

Advancing Inclusive and Special Education  
in the Asia-Pacific

Mantak Yuen  
Wendi Beamish  
V. Scott H. Solberg *Editors*

# Careers for Students with Special Educational Needs

Perspectives on Development and  
Transitions from the Asia-Pacific Region



Centre for Advancement in Inclusive and Special Education  
Faculty of Education, The University of Hong Kong



Springer

# **Advancing Inclusive and Special Education in the Asia-Pacific**

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Policies and practices of inclusion in education were adopted in the Asia-Pacific region somewhat later than in the West; and they are still evolving as schools, colleges and universities are coming to grips with the challenge of addressing increasing diversity among students. There is a growing awareness in the region that there is a need for improved channels of communication for academics and researchers to share more effectively their findings in order to influence developments in the field of inclusive and special education.

Many institutions in the region have academic groups working and researching in this field, often in semi-isolation. For example, the following institutions are all separately involved: University of Hong Kong, the Chinese University of Hong Kong, The Education University of Hong Kong, University of Queensland, University of Monash, University of Canterbury, Beijing Normal University, National Taiwan Normal University, University of Macau, Nanyang Technological University, and the Korean University, and as well as other universities. The academics concerned are eager for an outlet for their publications, and for ongoing communication with other professions in different countries and cities. Equally important, teachers, students on graduate courses, special education practitioners, counsellors, school psychologists, and school principals are eager to obtain information and guidance on meeting student's diverse educational and personal needs. Inclusive education has been described as '...a multifaceted practice that deals with value and belief systems, invites and celebrates diversity and difference arising from family background, social class, gender, language, socio-economic background, cultural origin or ability, with human rights and social justice at its core' (Agbenyega & Deku, 2011, p. 1). Inclusion is thus a core part of the notion of 'education for all' agenda; and it is far more than the placement of students with special educational needs in regular classrooms (UNESCO, 2003). That is also the view that will be presented consistently within these books.

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Mantak Yuen · Wendi Beamish ·  
V. Scott H. Solberg  
Editors

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# Preface

The pathway to employment and a meaningful career has never been more difficult to map for all youth as they prepare for a transition to adulthood and the world of work. The rapid growth in technology, together with worldwide economic uncertainty, has changed forever the range of options available for employment. Many previous opportunities for employment have simply vanished, and transition from school to work has never been more challenging. As a result, teachers and other personnel working in education now have the responsibility to identify fresh ways of preparing students with special needs for today's world. The material in this book tackles some of the emerging issues of transition and career direction throughout the Asia-Pacific region. In doing so, the book offers a wide range of innovative policies, programs, strategies, and tools to assist in preparing students with special needs for work in their local communities.

The book is divided into four main parts, with each part addressing a particular topic. As indicated in the list of contents, the parts together cover key issues in career development and transition; strategies for personnel preparation, parent education, and disability-specific issues; effective policies, programs, and approaches in the Asia-Pacific region; and useful tools for assessment and intervention.

Part I includes four chapters, which provide a historical overview of career development and transition planning for students with special educational needs and disabilities. Definitions and legislations are clarified, and the authors present the philosophical and practical underpinnings of intervention in career education. Issues and challenges associated with work preparation and transition to work for these students are highlighted, and some of these matters are addressed in more detail in later chapters.

Part II contains five chapters summarizing common strategies used in teacher preparation, counselor training, and parent education. Issues addressed include competencies and knowledge relevant for supporting career development and transitions for students with special needs or disabilities. Practical strategies applicable to specific types of disability or special need are described.

Part III has eight chapters covering examples of effective programs and approaches for career development and transitions of these students in the Asia-Pacific region. Issues in program development and evaluation of outcomes are highlighted.

The final part contains four chapters reviewing useful assessment tools and innovative interventions for teachers and other special education personnel.

We hope that school staff (including teachers, principals, counselors, psychologists), policy-makers, and researchers find ideas of practical value within this book to assist them in providing the best possible support and services to students with special educational needs as they prepare to transit from school to post-school life and employment.

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**Part I**  
**Issues in Career Development**  
**and Transitions**

# Chapter 1

## Career Development Policy Strategies for Supporting Transition of Students with Special Educational Needs and Disabilities



V. Scott H. Solberg, Jennifer Lillis, Weiran Zhang, and Judith L. Martin

**Abstract** This chapter explores model career and workforce development policies and practices that enable youth with special educational needs and disabilities (SEN) to develop the academic and employability competencies needed to effectively transition from secondary education. The US Workforce Innovation and Opportunity Act (WIOA) is identified as an important policy example with regard to its focus on individualized career planning. At a more regional and local level, the use of individualized learning plans and model policy language derived from these personalized career and academic plan strategies are described. Examples from Asia of personalized career and academic plan strategies are also provided.

**Keywords** Career development · Disability · Policy

### Introduction

This chapter examines career and workforce development policies designed to support successful transitions into tertiary education and decent work for youth with special education needs and disabilities (SEN). Drawing from the United Nations Convention on the Rights of Persons with Disabilities (United Nations 2006) and

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the UN Sustainability Development Goals (United Nations [n.d.](#)), the aim of these programs and services is to build capacity for SEN students to gain access to decent work. “Career development” refers to programs and services that enable youth to identify their career and life goals based on their talent and skills and develop personalized plans for how to gain access to the learning opportunities (both education and work-based learning) needed to pursue those goals (Solberg et al. [2018](#)). “Transition programming” refers to a broad range of academic and workforce development opportunities that are designed to enable SEN students to become successful adults (NTACT [2018](#)).

