance counselors have to think about changing social and economic tasks to prepare their students or clients for upcoming challenges. Tien et al. (2018) reviewed fifty years of guidance and counseling work in Taiwanese Junior High School. The research proposed that counseling team workers need to work cooperatively with

ecological perspectives and systematic approaches to meet future needs.

Research on Career Development Interventions in Taiwan

In Taiwan, there were few studies that 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 school 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. The findings showed that students get more support from students' affairs departments in discipline programs than from guidance programs.

Cheng (2002) further explored the classroom school teachers' and guidance teachers' perspectives students' toward guidance and school guidance work. The conclusions about the perspectives of school guidance work were: (a) students seldom voluntarily seek help through the guidance office; (b) teachers tend to project negative attitudes toward the evaluation of schools' guidance work; (c) schools' guidance meetings routinely held as scheduled are not appointments, and consequently, the effectiveness of the meetings is minimized; (d) the main reasons why guidance teachers are unable to perform effective guidance work are insufficient manpower to handle heavy workloads; (e) most interviewed teachers (eight out of ten) think that classroom teachers stand in the front line of guidance work, guidance simply provide assistance teachers and resources; (f) the content of guidance study should be mainly practice-oriented; and (g) most teachers (seven out of ten) approve and support that counselors exert their professions in elementary schools.

Impact of Career Guidance Programs

Some studies also assessed the impact of career guidance programs (Chen, 2002; Chen,

2008; Cheng, 2002; Chou, 1998; Lai, 2002; Li, 2000; Lin, 2000; Liu, 2000; Tien et al., 2018; Yu, 1998). 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. 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 onsite evaluation phases.

Chou (1998) intended to understand the career beliefs of students in comprehensive schools. The results indicated that students who took half to one year of counseling courses had more reasonable career beliefs than those who did not. 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). Results of this study indicated: (a) the students in comprehensive high school showed higher career maturity; (b) 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 the expectancy of family; (c) to implement the guidance courses in comprehensive high schools might increase the career maturity of students.

Chen (2008) did a similar study to investigate the career maturity between the students in the comprehensive school and in the vocational school. The result also showed that the students in Comprehensive High School had higher career maturity and the scores of "recognition of career development," "attitude of career plan," "career skill," "career decision," and "career preparation" of students in comprehensive high schools were higher than those in vocational high school.

Satisfaction with the Content of Guidance Programs

Some studies focused on students' satisfaction with the content of guidance programs (Chen, 2002; Lai, 2002; Liu, 2000; Wu, 1999). Liu (2000) indicated that all the students were highly satisfied with the course arrangement, teaching quality, learning environment, personal relationship, career planning, and overall performance.

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 were as follows: (a) the general level of satisfaction of Comprehensive High School students with the schooling guidance services leaned towards "satisfactory;" (b) 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; (c) Comprehensive High School students thought that schools value students' attendance of professional license certifying exams in order to receive great results; and (d) 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 with the counseling guidance and curricula in the comprehensive high schools. The results showed: (a) most of the graduates were satisfied with the counseling guidance of the comprehensive high schools, in addition to vocational guidance; (b) most of the graduates were satisfied with the curricula of the comprehensive high schools, in addition to vocational curricula; and (c) 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 in their skillful abilities and professional growth.

A similar study, Wu (1999) investigated the advanced schooling and employment guidance for comprehensive high school students. Moreover, it further made an exploration into the students' attitudes and opinions of the selected vocational curriculum. Document analysis, expert meetings, and questionnaires were implemented. The results revealed: (a) students most highly value teacher's instruction. On the contrary, they consider facilities and environment being in need of urgent improvement; and (b) all the students appreciate guidance teachers' passion 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.

Summary

According to the above studies, most of the teachers had positive attitudes toward the function of guidance programs and students showed satisfaction with most of the content in guidance programs. Tien et al. (2018) also supported the effectiveness and positive outcome of the guidance program. Although students benefited from the guidance program, there were still some weaknesses in terms of program implementation. Those weaknesses can be concluded as the following: (a) program had more emphasis on higher education advising rather than on vocational area; (b) developmental elements in the guidance program need to be more focused; (c) lack of manpower affected the implementation of the guidance program. It is suggested that school professionals' task be to implement programs in a cooperative, systematic, and effective way.

Research on the Structure of Career Development Interventions for Comprehensive High Schools

Comprehensive Guidance Programs are educational programs designed to assist students with career development, academic/educational planning, decisionmaking 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 any school/district.

