

# School Counselor's Reflections on Career and Life Planning Education in Hong Kong: How Career Theories Can Be Used to Inform Practice

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## Abstract

Since the introduction of the Career and Life Planning Grant in 2014, a great deal of literature has focused on in-service teachers' perceptions of the global factors that affect the deployment of resources in the provision of life planning education in Hong Kong. However, the issue of how practices can be better connected to theory at the school level is thinly discussed.

This reflective paper attempts to bridge this research gap by using the author's experience as an in-service career guidance teacher at a local secondary school to explore how sociological factors can impact the outcomes of career intervention. The sociological factors that will be discussed can be categorised under three main themes: 1) personal, 2) social and 3) cultural factors. The impact of these factors on the process of career counselling will be reviewed by referring to the relevant literature in the concluding part of this essay, which will help to shed light on how these practices can be better connected to evidence-based career intervention models at the secondary school level in Hong Kong.

### Keywords:

Career counselling, life planning, career intervention, secondary schools, vocational education

In many places, career counselling has long been recognised as an important and integral component within the education system (e.g. the United States and Taiwan). However, in Hong Kong, particularly in the secondary school sector, career counselling is a comparatively neglected area. The purpose of this paper is to discuss, from the perspective of an in-service career guidance teacher in Hong Kong, how different sociological approaches have helped to shape the world of work and the students' career development needs. The sociological factors that will be discussed can be categorised under three main themes: 1) personal, 2) social and 3) cultural factors. It is hoped that this personal reflection and literature review will help to raise the awareness of practitioners on how career interventions could be better performed in actual school settings by understanding the underlying theoretical constructs of a number of career assessment devices. The author also hopes that this paper may help to fill a gap within the available literature in relation to how career and life planning education (CLP) is conducted at the secondary school level.

## Background

At the outset, it is important to obtain a basic understanding of the development of the counselling profession at the macro level because this will allow us to understand the structural deficiencies that hinder the development of career counselling in Hong Kong. Leung, Chan and Leahy (2007) highlighted the two major weaknesses of the profession: 1) a lack of a healthy professional identity and 2) a lack of training opportunities and trained professionals.

Historically, the presence of the mental health care industry has been weakly felt in Hong Kong. The lack of a clear professional identity means that counselling professionals (e.g. social workers and counselling psychologists) were not recognised as a cohesive group who work to enhance the presence of the mental health care sector in Hong Kong. Given that there is no representative body to steer the development of the mental health care profession, it is not difficult to imagine why training opportunities are scarce. Leung et al. (2007) found that there are few postgraduate or post-degree opportunities for formal training in counselling psychology that can meet international standards. In particular, there is a lack of post-degree training with sufficient supervision that can meet international standards for counselling psychologists. Aspiring individuals who would like to pursue a counselling career, in most cases, would have to fund their own training by seeking relevant education and obtaining professional certifications in overseas institutions, either in Europe or America. The high cost incurred in this pursuit may have already deterred many from choosing to enter the profession. Even if a candidate is willing and has the ability to finance such an expensive educational venture, they would face many difficulties in completing their certifications in overseas professional institutions. In particular, there is a lack of qualified practitioners who can act as supervisors of candidates who wish to complete their post-degree supervised practice in Hong Kong.

These structural weaknesses can also be found at the micro level within the education system in Hong Kong. For example, it has been found that there is a shortage of trained personnel and quality career counselling programmes in secondary schools. A number of research reports have found similar findings (see, for example, Ko & Wong, 1990; Williams, 1973). Scholars have concurred that counsellors in secondary schools generally lack the professionalism and skill set to perform their roles effectively. Concerns have been raised with regards to the quality of career guidance services provided in schools and a large number of careers teachers are either untrained or unqualified for the role. Williams (1973) highlighted that there was also little evidence showing that members of the career guidance service, together with their

leader who is a senior teacher referred to as Careers Master or Mistress, were systematically assessed before their appointment. Sometimes the appointment could be even “random and arbitrary.” (Williams, 1973:4). This helps to suggest one major reason why it is very common to see the career guidance programme is fragmented and lacking in substance as the effectiveness of human resources deployment is in question (Gysber, 2000; Leung, 2002).

Leung’s (1999; 2002) analyses of the development of career counselling in Hong Kong revealed a grim picture of the substandard quality of career guidance activities provided in secondary schools. According to Leung (1999; 2002), most career counselling activities are loosely organised and lack substance. Most schools relied on the use of hasty surface level pedagogy, such as career talks and site visits. The important task of providing career information and vocational related advice tailored to the students’ individual needs, is often relied heavily on the expertise of the alumni network and parents who act as the de facto expert informants. Individually designed career counselling intervention strategies that can help students to conduct career self-exploration are seldom used, such as group therapy or psychological assessments. The pedagogical intervention targeting at facilitating students for school to work transition by developing career-related generic skills and competence (California State Department of Education, 1974; Leung, 2002), is also rarely seen. The above realities portraying the lack of professional capabilities of career guidance teacher is confirmed by a later study performed by Leung & Cheng (2003). In collaboration with YMCA Hong Kong, The University of Hong Kong conducted a survey research study with 22 secondary schools in Hong Kong. In the surveyed 1,200 secondary 4 students and 700 secondary 6 students, only 47% of the respondents agreed or strongly agreed that they would seek advice from teachers or counsellors when planning their career. It was also reported that 78% disagreed or strongly disagreed that counselling services at school was enough.

The lack of professional capabilities within the profession can impact drastically with regards to the long term healthy development of career guidance in school. Specifically, front-line practitioners and even teacher trainers may not understand fully the subject matter of career counselling. For example, there are recent examples showing that there is a tendency for career guidance teachers to treat academic self-efficacy and career self-efficacy, which are two separate psychological constructs as one. This means that good academic advising practices will be misinterpreted as good career counselling practices. This is not surprising as prominent scholars in the field of career counselling such as Betz & Hackett (2006) cautioned that “it appears that many doing work on career-related self-efficacy do not thoroughly immerse themselves in and understand the literature.” This conceptual misunderstanding can be best illustrated by Ho (2018), whom is a senior member of an influential teachers’ association training prospective careers teachers and also a Careers Master at a local secondary school. In his study, he reported how an academic advising activity called “Student Support Day” which was a one-day event involving teachers helping students to draw up their own study plans functioned as an effective career intervention. He used the higher scores of the post-event administration of the “Academic Development Self-efficacy Inventory” (Yuen, Gysbers, Hui, Leung, Lau, Chan, Shea & Ke, 2004) as a piece of supporting evidence. Clearly, an instrument measuring career self-efficacy should be used if the purpose of the research was to justify the event’s effectiveness in promoting career development. The contributing factors to heightened academic self-efficacy were also unclear as factor analyzes were not performed.