The chapter is divided into two sections. The first section explores the US Workforce Innovation and Opportunity Act ([2014](#)) which includes provisions that support transition and access to decent work for youth with disabilities. This policy guides how federal funding can be used by states and organizations as well as the career and workforce development outcomes that are expected to result. The second section describes how policies related to the use of individualized learning plans (ILPs) are being mandated or encouraged throughout the USA and internationally as a career development strategy that helps youth proactively identify career and life goals and develop the navigation skills needed to pursue those goals (Solberg et al. [2012b](#)). It is understood that careful considerations of context and societal privileges should be considered when engaging in comparative policy efforts (Robertson [2012](#)). The policies and career development and transition strategies described in this chapter were developed within a knowledge-based economic context (e.g., OECD [2018](#)) that includes a large formal labor market as well as access to a wide range of tertiary education and workforce development opportunities. While many knowledge-based economies and newer economically developed countries may share many of these contextual characteristics, it cannot be assumed that the policies and practices will generalize to all countries. One final caution is that the policies described in this chapter should in no way infer that efforts to help individuals build their capacity to pursue access to decent work will alone solve the many challenges facing workforce transitions among SEN youth. Gaining access to quality tertiary education and training as well as inclusive employment settings remain a significant challenge to whether youth with disabilities will ultimately gain access to employment opportunities offering livable wages.

## **WIOA, Career Development and Transition Readiness**

In examining the economic development policies among its 34-member countries, OECD ([2018](#)) reports that many countries are strengthening policies that help SEN and other high-risk youth populations complete their secondary education as well as some form of tertiary education or training program. These policies also advocate for increasing employer engagement in offering access to work-based learning opportunities and establishing career advising opportunities. For example, in 2014, the USA enacted the Workforce Innovation and Opportunity Act (WIOA), a federal law

designed to revitalize the public workforce system to meet the demands of a twenty-first century economy. What is remarkable about WIOA is that the policy language moves away from employment as the critical outcome by emphasizing long-term, individualized career development as the overarching workforce development strategy. Whereas former policy language focused almost exclusively on employment outcomes, WIOA establishes a range of shared outcomes such as educational attainment, participation in tertiary education, and job training. Additionally, WIOA places particular emphasis on populations that face barriers to employment, including youth with disabilities and disconnected youth (US Department of Labor 2016). Specific provisions within WIOA address key challenges youth with disabilities face in their transition to adulthood. This section describes how WIOA shifts focus from jobs to career development, describes key provisions related to youth with disabilities, and explores how these provisions may impact youth transition.

**Focus on Career Development.** A shift from employment-focused workforce development to career-focused workforce development is evident when you compare WIOA to its predecessor the Workforce Investment Act of 1998 (WIA). WIA, the earlier law, was responsible for institutionalizing *one-stop career centers* or public employment offices where job seekers could go to receive a range of employment-related services under one roof. However, under WIA not all participants were eligible for the full range of employment supports. Services were provided as a graduated sequence, and participants were required to complete initial core services before being eligible for more intensive services or training (Bird et al. 2014). This statutory language in WIA, in coordination with guiding documents from the department of labor, led to a “work-first” orientation where education and training opportunities were considered a last resort, reserved only for individuals who could not obtain employment with very basic services (Barnow and King 2005). In contrast, WIOA combines the previously separated sequence of “core” and “intensive” services into a new category called “career services.” The “career services” category includes a broader range of activities that all job seekers can access. It also emphasizes education and training, prioritizing training programs that lead to a postsecondary credential within high demand occupations. The more comprehensive and individualized services included in WIOA such as assessments and individual plan for employment, career counseling, and skill development in combination with an emphasis on postsecondary education constitute a greater commitment to quality career development services.

**Individualized Career Planning.** WIOA also places significant emphasis on career pathways approaches that require planning and support that extend beyond short-term employment opportunities. The term “career pathway,” which was not present in WIA, is defined in detail under WIOA. The definition includes a variety of comprehensive supports such as counseling, education, and training that lead to the obtainment of individual career goals and career advancement within a specific, in-demand occupation. Organizations receiving WIOA funding are directed to provide career counseling services that enable youth and adults to develop personalized or individualized career pathways. WIOA funded youth programs are expected to help them not only identify career pathways but also develop a detailed plan to pursue the

career pathway. State and local workforce development boards are required to lead efforts to develop and implement career pathways that meet local market demands. For example, project *Right Turn* is a federally funded project that provides technical assistance to community-based organizations that serve court-involved and at-risk youth, a high proportion of whom have emotional or learning disabilities (Institute for Educational Leadership n.d.). *Right Turn* prescribes that their organizations use an “individualized career development plan” (ICDP) to help youth identify career and life goals. Recidivism rates for the over 800 participants were 2% and the majority were either completing or completed secondary education, 70% were participating in job training and placement services, and over half were preparing to enter or were participating in tertiary education (Institute for Educational Leadership n.d.). *Right Turn* demonstrates WIOAs focus on providing integrated and intensive services that looks beyond short-term employment opportunities to prepare an individual for a lifelong career with opportunities for advancement in their field.