There are many researches examining the impact of school counselors and school counseling programs on K-12 student outcomes. The research articles support the value of school counseling for students in the domains of academic development (Carey & Dimmitt, 2012; Villares et al., 2011; Wilkerson et al., 2013), college and career readiness (Bryan et al., 2011; Jones et al., 2019; Mariani et al., 2016), and social/emotional development (Bardhoshi et al., 2018; Lemberger et al., 2018; Steen et al., 2018).

However, Whiston et al. (1998) conducted a study of school counseling outcome using a meta-analytic examination of interventions. The study examined whether pertinent moderator variables influenced effect sizes. The pretest-posttest effect size was not significant, so moderator analyses were conducted on treatment-control comparisons. Analyses of moderator variables indicated school counseling program activities or interventions varied in effectiveness.

There exists many studies focusing on the effectiveness of career interventions, but

studies with emphasis on the structure of the career development interventions is rare both in Taiwan and the U.S. Chen (2004) conducted a study reviewing career guidance goals between the two nations, and it showed that compared to career guidance goals of comprehensive high schools in the 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. Additionally, the developmental perspectives of career guidance (i.e., life-roles, developmental stage of students) seem to be absent. It might be due to the emphasis of academic achievement in Taiwanese culture.

Tien et al. (2018) reviewed the practice of career counseling in Taiwan. In 1968, the "Nine-year Compulsory Education System" began, and the implementation of career counseling started at the middle school level. However, career counseling was not so important since teachers and students put more effort into academic competition. Since 2018, when the implementation of the "12-year Compulsory Education System" began, all students were encouraged to take career planning courses for their future. The Taiwanese government has been promoting a Twelve-Year Public Education Program in recent years, which advocates aptitude guidance implementation in school, and hopes to offer students more diverse opportunities to fully participate in career exploration.

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

One 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 Centre for Career and Technical Education (Dykeman et al., 2001) aimed to (a) identify a comprehensive list of career development interventions that occur in America's secondary schools, and (b) 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 five 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 (a) Field Career Interventions; (b) Advising Career Interventions; (c) Awareness Career Interventions; and (d) 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).

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 occupational and 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 instruction designed to build informal foundational work skills and knowledge in students (See Table 1).

Chen (2004) then adopted this taxonomic model as a structure for a formative evaluation of the implementation of career development interventions in Taiwanese Comprehensive High Schools. A total of 153 questionnaires were mailed and 119 guidance directors of comprehensive high schools in Taiwan responded to the questionnaire, resulting in a response rate of 78 percent. Based on the results, Advising career interventions were the most school-implemented interventions followed by Awareness career interventions, Curriculum interventions. and Field career career interventions. Schools tend to employ more of each taxon of career intervention when the grade goes up; however, the Curriculum taxon is exceptional, which was implemented more in the 11th grade.

The result also indicated that the top ten career interventions that most schools used are follows: Career Counseling as (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, and 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 Enrolment (II). Six of these are in the Field taxon, two are in the Advising taxon, and two are in the Curriculum taxon. The study showed that comprehensive high schools in Taiwan tend to employ more Advising career interventions than any other of the kinds of career interventions, regardless of the grades.

The research further would like to know what career development interventions were perceived as the most helpful by the guidance directors. The career interventions perceived as most 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 Enrolment (n = 25). They were in the Field taxon, Curriculum taxon, and Advising taxon respectively.

However, in a similar 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 of the career interventions.

The major explanation for this discrepancy might be 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 Chen's (2004) study examined whether a given intervention occurred in comprehensive high schools from the perspective of a guidance director in each school. Hooley et al. (2012) did a literature review on the components of successful careers work. The paper stated that Dykeman et al. (2001) created a more detailed typology although there were some other studies (Donoghue, 2008; Law, 2001; McCrone & Filmer-Sankey, 2012; Sultana, 2004) that also tried to identify the components of career work.

Hooley et al. (2012) further synthesized all of these lists and typologies of careers-work components. A taxonomy of schools-based careers-work can be found in Table 2. The Dykeman et al. (2001)'s list is comprised of 44 school-based career works. However, compared to Hooley's et al. (2012) typology, Dykeman's et al. (2001) taxonomy has more emphasis on the developmental aspect of career intervention. Hooley et al. (2012) proposed a rather comprehensive framework of the guidance programs.

Implications for Research and Practice

This article reviewed the past research and indicated the importance of career development interventions and the need for the structure of the implementation of career development interventions. However, based on the literature review, there were very few studies on the taxonomy and implementation of career development interventions. Most of the research emphasized the effectiveness of the chosen career interventions. Until now, there was merely one study (Chen, 2004) that conducted formative evaluation а of implementation of career development interventions for Taiwanese Comprehensive High Schools.