Furthermore, Leung (1999; 2002) described the quality and level of support provided to career guidance teachers. He explains that although the Education Bureau (which was formerly known as the Education Department) has been providing initial training for career guidance

teachers, many of them are still not adequately trained in career guidance and counselling, either at the theoretical or practice level (Patton & Burton, 1997). Further exacerbating this problem, it is common to find that many school leaders do not possess the relevant technical knowledge about career guidance and counselling. They regarded career guidance as an ancillary 'non-teaching duty' that had little importance (Leung, 2002; Williams, 1973). Due to this lack of professional recognition by the school administrators, many career guidance teachers find that they do not receive the necessary level of support to allow them to deliver quality career services, either in terms of pedagogical expertise or in the supply of resources. This is one of the main reasons why many schools have yet to incorporate elements of career education into their formal curriculum and also why many of the career services lack substance. A good example supporting these claims is that, despite the government's continual efforts to help schools to implement a Whole-school Approach (WSA) to student counselling since the early 1990s, the effectiveness of these initiatives so far has been partial (Hui, 2002; Yuen, Leung & Chan, 2014)

Ho (2008) provided a more vivid explanation of the causes of these problems. She described how career guidance teachers, like other full-time teachers serving in secondary schools, are usually required to take up membership in other functional committees in addition to their normal teaching duties. The time and resources spent on providing career intervention services are limited because the career guidance teachers often have to deal with multiple tasks at hand before they can find time to provide career services. This means that many teachers are unwilling to become involved in career guidance because they would need to manage and process large quantities of career information and, at the same time, provide counselling services to students to help them to make an informed career choice. It is not difficult to see that without adequate support (e.g. lesson remission), the sheer workload involved in creating a quality career guidance programme will drive career guidance teachers into physical and emotional exhaustion. These problems can also help to explain why the scope of career services has been limited to merely offering critical factual information to students. Little is done in terms of preparing the students to acquire knowledge about themselves and the world of work (Leung, 2002). This also helps to explain why, similar to the increasingly popular practice of outsourcing extra-curricular activities (Ng, Chang & Yuen, 2017), career guidance and counselling services, which were originally recommended by the Education Bureau to be performed by full-time school teachers (School Development Division, 2014), are now being outsourced to third party organisations (Leung & Ho, 2016). This trend creates a ripple effect, and there has been a sudden emergence of a large number of education service providers claiming that they can provide quality career guidance and life planning education services on the market.

## The current empirical setting

In 2009, the role of career guidance in secondary schools was reformulated when the New Senior Secondary (NSS) curriculum was implemented. As stipulated in the policy paper *The Future is Now: From Vision to Realisation (Secondary 4–6)* (Curriculum Development Council, 2009), one of the overarching themes of the NSS curriculum is to provide a whole-person development educational experience to all of the learners. Ho (2008) suggested that the introduction of Other Learning Experiences in the NSS curriculum is a good piece of supporting evidence of the Education Bureau's determination to raise the status of career education in secondary schools.

To support this new vision, the role of career guidance in the new curriculum has now been recalibrated, and it has taken a more prominent role in the formal curriculum. Career guidance is now recognised as an integral part of the NSS curriculum. It is no longer simply a service. Instead, a paradigm shift of beliefs has taken place, and it is now referred to as a summation of different learning experiences, in which students will learn how to acquire knowledge and attitude about how to understand their aptitude, personality traits, as well as the skills to make an informed choice when planning their future careers. To help to materialise this paradigm shift, the roles of teachers have also been changed. Under the new curriculum, teachers should no longer only serve as a disseminator of career information but are also entrusted to take a more active role in assisting students to engage in career goal setting and reflection learning activities. These activities should have an overall aim of equipping the students to forge a career that suits their interests, aptitude and personality traits.

In 2014, the HKSAR government made the CLP grant available (Education Bureau, 2014) in a bid to accelerate the paradigm shift. Since the 2014–15 academic year, the Education Bureau has injected more than \$200 million each year to finance the CLP

grant. The major objective of the grant is to empower and increase the capacity of secondary schools to provide life planning education and enhanced career guidance support that are integrated with the school's curriculum. The grant is made available to government aided schools and direct subsidy scheme secondary schools operating classes at senior secondary level in the form a recurrent cash grant (about \$500,000 per year, subject to annual revision). The grant is expected to be primarily used to strengthen the organisation and capacity of career guidance teams in schools. Upon receiving the grant, the career master or mistress is expected to help the school's Incorporated Management Committee and School Management Committee to spearhead a paradigm shift in career guidance by formulating a curriculum that can help students in their career self-exploration, whole-person development and life-long learning. From the 2016–17 school year onwards, schools are also given the option of paying the recurrent cash grant into a regular Graduate Master's teaching post (Education Bureau, 2016).

In conjunction with the implementation of the grant, the Education Bureau has been working with and has endorsed several local universities (i.e., the City University of Hong Kong, The Chinese University of Hong Kong, the Education University of Hong Kong and the University of Hong Kong) to develop a variety of structured training courses on life planning education with the aim of preparing career guidance teachers for the paradigm shift. The government is planning to increase the number of structured training places on life planning education gradually, with the ultimate goal of having at least two teachers in the career guidance team who have completed certificate courses in life planning education (Legislative Council, 2015).

A number of professional associations have been formed by front-line teachers, namely: The Hok Yau Club and The Hong Kong Association of Careers Masters and Guidance Masters (HKACMGM). These

associations have provided a number of theory informed career guidance tools to the teacher community. In particular, the HKACMGM has been actively working with the Education Bureau in facilitating the implementation of a WSA to life planning education in schools. To date, the association has been responsible for developing instructional materials and providing speakers for two professional development courses for career guidance teachers which are commissioned by the Education Bureau. They are: 1) Certificate Course on Career Guidance and Life Planning for Secondary School Teachers (100 hours) and 2) Basic Course on Career Guidance and Life Planning for Secondary School Teachers (20 hours) (Hong Kong Association of Careers Masters and Guidance Masters, 2017). Three sets of career education materials have also been published. The first, *Finding Your Colours of Life: NSS Subject Choices and the Development of Career Aspirations*, was published in 2010. This handbook shows how to apply the RIASEC model that was developed by John Holland, which was termed the 'Career Honeycomb' in the handbook, to guide the students' subject selection when they reach the senior secondary level. The second handbook, *Teacher's Handbook for Career Mapping: A Career Development Tool for Senior Secondary Students*, was published in 2013. This handbook provides extensive coverage and explanation of how teachers can help their students to conduct career self-exploration in multiple perspectives. To this end, a wide range of learning activities infused with a balanced selection of a range of career theories is provided for the teacher's reference. For example, personality types theories, such as the RIASEC model, are used in the 'Honeycomb Interest Profile' activity to help the students learn about their personality traits and inclinations. Traces of developmental theories, such as Super's (1970) concept of work value and Crace and Brown's (2002) concept of life values, can also be found in the learning activities that help the students to determine the predominant values that will influence who

they will become. The third set of learning materials, which were titled *To Work or not to Work?*, were published in 2017 in collaboration with Breakthrough Limited, a prominent youth organisation in Hong Kong. The design of the this set of materials adopted a more creative approach. The career information is now presented in a way that resembles a leisure magazine for young adults. The materials featured a collection of interviews and self-reflection narratives of professionals from different industries. A companion website and a YouTube channel were also created to allow the teachers to access extended digital learning materials, such as videos, lesson plans and worksheets. In addition to providing handbooks for the teacher's reference, the HKACMGM also partnered with The Chinese University of Hong Kong and developed an online portal of career assessment tools that was called 'myCareerMap', which were developed for career guidance teachers who wished to conduct psychological assessments with their students.