**Focus on Disability.** The specific career development needs of young adults with disabilities are addressed in multiple sections of WIOA. Title I of WIOA expands youth eligibility for services, focusing especially on youth with barriers to employment. For out-of-school youth, WIOA makes youth with a disability a separate eligibility criterion. This means that all youth with disabilities who are 16–24 years and not attending school are eligible for services under WIOA. This change from WIA reflects the data showing particularly poor postsecondary outcomes for youth with disabilities and the significant overlap between youth with disabilities and other risk factors such as involvement in the juvenile justice system or in foster care (Reingle Gonzalez et al. 2016). WIOA demonstrates significant commitment to these youth by raising the minimum percentage of funds that need to be spent on out-of-school youth from 30 to 75%. WIOA also requires that at least 20% of youth formula funds go toward paid and unpaid work experiences that incorporate academic and occupational education.

Youth with disabilities gain increased eligibility for career development services under Title I of WIOA, but additionally, they are also impacted by Title IV which amends the Rehabilitation Act of 1973. Through these amendments, WIOA places a strong emphasis on improving postsecondary education and employment outcomes for youth with disabilities. This reflects national concern about the postsecondary outcomes experienced by youth with disabilities, who are less likely than their non-disabled peers to transition into postsecondary education or employment after high school. For example, there are significant differences in employment rates and wage offers for youth with and without disabilities (Mann and Wittenburg 2015). In 2014, the Bureau of Labor Statistics found that 43.9% of 20–24-year-olds with disabilities were employed compared with 71.9% of their non-disabled peers. A 2003 US Government Accountability Office (GAO) report specifically examined the role of VR agencies and WIA programs in transition for youth with disabilities and articulated several barriers including lack of income eligibility for students with disabilities, lack of expertise at workforce centers in serving youth with disabilities, long waitlists for VR services causing deferred access for youth, and lack of awareness about WIA centers and services (US GAO-03-773). A 2012 report reiterated concerns about

delayed access to VR services due to waitlists and cited limited opportunities to gain work experiences while in school as well as lack of coordination between various agencies as factors negatively impacting postsecondary outcomes for youth with disabilities (US GAO-12-594).

WIOA attempts to address these concerns, specifically related to youth with disabilities, in Title IV. The changes in Title IV support coordinated, long-term career development strategies to improve postsecondary outcomes. According to a Rehabilitation Services Administration (RSA) presentation (2014), WIOA increases opportunities for youth with disabilities to practice workplace skills, to explore and develop their career interests, and to gain real world work experience, all important components of career development.

**Focus on Increasing Access to Services and Resources.** VR agencies are the primary government agency that assists individuals with disabilities in obtaining employment (National Council on Disability 2017). Traditionally, VR agencies have primarily served adult populations and had not been expected to work with youth populations (US Rehabilitation Services Administration 2014). Title IV of WIOA calls for an expansion of VR services for students with disabilities, specifically requiring that 15% of each state's funding for VR services must go to transition services for youth with disabilities. WIOA also identifies required pre-employment transition services (Pre-ETS) that VR agencies must provide for youth. The pre-employment transition services are designed to provide young adults with disabilities more opportunities to get real-world work experience, practice work-related skills, and identify their interests in a supported context. They include five required services: (1) job exploration and counseling, (2) work-based learning experiences, (3) counseling related to postsecondary education, (4) workplace readiness training, and (5) self-advocacy instruction. These pre-employment transition services are a completely new category and guide state VR agencies on how to prioritize services for youth. They indicate a need for a cohesive set of services that prepare students for lifelong careers rather than just job training programs.

**Focus on Cross-Sector Collaborations.** WIOA also stresses increased interagency collaboration among state and local agencies as a tool for better serving young adults with disabilities. For example, state VR agencies must coordinate with schools to implement transition services and with employers to develop meaningful work opportunities for youth. Under WIOA, transition planning becomes a shared responsibility between VR agencies and schools. VR agencies should attend Individualized Education Program (IEP) meetings when invited and are able to initiate services for potentially eligible youth—especially those with significant disabilities—even if a case has not been initiated by the school. The goal of this collaboration is to provide a more seamless transition from school to adult life. For both in-school and out-of-school youth, VR agencies now share in the responsibility of providing quality career development services to improve postsecondary education and employment outcomes. To provide examples of interagency collaboration, the Disability Employment Initiative (DEI n.d.) allocated funding for cross-sector collaboration demonstration projects to states on a competitive basis. WIOA also emphasizes engagement with employers to assist in providing work-based learning opportunities such as internships.



Competitive integrated employment is a key element of WIOA and an important service delivery goal. WIOA includes a clearly articulated definition of competitive integrated employment with three key components: (1) individuals with significant disabilities must be paid at least minimum wage and receive compensation/benefits that are no less than compensation/benefits of other employees doing similar work, (2) individuals must work in inclusive settings and alongside their peers without disabilities, and (3) individuals must have opportunities for advancement. WIOA's definition of competitive integrated employment is important because previous definitions were vague which allowed for a wide range of regulations and policies (Jorgensen Smith et al. 2016).