Taiwan has been experiencing a series of reforms to guidance counseling in schools in the past ten years. The government amended the Civil Education Act in 2011, and a new Student Guidance and Counseling Act was

in 2017. The implemented Taiwanese government has been promoting a Twelve-Year Public Education Program in recent years, which advocates aptitude guidance implementation in schools and hopes to offer students more diverse opportunities to fully participate in career exploration. For career education, the Ministry of Education developed several plans to guide students to explore their own futures. However, Tien et al. (2018) stated that there are three weaknesses in the implementation of career guidance in junior high school, and those weaknesses are making it difficult to reach young people.

The first weakness in the implementation of career guidance is that Taiwan's test-based system promotes dependency in students, teachers, and the implementation of career guidance. Although the system enables students to receive fast and specific feedback, it may also cause them to become passive about exploring their personal interests.

The second weakness of career guidance involves the implementation of career portfolios. The government requires all junior high students to complete portfolios, which record their exploration of careers and their assessment results. Instead of receiving enough guidance and coaching during class, students are usually assigned the work as homework. Thus, the students put little effort into completing it, and don't answer questions from the heart, which leads to not reflecting students' real experiences and interests.

The third weakness of career guidance is that career counselors are too busy dealing with, and finishing, required actions, such as administering career tests and inventories, completing students' portfolios, and integrating all of the data from career inspections, which are government-mandated reviews of career planning methods/procedures. This is a timeconsuming process that results in career counselors having no freedom to develop a career program that would cultivate students' motivation to explore their interests. The development of career counseling practice is the most complete at the senior high level. Senior high school students participate in a one-year-long career planning course, at school, for the selection of further education or occupations. The career guidance program contains three parts: (a) self-exploration; (b) college major choice or occupational exploration; and (c) assisting students in evaluating the impact of family and social environment on their career choices.

However, there are two challenges which face career guidance services in senior high school in Taiwan (Tien et al, 2018). Firstly, because of the family and the social expectation influence, students are not able to select the choices that they really want. Secondly, Taiwanese culture emphasized exam-driven academic success so that students' interests and potentials are not greatly valued and appropriately explored.

Combined with abovementioned valuable discussion from Tien et al. (2018), the author reflected the purpose of this paper and provided sound implication and direction for future research on the development of the guidance program of Taiwanese Comprehensive High Schools. In summation, implications for future research are suggested as follows.

First, the career taxonomy validated from the past research provides a systematic and comprehensive structure for planning career interventions and designing guidance programs. It has been about fifteen years and no other studies except Chen (2004) emphasized the structure of career development interventions. It is suggested that more research on the taxonomic model of career development interventions are encouraged.

Second, based on previous literature reviews (Chen, 2004), Field/Work-Based career interventions are implemented least. Further research on a re-evaluation of the implementation and the effectiveness of Field/Work-Based career interventions is needed. Third, when it comes to planning a career guidance program, the need for involving different kinds of career interventions in each school varies because each school has its own cultural need and direction for program design. Therefore, provided with the comprehensive lists of career interventions, administrators can feasibly adopt the interventions for their program. Thus, research on developing schoolbased interventions with a cultural perspective is strongly recommended.

Fourth, 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 optimal implementation of career development interventions.

Fifth, it is suggested for future studies that various group populations, such as the perspectives from policy-makers, students, counselors, teachers, administrators, and parents need to be included to provide a global view of the implementation of career interventions in Taiwanese comprehensive high schools.

Sixth, the taxonomic structure used in Chen's (2004) 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 а better understanding of the of implementation career development interventions in Taiwanese comprehensive high schools. Without this type of study on the structure of career work, it is difficult to conclude whether or not career development interventions are comprehensively included in the guidance programs. Furthermore, school counselors or policy-makers will be unlikely to decide what kinds of career development interventions should be included in the taxonomy structure of career development interventions if not investigated.

Seventh, more research evidence-based career interventions or approaches are strongly encouraged. Since the young generation needs to face the globalization and rapid changes in society, it is suggested that the career work is through examination of international evidence and innovative practices in related fields (Hooley et al., 2012).

After exploring the implication for the research, the suggestion for practice also has been evolved as the following.

Firstly, in Taiwan, Advising career interventions the were most schoolimplemented interventions followed by Awareness career interventions, Curriculum interventions, and Field career career interventions. The future practice should put more emphasis on the Field career intervention to help students explore their future work life.

Secondly, promoting diverse career guidance activities in order to meet different requirements is urgent for the future practice. Besides individual career counseling which is organizing career available to students, developmental access and providing customized career guidance in accordance with students' requirements and needs.