The government has also played an active role in encouraging greater participation of business establishments and has nurtured a closer partnership between business organisations and schools. For example, the Business-School Partnership Programme which was first launched in 2005 is now further enhanced by the Education Bureau. It encourages greater participation of business establishments and engages community resources in providing work experience programmes (e.g. internship, overseas exchange programmes) that allow students to familiarise and prepare themselves for the changing economy and social environment. It is projected that the number of participating business partners will increase from 120 entities in the 2014–15 school year to 165 entities in the 2017–18 school year (Legislative Council, 2015). NGOs (e.g. The Hong Kong Federation of Youth Groups) will also be given additional resources to allow them to collaborate with schools more effectively in devising a well-rounded life planning education curriculum. For example, the

online portal 'Job-tionary' was created by the Home Affairs Bureau and the Hong Kong Federation of Youth Groups. Similar to the widely popular Occupational Information Network (O\*Net Online), this portal is fundamentally a digital archive of career news updates and job descriptions. Users can also search for future career options based on their personality traits and interests. If a user elects to conduct a search based on his or her personality traits, the portal will direct the user to a glossary of job titles that are grouped under the six personality types of the RIASEC model developed by John Holland (see Holland, 1997).

Some early signs of success were reported by the government. For example, in the 2014–15 school year, the Education Bureau visited 102 schools and found that a majority of the schools used the grant properly. Nearly 90 percent of the visit schools used 80% of the grant to employ additional teaching staff members and organise life planning activities to help enhance the quality of the school-based career guidance programme (Legislative Council, 2015). Despite the government's sizeable injection of resources in powering a paradigm shift in life planning education and career guidance, the paradigm shift has experienced many challenges in the long history of the underdevelopment of career education and the inadequacy of the curriculum leaders (Ho, 2008, Leung 2002). Although the grant has largely been well received, history is repeating itself, and there are signs suggesting that the use of the grant is deviating from its original purpose. School managers are found to be responsible for this. Ho and Leung (2016) surveyed 168 schools in Hong Kong and revealed that the use of the grant has been distorted in some schools. In particular, the grant was sometimes spent on other non-career guidance related purposes at the discretion of the school management. These researchers suggest that this is the reason why, despite the injection of new resources, many career guidance teachers still lack the professional competence and readiness in providing more holistic

career counselling services to the students. The deficiencies described in the above sections within the local landscape were revealed in a recent empirical study. In July 2017, an international evaluation of the effectiveness of education systems in preparing students for the world of work in the twenty-first century was conducted by the Economist Intelligence Unit (see The Economist Intelligence Unit, 2017). Their results revealed that among the 35 economies surveyed, Hong Kong ranked 22nd in terms of overall policy strategy and curriculum design. The report highlighted that the quality of an economy's career guidance and counselling programme at different school levels contributes significantly towards the effectiveness of preparing its students for the future. As revealed by its ranking, there is ample room for improvement in terms of the quality of career services provided by the schools. However, concurred with William's (1973:6) observation that schools were "obsessed (in)" and perceived driving examination results as the priority, the report suggested that any future reform would be politically difficult and likely to fail because Hong Kong, like many East Asian economies, has a heavily entrenched assessment system that is categorised by the use of high-stakes examinations. There is a deeply rooted philosophy within the labour market in Hong Kong where a candidate's performance in these examinations is an effective indicator of their ability to perform in the workplace. In changing times, the report suggested that performance in these examinations may no longer serve as a reliable indicator because they only assess a limited number of skills that are required in the future (The Economist Intelligence Unit, 2017:12). Therefore, performance in high-stakes examinations may not fully reflect a student's ability to meet the demands of the future workplace.

## Reflection: How can theory inform practice?

As a core member of the careers team, I have received relevant professional training in careers guidance, and my duties encompass many aspects of the team. I am also responsible for creating curriculum innovations, which follow the new directions stipulated by the Education Bureau (see Education Bureau, 2014). Regarding the student profile of my school, the students possess strong academic ability. As a well-established government funded secondary boys' school, my school has a strong tradition of academic excellence that is characterised by high university admission rates and a strong international network of alumni who have excelled to prominent positions in their respective professions.

Similar to the suggestions of many researchers (Leung, 2002; Ho & Leung, 2016), I believe that teachers should take an active role in preparing themselves for a paradigm shift. This is the main reason why I became motivated to consult the literature in my search for solutions. Through the literature review, I was able to discover that the following sociological factors play vital roles in helping the students to arrive at an informed career decision, namely: 1) personal, 2) social and 3) cultural factors.

### Personal factors

Within the career development process, personal factors, namely the 1) interest, 2) values, 3) gender, 4) self-efficacy, 5) aptitude and 6) specific learning difficulties (SLDs) of the client—will be reviewed to help understand their roles in affecting the outcome. It is therefore of the utmost importance for the counsellor to help his or her students to obtain a better understanding of himself or herself to avoid making an ill-informed career decision. These personal factors will be described in more detail in the following subsections.

### Interest

Interest is a strong determiner of an individual's career development. It is generally believed that an individual will find a certain career interesting and rewarding when he or she has an interest in it. Research has shown that vocational interest is consistent over time. For example, 66 longitudinal studies were examined in Low, Yoon, Roberts and Rounds' (2005) meta-analysis of the long-term stability of vocational interest from age 12–40. The results of their analysis indicate that vocational interests are moderately to highly stable over the lifespan. This means that it is critical for counsellors to help their clients to discover their own vocational interest because it is relatively stable over time. The RIASEC model proposed by Holland (1992, 1997) can help clients match their interest with careers that they will find interesting and rewarding. The RIASEC model is one of the most researched career theories (Holland, 1996), and it assumes that people can be categorised into six major interest types. People will naturally tend to choose a job that interests them the most. This implies that people of the same interest type will tend to work together. This leads to the creation of different work environments that demonstrate a distinctive concentration of people of the same interest. For example, artistic people would choose artistic working environments. Based on this theoretical underpinning, Holland (1997) asserts that the better the fitness (congruence) between a person's interest and the type of work environment, the more successful and satisfied that person will be in his or her job.

## Values

In addition to interest, an individual's career choice is also governed by his or her values. Within the career literature, the term 'values' is synonymous with other terms such as 'needs' and 'preferences'. Although these terms have different conventional literal meanings within the literature, they all refer to 'the kinds of things people look for in satisfying work' (Betz, 1992:464). According to Super, Thompson and Lindman (1988), different values may emerge throughout the individual's life span and in different life stages. At the age of 15–16, adolescents will start to consider their goals and values when making a career decision. They will start to look for the specific attributes that they would like to look for in a job. For example, they may weigh the importance of making money and the importance of helping others (Sharf, 2013:206). Values have been studied extensively in the literature. Some researchers (e.g. Hartung, 2005; Hirschi & Fischer, 2013; Super, 1970) argue that an individual's values are the cornerstone of determining their motivation, commitment and relatedness with their workplace. It is therefore critical for counsellors to have a clear conceptualisation of the values construct and to be able to devise instruments that are both reliable and valid to measure an individual's values (Consiglio, Cenciotti, Borgogni, Alessandri & Schwartz, 2017).

## Gender

Although substantial progress has already been made towards creating a gender-neutral, zero-discrimination culture, the world of work is still divided because of gender differences (Lee, Lawson & McHale, 2015). This is the major reason why gender can play a large part in a career decision making process.

In terms of the development of vocational skills and interest, Lee et al. (2015) examined the associations between gendered interest and skills from childhood as predictors of occupational outcomes in young adulthood. Their results revealed that there is a strong positive correlation between male-type interests and skills observed in childhood, and participation in a male-type occupation in young adulthood. For females, however, the same correlation cannot be observed and there were no relationships between female type career interests or skills and income.