**Focus on Customized Integrated Employment.** Regulations in WIOA attempt to create a more comprehensive federal strategy to reduce employment barriers and create clear expectations around competitive integrated employment. For example, under WIOA, VR agencies must explain how they will work with employers to identify competitive integrated employment opportunities. Significant restrictions are placed on entering into contracts with agencies that allow youth with disabilities to be employed at subminimum wage. Additionally, WIOA places specific emphasis on employment opportunities for youth with significant disabilities, designating half of supported employment service funds for this population. For youth with significant disabilities, competitive integrated employment may include customized employment or supported employment but should not occur in sheltered, non-integrated settings except on a short-term basis (no more than 12 months) during which time evidence must be provided for how the youth is making significant progress toward competitive integrated employment.

WIOA's emphasis on competitive integrated employment responds to widely documented low employment and low wages for individuals with more significant disabilities. These individuals have often been placed into sheltered workshops where they are isolated and receive subminimum wages. Although sheltered workshops have been presented as prevocational training opportunities, they rarely lead to more competitive or integrated employment opportunities (Advisory Committee on Increasing Competitive Integrated Employment for Individuals with Disabilities 2016). In contrast, WIOA reflects the belief that all individuals with disabilities, even those with significant disabilities can achieve high quality, competitive integrated employment if they have access to the appropriate supports and services.

## **State and Local Level Career Development and Transition Policy Strategies**

### *Nature and Value of ILPs*

WIOA's emphasis on individualized career pathways shares many characteristics with the recent popularity of individualized learning plans (ILPs; Solberg et al.

2012b). ILPs are popular in the USA as well as internationally. In the USA, ILPs are referred to by a range of names (e.g., Academic and Career Plans, Wisconsin; My Career and Academic Plan, Massachusetts; Education and Career Action Plan, Arizona; Individual Career and Academic Plan, Colorado, Oklahoma). The Colorado Department of Education (CDE) offers an excellent description of the nature of ILPs:

[ILPs] are a multi-year process that intentionally guides students as they explore career, academic, and postsecondary opportunities. With the support of adults, students develop their awareness, knowledge, attitudes, and skills to create their own meaningful and powerful pathways to be career and college ready. [ILPs] help students imagine a future career and helps them design the way to get there. Students have a chance to look inside—to determine their interests and passions and outside—to explore and experience career opportunities. With greater knowledge, they can imagine and then craft their individual career pathway to success. (CDE 2014, p. 7)

A report developed by National Association for College Admission Counseling indicated that ILPs characteristics include: “self-identified academic, career, and personal goals; a career exploration tool; and the capacity to update ILPs annually; resume builders; personality and learning style assessments; and referrals for learning support” (NACAC 2015, p. 8). A national multi-study, multi-method investigation concluded that ILPs offer a promising transition strategy for youth with and without disabilities (Solberg et al. 2014). Specifically, the research found that engaging in quality ILPs helps youth with and without disabilities improve their school engagement, academic achievement, career decision making readiness, and stress and health management (Solberg et al. 2012a, 2014).

In reflecting on the relevance for serving youth with disabilities, state and district leaders reported that ILPs resulted in youth selecting into more rigorous courses (Solberg et al. 2014) and parents and teachers report that ILPs provides youth with disabilities with significant career development tools and activities (Skaff et al. 2016). Examples of ILPs as a personalized career and academic planning strategy can also be found in Hong Kong and Singapore. In Hong Kong, the Chinese University of Hong Kong has created a program title Career and Life Adventure Program that they refer to as CLAP for Youth @ JC (n.d.). CLAP offers online career resources as well as a structured personalized career development process that is closely aligned to ILPs. Funded by the Hong Kong Jockey Club, CLAP shares a number of similar aspirations for the nature and value of engaging youth in career development.

At CLAP, we believe that career and life planning is an adventure rich of opportunities for young people to explore. During their adventures, young people, as the owner of their career and life planning, will discover their real self, interest, potential and confidence, and develop the necessary competence to make informed choices about their career path and life goals. It is our objective to provide these adventurous opportunities for young people to explore their life journeys.

The Education and Guidance Branch at the Singapore Ministry of Education created MySkillsFuture as an online portal that aligns to their ECG Developmental Model (Singapore Ministry of Education n.d.). The ECG Developmental Model divides the transition process into four developmental phases beginning with building awareness in elementary and middle school (ages 9–12), exploration and career

planning in secondary (ages 13–17), transition skills in early postsecondary (ages 17 and 18), and finally establishing and managing one’s career in adulthood (Singapore Ministry of Education 2018).

### ***How Do ILPs Align with IEPs?***

In schools in the USA, youth with disabilities receive an Individualized Education Program (IEP) articulates the accommodations and supports needed to fully participate in learning. IEPs provide opportunities for youth with disabilities, families, educators, school administrators, and related service personnel to work together to improve teaching, learning, and educational results for youth with disabilities. “The Individualized Education Program is the cornerstone of a quality education for each child with a disability” (U.S. Office of Special Education and Rehabilitative Services 2000, p. 1).