Thirdly, advanced information science and technology has continually changed people's way of living and has become an inevitable future trend. The schools need to establish an information platform of practice and employment, and provide students with opportunities of practice and employment. Therefore, more efforts need to be put into the aspects of professionalizing career services, regularizing staffing, working collaboratively, integrating resources, and enhancing career courses continuously.

Conclusion

This paper has reviewed and discussed the implementation and taxonomy structure of career development interventions. 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 their understanding of themselves with regard to how they will fit into diverse workforces, and develop the necessary decision-making and transition skills for career development. 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 and need to cooperate with other professionals to help students based on ecological perspectives and systematic approaches for the future of school counseling work (Tien et al., 2018).

Moreover, from the discussion of this article, 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 research in this area can provide needed support for this educational reform. In order to design implement effective comprehensive and guidance programs, more studies need to emphasize the structure of the career development program since this type of research can provide information for sound decision-making on the part of school administrators. principals, school and counselors. Thus, financial planning regarding career development interventions can be conducted judiciously and educational reform can be more beneficial to Taiwan's young generation.

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Appendix

Table	1	
Table	1	

	Field (I)		Advising (II)		Awareness (III)		Curriculum (IV)
1.	Job shadowing	1.	Person/Social	1.		1.	Career skills infused
2.	Work based learning		counseling		personal and social		into the classroom
	project	2.	Career Focused		development	2.	Career information
3.	Internship		parent/student	2.	Guidance lessons on		infused into the
4.	Job placement		conference		academic planning		classroom
5.	Mentorship	3.	Career maturity	3.	Career aptitude	3.	Student
	programs		assessment		assessment		clubs/activity
6.	Job coaching	4.	Referral to external	4.	Career field trip	4.	· · · ·
7.	Cooperation		counseling/assessme	5.	Guidance lessons on		enterprise
	education		nt		career development	5.	Tech pre/2+2
8.	Youth	5.	Referral to external	6.	Community		curriculum
	apprenticeship		training program		members teach in	6.	Career Academy
9.	Work study service	6.	Career interest		the classroom	7.	Career/technical
10.	Learning/voluntary		assessment	7.	Career day/career		education course
	program	7.	Recruiting		fair		
		8.	College admission				
			testing				
		9.	Job hunting				
			preparation				
		10.	Information				
			interviewing				
		11.	Career peer				
			advising/tutoring				
		12.	Computer assisted				
			career guidance				
		13.	Portfolio/individual				
			career plan				
		14.	Career				
			cluster/pathway/majo				
			r				
		15.	Career				
		10	library/resource				
			Career map				
			Career counseling				
		18.	Cooperative/dual				
		10	enrollment				
		19.	Career passport/skill				
		20	certificate				
		20.	Academic planning				
			counseling				

<i>The List of Career Development Interventions of Four Taxa</i>	

Note. From The Taxonomy of Career Development Interventions That Occur in America's Secondary Schools by Dykeman C., Ingram M., Wood C., Charles S., Chen M., and Herr E. (2001). ERIC Document Reproduction Service [EDO-CG-01-04].

Car	reer Interventions Taxa and Components
Taxa	Taxa Components
Information Provision	Information on further studies
	Information on occupations
	A career library
	Access to careers websites
	Posters and displays
	Other labor market information
	Interest inventories
Career Assessments and Tests	Psychometric assessments
	Computer-assisted guidance systems
	Other career assessments
	Individual career counseling
Professional Career	Small-group career counseling
Counseling	Access to telephone career counseling
	Access to online career counseling
	Career support as part of a pastoral tutor system
Careers Advice Delivered by a	Other career advice delivered by someone other than a qualified
Non-Careers Professional	careers professional
	Careers learning as part of PSHE
Curricular Interventions	Career learning as part of Citizenship
	Career as a cross-curricular theme
	Career learning embedded in other subjects
	Long-block timetabling
	Separately timetabled career lessons
	Project work
	Online e-learning
	Learning provider talks in-school (college or other 16-19 provider)
Further Study Learning/Work-	Learning provider talks in-school (universities)
Related Learning	Visits to other 16-19 learning providers
	Visits to universities
	Volunteering
	Employer talks
	Workplace visits
Other work simulations	Work experience
	Work shadowing
	Careers fairs
Other Extra-Curricular	Games and competitions
Activities	Inputs to assemblies
	Parental involvement
	Mentoring Programs
	Community/civic participation
	Use of portfolios and e-portfolios
Frameworks for Reflection	Action planning
	Personal development planning

Table 2Career Interventions Taxa and Components

Note. From *Careers 2020: Options for Future Careers Work in English Schools.* By Hooley T., Marriott J., Watts A., & Coiffait L. (2012). London: Pearson.