Gender differences are also evident in terms of career development across the life span. In Majeed, Forder, Mishra, Kendig and Byles's (2014) longitudinal study on adult life factors, such as educational attainment, marital histories and child caring, revealed that these factors contribute significantly to the development of both genders and they affect them differently. For example, it has been found that women who had books during childhood were less likely to have never worked in a paid job. Males who reported having had informal caring activities were less likely than women to remain in a paid job after the age of 55 years old. Due to the wide varieties of roles that women have played throughout the historical development of modern society, it can increasingly be seen in the literature that there are a number of women-specific theories of career development (Bimrose, McMahon & Watson, 2014).

## Self-efficacy

According to Bandura (1977), self-efficacy refers to a broad set of beliefs that people use to form judgements about their abilities in performing certain acts. In his theory, it is postulated that if an individual has low self-efficacy expectations in his or her ability to complete a task, they will lead to avoidance and poor performance when faced with difficulties in performing that particular task. In relation to explaining vocational behaviour, the literature has highlighted that the theory can be applied to analyse career decisions. The concept of career decision making self-efficacy was later developed (Lent & Hackett, 1987). This concept refers to a specific type of belief that describes how confident people are in their abilities to make effective career decisions (Taylor & Betz, 1983). Since then, a large number of empirical studies have been published on this concept.

Some studies have suggested that career self-efficacy can impact the individual's choice of occupation and contribute to gender differences in job selection. In Betz and Hackett's (1981) study, for example, it was found that females have not only demonstrated a higher level of self-efficacy in job roles that are traditionally performed by females (e.g. secretary) but also in some jobs that are traditionally male-dominated (e.g. accountants, engineers). In addition, research data has shown that contrary to common beliefs, there were no gender differences in self-efficacy expectations in some of the traditionally male-dominated jobs (e.g. lawyer, physician). This helps to explain why women are consistently present in male-dominated occupational fields.

In Meng, Huang, Hou and Fan's (2015) longitudinal study of Chinese students, it has also been demonstrated that there was a strong relationship between the level of self-efficacy and the success in making a smooth transition to university studies. They found out that a strong social self-efficacy was crucial for Chinese college freshmen in

forming supportive relationships and it helped them to settle into a new culture. Eventually, self-efficacy led to positive academic developments, which resulted in a relatively higher first-year GPA.

## Aptitudes

The term aptitude is not easy to define because it is an extremely broad concept (Psychological Corporation, 1991). There is also more than one definition in the psychological literature (Krane & Tirre, 2005). From a psychological perspective, aptitude does not refer to intelligence. Instead, it refers to any attribute or variable that can be used to determine how likely a person is to succeed in a given environment (Krane & Tirre, 2005:331). Within the context of work, attitude can simply be regarded as the physical and mental capabilities that a person brings to the job and his or her probable future ability to perform a job task at work (Campbell, 1991). Aptitude tests have been widely used to help to predict future success at a particular job or in a specific occupation. One drawback in this common ritual is that there no single aptitude test is precise enough to yield reliable and valid predictions (Sharf, 2013). In Sharf's (2013) review of the most widely used aptitude tests, it can be found that the four most commonly assessed abilities are: 1) verbal reasoning, 2) numerical or mathematical usage, 3) language ability and 4) spatial relations. This implies that the ability to process linguistic and numeric information is crucial to future success at work. Sharf (2013) also cautioned that some of the skills that are required at work are seldom assessable or are not commonly found in aptitude tests. These skills include, for example, artistic ability and leadership.

## Specific learning difficulties

Career guidance teachers have an important role to play in the students' whole-person development. To foster the holistic development of each and every student, there is a strong need to cater for diverse student learning needs. In this respect, the career development needs of students with SLDs require specific attention in any career guidance service or programmes because many of these students are likely to be unemployed, underemployed or employed part-time when compared to their peers who had no learning disabilities (Dowdy, Carter & Smith, 1990).

Research in the career literature has documented the difficulties of students bearing SLD in the course of their career development throughout the lifespan. Within the context of secondary school education, to a large extent, these students struggle to progress in life because of their inferior academic achievement, which is brought about by their SLDs (Chen & Chan, 2014; Newman, 2006). Most commonly and irrespective of the nature of the learning disability, these learners are inhibited by their low reading achievement. When failing to comprehend academic materials, these struggling learners are found in the bottom group of remedial education programmes (McGill-Franzen & Allington, 1991).

In Hong Kong, the Education Bureau (see Education Bureau, 2010) has identified eight types of SLDs: 1) difficulties in reading and writing (e.g. dyslexia); 2) intellectual disability (e.g. weak in memory, weak in abstract and logical thinking); 3) autism spectrum disorders (ASD); 4) attention deficit/hyperactivity disorder; 5) physical disability (e.g. cerebral palsy); 6) visual impairment; 7) hearing impairment; and 8) speech and language impairments (e.g. substitution or omission of sounds). In addition to these SLDs, the Education Bureau has issued a number of best practice guidelines (e.g. Education Bureau, 2011, 2017) and professional manuals (e.g. Education Bureau & Hospital Authority,

2017) to help schools to facilitate the early identification of symptoms of mental illnesses so that serious incidents, such as suicidal behaviours, can be prevented. Generally speaking, the Education Bureau maintains that schools should seek advice from health and caring professionals, and adopt preventive measures to prevent suicidal behaviours. To this end, a WSA towards creating a caring and friendly learning environment, and career guidance is recommended (Education Bureau, 2014; Education Bureau & Hospital Authority, 2017). Research has shown that these policies are difficult to implement. Similar to many places around the world, many problems are encountered by teachers in helping SLD learners to achieve academically and maintain classroom discipline in Hong Kong.

Academically, the public examination results-oriented learning culture has created many challenges for both teachers and for students with SLD and mental problems at the classroom level. Many teachers struggle to meet the conflicting demands of catering to the SLDs of students and ensuring academic excellence in high-stakes public examinations as defined by the grades of the same students who are academically challenged (Wong, Pearson & Lo, 2004

In Hue's (2012) case study report, the interview data showed that the teachers had tried many different methods in trying to boost students' learning progress. Their results were, largely unsatisfactory however. This was mainly due to the students' low academic ability, which was brought about by their SLDs. What made the problem worse was the strong public examination-driven culture that has led to the creation of a uniform formal curriculum that is highly examination-oriented.

To boost the public examination results, the school provided very little room for curriculum adaptations to cater to the specific needs of these students. However, this direction of curriculum development significantly contradicts the recommended approaches as stipulated by the Education Bureau (e.g. Education Bureau, 2017). The Education Bureau has explicitly highlighted that the school curriculum should be tailored and adapted to the specific learning needs and abilities of students with SLD (see Education Bureau, 2010), mental illnesses and suicidal thoughts (see Education Bureau, 2017a; Education Bureau and Hospital Authority, 2017). In this respect, schools are cautioned to select textbooks and learning resources that are appropriate for the educational needs and abilities of their students as well as affordability for the parents (Education Bureau, 2017b). At the school level, the principal and curriculum leaders should work collaboratively with classroom teachers to ensure that learning is meaningful. This means that exercises of all kinds that focus on repetitive drilling, copying and rote learning should be avoided (Education Bureau, 2015). The classroom reality as described in Hue (2012) has helped give rise to an arduous situation where these academically challenged students were forced to go through a curriculum that their teachers thought they could never manage. Another cause of the problem was the fact that inside these classrooms, there is an array of students with different SLD conditions and, depending on the students' SLD conditions, the teacher has to use specific instructional strategies. This means that the teacher needs to possess a repertoire of instructional strategies and professional knowledge of the specific learning needs of each form of SLD to handle the diverse learning needs effectively. For example, the teacher's speech has to be simplified to cater to students with speech impairments and autistic problems (Hue, 2012: 149). Although the government acknowledged that it was unrealistic to expect teachers to be skilled in handling more than two types of SLDs, autism spectrum disorder, which is one of many types of SLD, is widely considered to

be the most challenging to deal with alone (Peters & Forlin, 2011). However, the classroom reality depicted in Hue's (2012) study showed that this aim has not been achieved.