The IEP is federally mandated while ILPs mandated or encouraged at the state level. Usually by age 14, youth with disabilities must add a postsecondary “transition” plan to their IEP. In this way, the IEP and ILP share a common goal of preparing youth with the college and career readiness competencies needed to successfully transition into adulthood. ILPs complement the transition plan within IEPs in a number of ways. The IEP meeting occurs once a year, whereas ILP activities engage youth with disabilities in career exploration and planning throughout the year. This enables youth with disabilities to practice self-advocacy and self-determination by entering the annual IEP meeting with a clear idea of their career and life goals as well as the tertiary education and/or career pathways they wish to pursue. State and district leaders also report that ILPs have facilitated the cross-sector and cross-departmental collaboration among administrators and staff such that general education and career and technical education teachers are becoming stronger advocates for students with disabilities (Solberg et al. 2014).

ILPs are identified as a promising strategy for students with disabilities when (a) general and special education officials and educators work together to ensure accessibility of ILP resources and activities; (b) ILP implementation begins in middle school and engages families in the process so that students and families can be stronger advocates in designing the transition plan section of their IEP and in having the accommodations they view as necessary to achieving future career goals put in place; and (c) staff responsible for ILPs and IEPs collaborate and are equipped with knowledge and skills to assist students in developing goals and identifying skills, interests, and accommodation-related needs in both plans (Massachusetts Department of Elementary and Secondary Education 2016b).

## ***Sample Policy Recommendations for Using ILPs to Support Postsecondary Transition Planning***

In 2016, the Council of State Governments and National Conference of State Legislatures used the research demonstrating the promise and value of ILPs to design transition policy recommendations (Council of State Governments and National Conference of State Legislatures 2017). This report recommends that policy-makers consider three ILP-related transition and workforce readiness options when developing their state policies. For each policy option, the report identifies a number of corresponding strategy recommendations (Table 1.1).

Policy Recommendation #1, *Promote comprehensive education and career development plans that capitalize on youths' skills, abilities, and career and academic goals*, strategies encourage states to adopt ILPs to ensure that all youth create a “coordinated, person-centered approach in the development and implementation of education and career development plans.” The Work Matters report highlights existing policy language in Kentucky that transition plan development for youth receiving IEPs must be aligned to the postsecondary goals and plans identified in the student’s ILP. To help the special education community understand the nature and value of ILPs, Connecticut has generated a policy crosswalk to demonstrate specific ways that ILPs support the design and implementation of a number of federal and state policies impacting youth with disabilities (Connecticut State Department of Education 2014).

Policy Recommendation #2 focuses on the need to begin the ILP process early so that youth with disabilities become aware of how their skills, interests, and values align to the world of work beginning in elementary school. It is critical that youth with disabilities receive consistent encouragement to consider career opportunities throughout childhood and adolescence. In addition to Connecticut and Kentucky, the Work Matters report recognizes a number of states including Arizona, Colorado, Delaware, and Wisconsin that have specifically adopted language supporting the need to include transition readiness for youth with disabilities into their state mandated ILP policies.

Policy Recommendation #3 is perhaps the most important because state and district leaders have lamented the fact that without funds to support professional development and helping all educators realize the value of ILPs, career development mandates are not being effectively implemented at the school level (Solberg et al. 2013). The Massachusetts Department of Elementary and Secondary Education, for example, received funding from the Council of Chief State School Officers to engage in a statewide professional development strategy whereby 160 school teams receive three professional development sessions to help design and implement ILPs (Massachusetts Department of Elementary and Secondary Education 2016a).

**Table 1.1** Work Matters report policy recommendations for ILPs (Council of State Governments and National Conference of State Legislatures 2017)

Policy recommendation	Corresponding strategies
<p>1. “Promote comprehensive education and career development plans that capitalize on youths’ skills, abilities, and career and academic goals. Upon graduation, these comprehensive plans should result in the conferring of meaningful credentials that provide access to and prepare youth for their postsecondary education or career goals” (p. 47)</p>	<p>a. “Facilitate the inclusion of school and community learning opportunities in education and career development plans (e.g., IEPs, individualized learning plans or ILPs, etc.)</p> <p>b. Ensure a coordinated, person-centered approach in the development and implementation of education and career development plans. This may include alignment of any IEPs, ILPs, etc., developed for youth with disabilities” (p. 48)</p> <p>c. “Facilitate the implementation and adoption of inclusive design concepts for education and career development-related services and systems to ensure they are accessible to all youth. In addition, encourage the provision of appropriate supports and accommodations for youth with disabilities where necessary to ensure inclusion to the fullest extent possible” (p. 48)</p>
<p>2. “Include youth with disabilities in a sustained, meaningful manner in the career readiness and development process, beginning at an early age” (p. 49)</p>	<p>a. “Afford youth and young adults with disabilities opportunities to identify their strengths, explore interests and engage in valuable learning experiences prior to entering the workforce. People with disabilities are often sheltered from risk and not afforded the opportunity to explore career development opportunities and learning experiences</p> <p>b. Allow for continuity of services past the age of majority, which may include the provision of needed accommodations and supports</p> <p>c. Initiate the career readiness process at the start of formal education (i.e., kindergarten) to expose youth to learning opportunities at an early age and empower them to make informed career development choices tied to course selection and transition planning efforts</p> <p>d. Begin the transition planning process for youth with disabilities at the earliest stages of education, ideally aligned with the age or grade-level at which the student begins the career readiness and development process” (p. 50)</p>
<p>3. “Strengthen the capacity of education and career development professionals to design and implement evidence-based, inclusive programs and strategies”</p>	<p>a. “Provide statewide professional development opportunities on family engagement and person-centered career planning for professionals serving youth” (p. 51)</p>

## ***Complimentary Career and Workforce Development Efforts to Support Youth with Disabilities***

There are complimentary efforts designed to support the business and industry sector's ability to create quality internship, apprenticeship, and employment opportunities for youth. The Job Accommodation Network (JAN [n.d.-b](#)) is national technical assistance center sponsored by the US Department of Labor. Their JAN Workplace Accommodation Toolkit (JAN [n.d.-a](#)) offers an interactive Web site for employers to use in reviewing their inclusive policies and practices. Their Searchable Online Accommodation Resource (JAN [n.d.-c](#)) offers a number of accommodation ideas for addressing specific disability populations. Transcripts of monthly webcasts provide case examples and ideas for addressing a range of concerns. For example, the "Cognitive Team" offers access to a recorded webcast, presentation materials, and webcast transcript that addresses different strategies for helping employers identify and manage the accommodation needs of employees presenting with cognitive challenges (e.g., attending deficit, brain injuries, and intellectual disabilities; Wetzel and Small 2018). The combination of resources and access to support services offers a robust method for disseminating ideas on how to effectively design inclusive work settings.

As a compliment to federal and state efforts to support disability transition policies, two national efforts are noteworthy. Disability:IN ([n.d.](#)) offers a range of support the business to support their inclusion policies and practice. Disability:IN uses a Disability Equality Index to businesses with respect to the quality of their inclusion practices. Businesses with scores above 80 receive designation as being one of the "Best Places to Work for Disability Inclusion." The ratings are based primarily on the following: culture and leadership, enterprise-wide access, employment practices, community engagement, supplier diversity. Disability:IN also works with companies to improve the quality of their inclusion policies and practices. Their NextGen Leaders program helps individuals with disabilities with the leadership skills, access to mentorship, and a two-day talent accelerator experience.

## **Summary**

This chapter has focused on exploring policies and practices that show promise in helping SEN students develop the competencies needed to gain access to decent work. Access to decent work has been identified as a critical issue by the United Nations Convention on the Rights of Persons with Disabilities (United Nations 2006) and the UN Sustainability Development Goals (United Nations [n.d.](#)). Specifically, the chapter reviewed career and workforce development policy language and practices that emphasize helping youth identify their own career and life goals and to develop personalized career and academic plans to pursue those goals (Solberg et al. 2018). The US Workforce Innovation and Opportunity Act was offered as an important

example of federal policy that places an emphasis on personalized career plans as a key element in supporting workforce development. Individualized learning plans and language provided by the Council of State Governments and National Conference of State Legislatures (2017) was used as examples of promising career development policy for supporting the transition needs of SEN youth.

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# Chapter 2

## Career Development of Students with Intellectual Disability: A Systems Theory Perspective



Mary McMahon and Monica Cuskelly

**Abstract** The focus of this chapter is on the application of systems thinking to the career development, transitions and inclusion of young people with intellectual disability. In essence, intellectual disability refers to difficulty learning and understanding. The special educational needs of young people with intellectual disability result in their transitions from school being more challenging than those of most other students, and their futures, in terms of paid employment and independent living, being less certain. More than people with any other disability, people with intellectual disability have lower participation in the labour market. This chapter provides an overview of intellectual disability and considers the importance of work and purposeful activity in people's lives. Drawing on the Systems Theory Framework of career development, the chapter uses systems mapping and systems thinking to consider the career development and transition from school of a fictional case study of a young Australian woman with intellectual disability.

**Keywords** Intellectual disability · Career development · School transition · Systems thinking · Systems theory

### Introduction

Individuals with special educational needs comprise a diverse group. While it is important to avoid assumptions about the life of any individual, the group with the most negative life outcomes tends to be those with intellectual disability. They are less likely to be in paid employment, to have completed an educational qualification or to be in post-school education. They are also more likely to be socially excluded than those with other types of disability and those who do not have a disability (Gray et al. 2014). In the Australian census of 2012, 39% of persons with intellectual disability

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were in the workforce compared with 55% of those with a disability of another type and 83% of the general population without a disability (Australian Bureau of Statistics [ABS] 2014a). Of those who were employed, the vast majority were in part-time roles. Completion of Year 12 (the final year of secondary schooling in Australia) showed a similar pattern of disadvantage with 25%, 28% and 59%, respectively, of those over 18 having this qualification (ABS 2014a).