A good example of the exemplification of the public examination result-driven culture can be found in many schools that have adopted different ability grouping strategies, in which SLD students are placed in different types of classes (e.g. streaming) to improve academic achievement. Contrary to popular belief, research evidence on the effectiveness of these measures is not convincing (Myklebust, 2007; Slavin, 1993). This suggests why many students with SLDs are ultimately unable to progress through the mainstream education system. Helping them to make the transition from mainstream education to vocational education where specific job-skills are taught has been the most commonly used remedy (Kershner, Kirkpatrick & McLaren, 1995; Morningstar, 1997).

## Social factors

Building on the reflections in the previous sections, in this section, the scope of the reflection has been expanded into the realm of the social world, in which situational factors, namely 1) family and 2) economic and technological developments, are examined to determine their effects on career decision making.

### Family

Humans as social beings are highly susceptible to be influenced by their companions within their life circle. Kinship can have a powerful influence on one's career decision-making process because it helps to shape values, behavioural traits and aspirations of different work roles during childhood (Vondracek, Lerner & Schulenberg, 1986).

Roe's (1957) influential work hypothesised that a child's early experience with parents and the parental handling of the child will lead to the development of different workplace behavioural traits. Persons from child-centred families will be sensitive of the opinions and attitudes of other people and will find it difficult to maintain their own stances. Persons nurtured in rejecting home will possess a strong defensive mechanism. They may reject ideas strongly and become defensive towards others. People brought up in accepting homes tend to be more sociable and less defensive.

Birth order is also a crucial factor in shaping the personality of an individual. Sulloway (1997) suggested that firstborns are more authoritative and have a tendency towards power. They are more likely to conform to the power structure to maintain their privileged position (Kohanyi, 2011). In contrast, lateborns are more likely to be rebellious and to challenge social norms. However, because of their rebellious nature, they are more likely to accept new ideas and express their creativity (Sulloway, 1997).

A number of empirical research findings indicate the significance of family influence. Metheny and McWhirter (2013) discovered that perceived family status and support and family career-related interactions are governing factors of the career decision making of college students. The research data that they collected in their study confirmed a positive direct relationship between the family's socioeconomic status (SES) and perceived family social status. However, there were no direct relationships between SES and career self-efficacy and career outcome expectations. These research findings can help to inform career counselors and better serve the students. Consequently, focus should be placed on empowering the parents but not the SES of the student. The results of Leal-Muniz and Constantine's (2005) empirical study indicated the positive effects that parental support has on a child's career development. They found in a sample of Mexican American college students that perceived parental support was strongly related to the decreased tendency to foreclose prematurely on career options. In summary, providing parental access to resources can enable the child to receive greater family support and this increases the chance that the child will make a better informed career decision.

## Economic and technological developments

Economic and technological developments can significantly affect career decision making because they alter the needs and demands of the labour market.

Economic trends have long been a governing factor in the fluidity of the labour market. The recent global economic downturn has resulted in a dramatic downshift of the number of jobs available in the labour market. The two recent financial meltdowns, namely the Lehman Crisis in 2008 and the Greek government debt crisis in late 2009, have put the global economy into a feeble state. Skyrocketing levels of unemployment have been reported throughout this crisis, and the impact of the aftermath of the crisis can still be felt on the younger generation. This is supported by the empirical data collected by Dietrich (2013), who studied the levels of youth unemployment during the European crisis and found that the number of NEETs (an acronym referring to young people not in employment, education or training) remained high throughout the crisis in Europe. The United States also suffered greatly, and the unemployment rate peaked at 10% (Ali, Fall & Hoffman, 2013). The literature has suggested that unemployment can have a profound impact on one's psychological well-being. When experiencing unemployment, ethnic minorities and men, especially male 'blue collar' workers with children, are far more likely to see unemployment as a defeat (Ali et al., 2013), thereby making themselves more vulnerable to psychological trauma (Ali et al., 2013; Fouad, Liu, Cotter & Gray-Schmiedlin, 2014).

If the impact of technological advancement is factored into this reflection, it can give us a macro view of how stifling the labour market has become for young people. Due to technological advances, society is entering the third Industrial Revolution, in which the world of work has changed from a labour-intensive to a knowledge-based economy. The change also marked the end of the once typical 'individual would stay in one job for life

corporate career', in which and an and proress vertically within the organisation (Hall, 1976). Technological advancement has also led to the automation of jobs that require mechanically repetitive and precise manual labour. This essentially means that the demand for the service of humans in the world of work has shrunk due to the introduction of automation.

Entering the millennium, and building on the foundations of the third Industrial Revolution, the advance of technology has further accelerated to a point where technology has become indispensable. Witnessing this phenomenon, the founder and executive chairman of the World Economic Forum, Prof. Klaus Schwab, coined the term 'the fourth Industrial Revolution' to characterise this new revolution. In his ground-breaking work, Schwab (2016) declared that the world has now entered a new phase of industrial revolution that is distinctively different from previous advances. He argued that in this fourth Industrial Revolution, the velocity, breadth and depth of technological advancement are exponentially faster and larger than those experienced in previous industrial revolutions. Specifically, technology has changed how economies, businesses, societies and humans function (Schwab, 2016:8), which has never happened before in human history. He further argued that this paradigm shift will help to reshape the employment market and create many uncertainties because rapid technological advance will result in widespread technological unemployment as automation technologies become more advanced. Compared with the previous generations, automation technologies are now powered by artificial intelligence equipped with cognitive abilities that can rival human beings. They are so powerful that it is only a matter of time before professional white-collar jobs such as lawyers, accountants and financial analysts are replaced partly or completely by machines. This technological advance will create uncertainties in the labour market as traditional industries gradually die out and new businesses emerge. However, the outlook is not positive

because the rate of job destruction is much faster than creation experienced in previous industrial revolutions (Schwab, 2016:40). Schwab's (2016) predictions already appear to be accurate because in the U.S., it is estimated that 47 percent of total employment is in the high risk category of being automated by artificial intelligence with their associated occupations being potentially automatable in the near future (Frey & Osborne, 2013). In Hong Kong, upward stagnation has become an increasingly pressing issue and the supply of high-end jobs has decreased markedly (Research Office of the Legislative Council Secretariat, 2016).

In summary, this section has discussed how career decisions can be dictated by the changing dynamics of the social world. At the macro level, the devastating effects of a global economic slowdown and technological advancement can greatly alter the landscapes of the labour market. At the micro level, family members are active agents in shaping metacognitive perceptions of the world of work.

## Cultural factors

To further reflect on the points discussed in the previous section, this section will review how culture, which is defined as 'the attitudes and behaviour characteristic of a particular social group' in the Oxford dictionary (en.oxforddictionaries.com, 2017), has helped to recast career decisions in different ways. Specifically, research studies on racial differences will be examined at the 1) inter-ethnic and 2) intra-ethnic levels to see how they illuminate cultural differences in making career decisions. It is also a sensitive area because the literature seems to have overlooked the role that cultural factors have played in career decision making (Swanson, 2005) and there is currently a lack of career assessment tools adapted to local cultural realities (Blustein & Ellis, 2000). These two problems could be attributed to the origins of the discipline of career counselling, which was largely built on the worldviews of American Caucasians (Chen & Fouad, 2013).