## Intellectual Disability

A number of definitions of intellectual disability are used in research and to determine eligibility for government services. These are quite similar but are not identical in all particulars. Generally, the definitions include an IQ score that is two or more standard deviations below the mean, difficulties in adaptive behaviour, and a requirement that these are apparent in the developmental period (e.g., Schalock et al. 2010). The definition used by the ABS (2014b) is simply “difficulty learning or understanding things”, and this reflects the common understanding of the nature of this impairment. Intellectual disability occurs in approximately three per cent of the population (ABS 2014a).

The notion of adaptive behaviour is very germane to the issue of transition from school to adult life, as it refers to the skills and understandings required for living successfully within one’s community. Adaptive behaviour is therefore determined by cultural expectations associated with age, gender and other socially constructed roles related to status. Adaptive behaviour is characterized by three broad areas: conceptual skills (e.g., language, literacy, numeracy), social skills (e.g., interpersonal skills, following social conventions) and the practical skills required for the successful negotiation of daily life (e.g., occupational skills, use of devices such as mobile telephones). Successful transition from school to adult lives is predicated on young people having sufficient skills in these three broad areas.

Adult lives comprise a variety of aspects—and when 12 young adults with Down syndrome were asked about what they regarded as a “good life” they identified a number of elements they desired in their lives (Scott et al. 2014). Employment was a desirable outcome, together with engagement in leisure activities. They also identified positive relationships with family, friends, partners and work colleagues as important aspects of a good life. Autonomy in decision-making and independent living away from parents was central to the life these young adults wished to lead. Similarly, in a small qualitative study in Spain, Palliser et al. (2016) found that the young people with intellectual disability whom they interviewed identified a job, a home, a partner and children as things they hoped for in the future, although their plans about how to obtain these were generally vague or absent. These ambitions were also identified in a large study in the USA in which Bouck and Joshi (2016) used data from the National Longitudinal Transition Study (phase 2) to investigate the goals held by the young people with intellectual disability. As is evident from

these studies, the aspirations of young people with intellectual disability are similar to those of young people without a disability.

## **Supporting the Transition from School to Adult Life**

Schools are well placed to assist young people to transition to a successful and satisfactory adult life. In particular, school-based career development practitioners have responsibility for assisting students to progress through school and transition from school to further learning or work. Career development is widely understood to be a complex process through which people manage their life, learning and work across the lifespan (Ministerial Council for Education, Early Childhood Development and Youth Affairs [MCEECDYA] 2010). Evident from this view of career development is that contemporary understandings of the term “career” are broader than simply pathways through work or to an occupational title. Career refers to the work roles (paid and unpaid) undertaken by people throughout their lifetime and includes life roles, leisure activities, learning and work (MCEECDYA 2010). Career development practitioners may offer career development programs and interventions that assist their students to develop the skills, knowledge and attitudes needed to manage their learning and work independently in the context of their life (Canadian Career Development Foundation 2002). Career management skills can be learnt. Career development practitioners and support people such as teachers and parents can assist young people to develop career management skills.

Career development occurs in complex, interconnected familial, social, community and sociopolitical contexts and is, consequently, subject to a myriad of influences. Disability is one such influence and operates at both the individual level and at the level of each of the components of the system in which the individual operates. The attitudes held by potential employers and co-workers, the opportunities and support towards inclusion within the community, including the workplace, all contribute to the career development of young adults with intellectual disability. Contemporary career theories acknowledge the importance of considering career development in context; taking an “individual in context view” of career development is widely accepted in the field to avoid oversimplifying career decision-making and career development (McMahon et al. 2014, p. 30). Career theories, however, have devoted little attention to disability despite its profound influence on a person’s career development (Athanasou 2015).

## **Conceptualizing Career Development and Transition Through Systems Thinking**

Systems thinking offers a way of considering individuals in the dynamic complex contexts in which their career development occurs. Systems thinking is founded in systems theory which was first developed in the early 1900s to facilitate a better understanding of complexity in biology (von Bertalanffy 1968). Systems theory has influenced a range of disciplines such as ecology, philosophy, psychology and engineering and is evident in terms such as education systems, computer systems and transport systems.

A number of career theories incorporate systems thinking in their conceptualizations (e.g., chaos theory of careers [Pryor and Bright 2011]) and some are derived specifically from systems theory (e.g., Vondracek et al.'s [2014] Living Systems Theory of Vocational Behavior and Development [LSVD]; Patton and McMahon's [2014] Systems Theory Framework of career development [STF]). The Systems Theory Framework provides the theoretical perspective for this chapter because it visually depicts a range of influences on career development in a "systems map" that stimulates systems thinking as a way of conceptualizing career development and transition.

The focus of this chapter is on the contribution that systems thinking can make to the consideration of career development and transition from school for those with intellectual disability. Intellectual disability, more than other forms of disability, results in lower labour market participation rates in Australia (ABS 2014b). Transition from school may be more difficult for students with intellectual disability than their peers. The applications of systems theory, in particular, the Systems Theory Framework of career development, systems mapping and systems thinking may facilitate a comprehensive understanding of the complexity of transition from school of young people with an intellectual disability, thus allowing the identification of potential intervention points. Following a brief description of the Systems Theory Framework, systems mapping and systems thinking, the fictional case study of Annie, a young woman with an intellectual disability, will be considered from a systems perspective.