In the view of the above two research gaps, studies investigating cross-cultural differences will also be reviewed to highlight the extent of the current inadequacy within the literature. It is hoped that a review of how cultural factors have been addressed in the literature will help me, as a career counsellor, to become more aware of the needs of my clients by balancing between the theory and practice of career counselling.

## Inter-ethnic differences

I present research findings on the career development patterns of people of different 1) skin complexions and 2) cultural backgrounds to depict the career decision-making patterns of different racial groups.

It has been found that people of different skin complexions have different career orientations. In the United States, for example, Doughtie, Chang, Alston, Wakefield and Yom (1976) found that black and white undergraduate students have different vocational preferences. Their assessment results were based on Holland's Vocational Preference Inventory administered to 115 black and 122 white undergraduates. It was found that blacks scored higher on the Social, Conventional and Enterprising scales. No differences were found on the Realistic, Intellectual and Artistic scales when compared to their white counterparts. The authors concluded that the results supported findings in earlier studies that blacks tended to choose jobs that belonged to the Social type more often than whites. Blacks and whites were also found to have different levels of job satisfaction in their occupations. Koh, Shen and Lee (2016) in their meta-analysis found that whites were only slightly more satisfied than blacks at work. However, blacks were more satisfied with their jobs in low complexity jobs, whereas whites were more satisfied if the job was more complex. These research findings were supported by data obtained in an earlier study by Byars-Winston, Fouad and Wen (2015). Their study, which reviewed US census data from 1970 to 2010, found that across all decades, except for blacks, the proportions of working racial minorities to both the population and the people in the labour force increased. In addition, people of darker skin colour (e.g. Hispanics, blacks and American Indians) were found to be commonly linked to participation in jobs of lower wage, status and skills. In contrast, Caucasian men were found to be generally associated with jobs of higher pay and social status.

Another prominent cultural factor is the difference in culture between the Eastern and Western worlds. One salient feature is that Asians and Westerners (predominantly American Caucasians) have demonstrated differing interest types. For example, Soh and Leong (2001), in their cross-cultural validation of Holland's RIASEC model, compared the personality types of Singaporean Chinese with that of American Caucasians and found that the American sample related better to 'S', 'E' and 'A' interest types, whereas Singaporean Chinese demonstrated strong inclination towards 'I', 'E' and 'C'. In terms of occupational preference, Singaporean Chinese clearly showed a strong preference towards jobs with 'R' and 'C'. Similarly, Fan, Cheung, Leong and Cheung's (2012) cross-cultural comparison of interest types between American and Hong Kong Chinese students revealed similar results. Their study revealed that Hong Kong Chinese students scored significantly higher on the Interpersonal Relatedness Scale. Their differences could be attributed to the Confucian view of social harmony, which had been well embedded within the Chinese culture. In addition, research data revealed that Hong Kong Chinese students scored higher than the Americans in the Accommodation personality factor, which helped to reveal the collectivist nature of the Chinese culture as opposed to the individualism of Western culture.

## Intra-ethnic differences

Although it appears that the literature has elaborated little on the differences in career decisions within a certain ethnic group, a small number of studies have captured the subtle cultural differences within the Chinese as a racial group. For example, Chinese ethnic groups were found to have responded differently to Holland's RIASEC model. In Soh and Leong's (2001) cross-cultural validation of the RIASEC model, it was found that there was no significant structural discrepancy when the model was applied to Singaporean Chinese. However, the results differed when Farh, Leong and Law (1998) applied the model to the Hong Kong Chinese. These researchers specifically noted that the social scale did not work well because it did not take into account the traditional views of Chinese culture on social relations. They also suggested that the strong materialistic nature of Hong Kong people and their pragmatism also worked against some of the model's basic assumptions. These researchers concluded by recommending that although the model had worked well on American Chinese, significant cultural adaptation would be needed before applying the model to explain the behaviour of Chinese who are less Westernised.

Studies of the American Chinese show that like many East Asian Americans, they see educational success as a way to bring honour to their family, which is also a reason why East Asian Americans are more academically engaged when compared to their counterparts of different race. They also perceive that there are significant racial barriers in obtaining a higher social status within American society. In relation to perceived barriers of entry to certain occupations, it was shown that many East Asian Americans indicated that there were barriers to entry in becoming a politician and joining the entertainment industry (Chen & Fouad, 2013).

The literature has also revealed the subtle cultural differences at the country level. In Lee's (2004) comparative study between adolescence in Hong Kong and Shanghai, it was revealed that the two groups had different life values. In terms of their similarities, when investigating the meaning of life, the respondents in both cities stressed that the aim of life is to 'make the one(s) we love happy', which includes people such as family members and friends. The respondents from Hong Kong and Shanghai also reported that the aim of life is to 'make oneself happy', which was the second most important meaning of life. In terms of differences, the young people in Shanghai were more family oriented. This notion was supported by the survey data: more people responded positively to the question and felt that the meaning of life is to 'make family members happy'. Another succinct difference was that young people in Hong Kong regarded serving society as helping to create meaning in life. In contrast to their counterparts in Shanghai, more than 30% of young people in Hong Kong expressed their desire to 'serve the needy' and to 'contribute to society/ the nation'.

## Conclusion: How has research informed my professional practice?

In summary, this review has shown that career decision making is a highly complex procedure in which personal, social and cultural factors all come into play. At the personal level, career decisions can be affected by the individual's interest, values, motivational sources of self-efficacy and gender. At the social level, family support and societal developments help to shape the career development paths of many individuals. Finally, at the cultural level, different ethnic and cultural values can help to induce individual differences in career development. These variables give rise to a complex career decision making process, which can only be dealt with properly by using multiple forms and types of assessment devices. Due to the longstanding history in the literature, there is a wide selection of informal and formal psychological assessment tools for career counsellors to use to help the clients.

On the personal level, to help the client to conduct self-exploration of his or her vocational interest, Holland's coded card sorts can be used as an informal assessment to understand how the client's interests and skills are suitable for different job roles (Gysbers, Heppner & Johnston, 1998). The Chinese University of Hong Kong provides access to locally validated and adapted versions of the Career Interest Inventory and Personal Globe Inventory (Tracey, 2005) through the online portal of HKACMGM. It should be noted that, however, at the time of writing this paper, the service has been suspended until further notice. Counselors can refer to other online tests developed based on Holland's typology, such as the Job-tionary provided by the Hong Kong Federation of Youth Groups, are also useful resources. Other formal assessment inventories have been based on Holland's RIASEC model, such as the Strong Interest Inventory (Hansen & Campbell, 1985), Self-Directed Search Campbell,

1985), Self-Directed Search (Holland, 1985) and the Career Key (Jones, 1987) assessment devices for the measurement of vocational interest. To identify a client's work values, the Work Value Inventory (Super, 1970), the Minnesota Importance Questionnaire (Rounds, Henly, Dawis, Lofquist & Weiss, 1981) and the most recent Work Values Questionnaire (Consiglio, Cenciotti, Borgogni, Alessandri & Schwartz, 2017) can be used. In addition, the Occupational Self-Efficacy Scale (Betz & Hackett, 1981) can be used to measure levels of career self-efficacy. Lapan, Boggs and Morrill's (1989) assessment inventory can be used to measure self-efficacy with reference to the areas described in Holland's RIASEC framework. The Perceived Social Support Scale (see Blumenthal, Burg, Barefoot, Williams, Haney & Zimet, 1987) can also be applied to survey levels of self-efficacy in developing positive social support. With respect to aptitude measurement, assessment inventories such as the Differential Aptitude Test (Bennett, Seashore & Wesman, 1992), the Ability Explorer (Harrington, 1996) and the O\*Net Ability Profiler (US Department of Labour Employment and Training Administration, 2002) are among the most comprehensive tools used to assess generic vocational aptitudes. The Problem-solving Inventory (PSI) (see Nota, Heppner, Soresi & Heppner, 2009) can be used in the assessment of literacy and problem-solving skills. The PSI is a 35-item inventory with a 6-point Likert scale that is designed to assess an individual's perception of his or her problem-solving style. The Survey of Adult Skills, which was developed by the Organisation for Economic Co-operation and Development (see OECD, 2013), can be used to assess an individual's actual problem-solving ability. To cater to the career developmental needs of learners with SLDs, career counsellors can work with SLD special to serve their clients because it is often very difficult to find a career counsellor who is knowledgeable about the range of pertinent issues

related to various types of SLDs (Nadeau, 2016). The school career guidance programme can also focus on four critical aspects of improving the career well-being of students with SLD, which are: 1) academic achievement, 2) self and career awareness, 3) social competence and 4) self-determination (Chen & Chan, 2014). First, to help the students to improve academically, curriculum leaders and teachers should work collaboratively to design a curriculum that is flexible enough to cater for the diverse learning needs of students. The syllabus and teaching materials used should be appropriate to the academic abilities of the target students. The classroom instructional strategies should be adapted and modified because different learning disabilities will affect the way in which information is acquired, retained and interpreted. Second, Super's concept of career maturity (Super, 1990) and Krumboltz's social learning theory (Krumboltz, 1996) can be used to form the fundamental theoretical base of the career guidance programme. There are multiple benefits in such a design. One merit is that the concept of career maturity introduced in Super's concept can help counsellors to decide on career goals that match the learner's interests and abilities. Another benefit is that one of the central premises of Krumboltz's (1996) theory is that obtaining direct experience with work is a vital catalyst of career development. In this respect, counsellors can help students with SLD, who often display low social and career awareness, to acquire early work experiences, which will foster the development of social competence and knowledge about the world of work. Third, learners with specific learning needs (e.g. disability) are found to have developed more positive career goals when they leave school if they are more self-determined (Shogren, Wehmeyer, Palmer, Rifenbark & Little, 2015). The teaching of self-determination skills such as choice making, problem-solving, goal attainment, self-advocacy and the ability to identify the skills that are appropriate in a given context can help to foster the development of self-determination, which in turn will help learners with SLD to maintain employment in the future (Algozzine,

Browder, Karvonen, Test & Wood, 2001). For career interventions with students with SLD, counsellors can administer Arc's self-determination scale (Wehmeyer & Kelchner, 1995) to measure the level of self-determination in learners with learning disabilities. The Career Development Inventory can be used to measure a student's level of career maturity (Lindeman, Super, Jordan & Myers, 1981). The Behaviour Assessment System for Children (Reynolds & Kamphaus, 2015) can be used to help identify emotional and behavioural disorders at school. It would also be useful to develop a database of training materials for special needs in the post-school sector so that potential users can have ready access to what is available in a specific area of interest. Advocacy and the ability to identify the skills that are appropriate in a given context can help to foster the development of self-determination (Faraday, 1988). On the social level, to assess the influence of factors such as the level of family influence, there are a number of informal and formal psychological assessment tools that can help the clients to assess their abilities and personal situations. For informal assessment tools, 'The Flower' diagram by Bolles (2015:184) could be used because a designated section (Petal 2) was designed to ask the client whom he or she would like to work with. The answer should be able to give the counsellors preliminary hints about the client's attitude towards the social world. To help us to understand more about the client, a number of formal and informal assessment tools are also available. The Family Influence Scale (FIS) (see Fouad, Cotter, Fitzpatrick, Kantamnei, Carter & Bernfeld, 2010) can be used to help us to assess the client's perception of the types of influences exerted upon them during their decision making. Cheng and Yuen's (2012) Chinese version of the Career-related Parent Support Scale is validated and can be used within the Hong Kong context to examine the adolescent's perceptions of parental support. The Work Values Inventory (see Bolton, 1980) can also be used to help us to better understand systematically what qualities the client perceives are essential to a satisfactory job. To help the younger generation

to alleviate the impacts that are brought about by technological advance and economic downturn during the course of their career development, the counsellors should work together with the school to equip their students with a twenty-first century skill set. This is characterised by the ability to work in a globalised environment where automation and project-based intermittent employment have become major trends (Blustein, 2006). In today's increasingly volatile and unpredictable world of work, career counsellors and schools can prepare youngsters for future career developmental issues by helping them to acquire twenty-first century skills, which is a contemporary skill set that places emphasis on the use of technology and multi-literacy skills (New London Group, 1996). The Partnership for Twenty-first Century Learning, which was founded in 2002, is a taskforce of experts from the business and education sector who work collaboratively to develop twenty-first century skills readiness in schools. This group argues that to survive in the unpredictable modern labour market, young people need skills that can increase their marketability, employability and readiness for work. This can be achieved by developing the following six capabilities: 1) thinking critically and making judgments; 2) solving complex, multidisciplinary, open-ended problems; 3) creativity and entrepreneurial thinking; 4) communicating and collaborating; 5) making innovative use of knowledge, information and opportunities; and 6) taking care of financial, health and civic responsibilities (Partnership for Twenty-first Century Learning, 2008). At the classroom level, there should be formal teaching of computer programming and coding skills (European Commission, 2016). At the policy level, there should be an increase in access, cross-curricular collaboration, rebranding and professionalisation of vocational education and training across different levels of schooling (Task Force on Promotion of Vocation Education, 2015; The Education University of Hong Kong, 2017). At the school level, curriculum leaders should reformulate the school curricula by developing multiple literacy through

the use of multi-modal texts (New London Group, 1996), the strengthening of the teaching of the is designed to assess an individual's perception of his or her problem-solving style. The Survey of Adult Skills, which was developed by the Organisation for Economic Co-operation and Development (see OECD, 2013), can be used to assess an individual's actual problem-solving ability.

To cater to the career developmental needs of learners with SLDs, career counsellors can work with SLD specialists to serve their clients because it is often very difficult to find a career counsellor who is knowledgeable about the range of pertinent issues related to various types of SLDs (Nadeau, 2016). The school career guidance programme can also focus on four critical aspects of improving the career well-being of students with SLD, which are: 1) academic achievement, 2) self and career awareness, 3) social competence and 4) self-determination (Chen & Chan, 2014). First, to help the students to improve academically, curriculum leaders and teachers should work collaboratively to design a curriculum that is flexible enough to cater for the diverse learning needs of students. The syllabus and teaching materials used should be appropriate to the academic abilities of the target students. The classroom instructional strategies should be adapted and modified different learning disabilities will affect the way in which information is acquired, retained and interpreted. Second, Super's concept of career maturity (Super, 1990) and Krumboltz's social learning theory (Krumboltz, 1996) can be used to form the fundamental theoretical base of the career guidance programme. There are multiple benefits in such a design. One merit is that the concept of career maturity introduced in Super's concept can help counsellors to

English language as a generic skill for academic, career and vocational development (Graddol, 2007), the introduction of learning tasks across the curriculum that require the use of technology inside and outside the classroom (European Commission, 2012) and the development of a quality career counselling programme (The Economist Intelligence Unit, 2017) and career education programme that combines career development concepts into all school learning experiences at all levels and all subject disciplines (California State Department of Education, 1974).

In relation to the design of the career guidance programme, a number of researchers have suggested that the programme needs to be pragmatic enough to facilitate the student's transition from school to work. In today's world of work, young people are more likely than ever to experience unemployment and career change due to the destruction of not only the traditional corporate career but also the importance of human labour in the workplace (Schwab, 2016). This means that counsellors will need to break away from using traditional career theories that assumed employment stability and predictability. To this end, the counsellors can refer to alternative approaches to help clients develop a protean and boundaryless career in times of employment uncertainty (Briscoe & Finkelstein, 2009). These concepts can provide more sustainable modes of career development. Briscoe and Hall (2005) argued that these two paradigms are more relevant than ever to the contemporary employment trends because these models respond to the fact that companies no longer offer linear stable careers. Consequently, people will have to change their course of career development over their lifespan based on their interest, values and orientations and on how changes in the external environment have impacted them (Bravo, Seibert, Kraimer, Wayne & Liden, 2017). Consequently, the individual will not try to fixate his or her career to a single organisation or occupation. Instead, career development will become a self-driven

exploration process in which one's career can span different time periods, multiple organisations, identities, job duties and membership, and career success can be driven by psychological satisfaction rather than material gains such as pay and rank. The development of protean and boundaryless career attitudes can help students to better cope with the traumas of unemployment and uncertainties because these attitudes can help to develop better active coping and external support seeking skills (Briscoe, Henagan, Burton & Murphy, 2012).

To determine the likelihood of developing a protean career, the Protean and Boundaryless Career Attitudes Scales (Porter, Woo & Tak, 2016) can be used to assess the reliance that the candidate would place on using his or her own values to guide his or her career. The higher the reliance, the more protean one's career attitude is. The Career Orientation Scale (Bravo et al., 2017) can help individuals to discover their career orientations so that they can identify career opportunities that are congruent with their orientations. The Career Futures Inventory-Revised can be used to assess aspects of career adaptability, career planning attitudes and career outcome expectations (Rottinghaus, Buelow, Matyja & Schneider, 2012). To equip students with protean and boundaryless career skills, self-management skills, career building skills (e.g. using and finding career information), entrepreneurial skills and a mixture of generic and discipline specific skills can be taught (Bridgstock, 2009; Hamilton, 1981).

## Implications and recommendations

It is essential for us to understand the theoretical limitations of each of the career assessment tools that is intended to use. It should also be understood that most assessment instruments are developed based on a theoretical foundation. It is therefore crucial for us to obtain a firm understanding of the underlying theoretical construct to enhance the quality of the interpretation of the assessment results. For example, Holland (1997)'s hugely popular RIASEC model has been criticised because of its low reliability in predicting vocational congruence. This can be attributed to the deficiencies within the theory's theoretical construct, which are 1) lack of a time element (Mitchell & Krumboltz, 1996) and 2) lack of a developmental perspective (Osipow & Fitzgerald, 1996). The limits of each psychological test should also be well understood beforehand. For example, to yield test results that are valid and reliable, the Strong Interest Inventory is advised not to be used on those who have not begun the eighth grade (around 13–14 years old) because these students' interest patterns have not yet developed (Prince & Heiser, 2000). Farh, Leong and Law (1998) have also recommended that the model is not applicable to the Hong Kong context unless cultural adaptations are made. In another example, when using the FIS to investigate issues relating to how the family can influence career decision making, it should be kept in mind that research in this area is thin because most career theories focus on how people make career decisions at the personal level and do not look at how these decisions are made at the interpersonal level. The literature is not yet able to provide conclusive information about the role of family influence in this dualistic context (Ghosh & Fouad, 2016).

Another problem of concern is the validity and reliability of the assessment instruments to be used within the local context. The FSI, for example, was developed in the United States and has so far only been validated to yield reliable, consistent results with Asian Americans (Ghosh & Fouad,

2016) and Indians in India (Fouad, Kim, Ghosh, Chang & Figueiredo, 2016). The validity and reliability of the instrument to be used within the Hong Kong context is still in question because only a limited number of instruments have been validated (e.g. Cheng & Yuen, 2012).

In studying gender differences, gender specific instruments should be used. For example, it should be taken into account that due to the wide varieties of roles that women have played throughout the historical development of modern society, women-specific theories of career development have been developed and are available for use (Bimrose, McMahon & Watson, 2014).

Sufficient precautions should be taken when studying self-efficacy, and it should be understood that self-efficacy is a matter of how one feels about oneself. This means that an individual can over- or underestimate his or her actual abilities (Nauta, 2009). Self-efficacy is also defined as an individual's perceived abilities in performing a certain task. Consequently, the task has to be specific and carefully defined before the administration of assessments. Otherwise, it would be difficult to delineate the underlying contributing factors of the client's level of self-efficacy (Betz, 2000).

Irrespective of which assessment instrument is used for career intervention, it is important to first make sure that the instrument is culturally validated so that it can produce test results that are valid and reliable. This means that the use of locally developed instruments, such as the Career Development Self-efficacy Inventory (Yuen, Gysbers, Hui, Leung, Lau & Chan, 2004), would be most suitable for these purposes. Adapting assessment inventories that do not have a local origin is another effective way to expand a counsellor's repertoire. For example, it can be seen that a number of assessment inventories have already been adapted to Chinese culture for local use, such as the Chinese version of the Perceived Social Support Scale (see Wang, Wang & Ma, 1999), which is based on Blu

menthal et al. (1987), and the Chinese version of the Career Decision Making Difficulties Scale (see Tien, 2001, 2005), which is based on Gati, Krausz and Osipow (1996).

In conclusion, career decision making is a highly structured and complex process that involves the interplay of multiple factors. To promote a client's self-understanding and career development, the results from multiple career assessment instruments of different constructs can be triangulated and consolidated to formulate a more comprehensive profile of the client. However, cross-referencing and triangulation of the assessment results should be approached with caution because the underlying relationship between various career constructs may not always be valid and reliable. It is therefore advisable to conduct separate preliminary research studies to define the relationship between the factors that are intended to be studied (e.g. Gungor, Kurt & Ekici, 2014). For example, Miller (1992) suggested that the results from different career assessment tools can be interpreted together to enhance a client's decision-making ability.

It should be highlighted that there are few empirical studies within the career literature that have investigated how different career-related constructs can be synthesised and interpreted simultaneously and the results yielded in these studies have not been consistent. Among the few studies that are available, Dillion and Weissman (1987) found that results yielded from the Myers-Briggs Type Indicator and the Strong-Campbell Interest Inventory are strongly correlated. Cotter and Fouad's (2011) attempt to correlate the psychological concept of subjective well-being with Holland's RIASEC types was not successful because no significant correlations were found. Gottfredson, Jones and Holland (1993) attempted to correlate vocational interest with personality by administering the Vocational Preference Inventory and the NEO Personality Inventory. Although their results showed some regularity, the

vocational interest–personality correlations were too low for dependable relationships to be established.

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