### **Career Development and Work: Systems Thinking and Systems Mapping**

The Systems Theory Framework (Patton and McMahon 2014) portrays visually, in a systems map, the many interconnected influences on career development. Systems maps are diagrams that holistically illustrate, and thus support examination of, the interrelationships between the various elements of the system surrounding a particular topic (Király et al. 2016). The focus topic of the Systems Theory Framework

(STF) is career development. Systems maps illustrate the “complex web of relationships” (Collin 2006, p. 300) between the elements of systems, and they support von Bertalanffy’s (1934) contention that “single parts and processes cannot provide a complete picture” (p. 64) of phenomena. Von Bertalanffy (1968) emphasized the interactive nature of the elements of systems and was particularly interested in systems which are open to influence from outside their boundaries. Systems thinking means thinking in wholes rather than parts and considering the dynamic interaction within and between elements of the system. The STF is applied through systems mapping and systems thinking.

Located centrally in the STF map is the *individual system* and a range of intrapersonal cognitive, psychological and biological traits that influence career development such as interests, ability, skills, values, ethnic background and world of work knowledge. Disability is depicted in the STF as an individual influence. Individuals live within a *social system* of influences such as family, peers, education systems and workplaces with which they interact and subsequently learn from their experiences in such interactions. Attitudes towards and expectations of individuals with intellectual disability are social influences. Individuals and their social systems exist within a broader *environmental-societal system* that comprises influences such as political decisions, globalization, geographic location and socioeconomic circumstances which, in some instances, may seem remote from the individual but nonetheless can profoundly influence career development. With respect to individuals with intellectual disability living in Australia, the National Disability Insurance Scheme (NDIS—described below) is such an influence. A *recursive interaction* occurs within and between influences over time. All influences in the system *change over time* as does the degree and nature of their influence on other elements of the system. The three interconnected systems of influence are located in the context of past, present and future time, indicating that the past influences the present and together the past and present influence the future. For all young people, including students with an intellectual disability, transitioning from school to an adult life that includes paid and unpaid work occurs in complex systems of influence.

## Importance and Role of Work in Adult Life

Work, in all its forms, is central to career development and is a goal and outcome of successful transition from school. Work is an important part of adult life; “Work is essential to an individual’s economic security and is important to achieving social inclusion. Employment contributes to physical and mental health, personal well-being and a sense of identity” (Council of Australian Governments 2011). Moreover, work is an inherently systemic concept (McMahon 2017). Through work, people develop a sense of identity, autonomy, purpose and self-worth (Hulin 2002). Work ensures one’s livelihood through income and security and in doing so enables a lifestyle and improved access to material resources (Blustein 2008; Hulin 2002;

Martin and McKee 2015). Moreover, work leads to the development of social networks and relationships outside the family and opportunities for social exchange (Blustein 2008). Through participation in the world of work, individuals perceive themselves as “vital and constructive members of their own societies” (Ferrari et al. 2008, pp. 438–439); part of the social contract of citizenship is participation in work (Martin and McKee 2015).

Having a sense of the future, as well as having a sense of self-worth, belonging, control and purpose that are brought about by participation in work, is a protective factor against mental health problems (e.g., Goodman et al. 2017). Participation in work is critical to psychological well-being (Ferrari et al. 2008) and leads to improved self-esteem and hopefulness (Martin and McKee 2015). The following case study of Annie, a young woman with intellectual disability, will be considered using systems mapping based on the STF and systems thinking.

### **Case Study: Annie**

Annie is a young woman with intellectual disability who lives at home with both parents and two sisters. Both parents work as professionals and have considerable social capital. Annie is completing her final year of schooling at a mainstream private school. Annie has good communication skills and likes routine. She can become uncommunicative when her routine is upset. When she leaves school, Annie aspires to work in an office, preferably her father’s office where she completed a work experience, the only experience of employment that Annie has had. During her work experience, a staff member was assigned to supervise Annie’s daily activities which included tasks such as photocopying. Once Annie is shown what to do, she is very reliable at completing tasks. Annie hopes that one day she can move into a new apartment of her own. In preparation for her impending transition from school, Annie’s parents have been taking steps to ensure that she has a smooth transition. Her parents do not want her to work in supported employment or to live in a group home with other people with a disability. They want her to live a life that is not defined by her disability. They want for her what they want for their other daughters, employment, independence, with strong links to family and friends. They do not want Annie to be caught up in disability networks. Annie attends a youth group in the local area which her parents found through a support network they had been developing for Annie that includes family and friends. Her parents are pleased that she is well known in the local area because they feel it enhances her safety when she is out and may improve her chances of being included in other activities. Her parents feel that Annie could live independently one day but that someone would have to check on her. They are concerned that she may be isolated if she lives on her own. Annie has an interest in art and her mother is trying to find a way to include art-related activities into her weekly program when she leaves school.

## A Systems Perspective on the Case Study of Annie

Annie’s transition from school may be represented diagrammatically by a systems map that depicts the complex context of her transition (Fig. 2.1). Systems maps provide visual cues to systems thinking which encourages individuals to consider the interrelationships and interaction between influences by “looking inside the ‘space between’” them (Sexton 2012, p. 61). From a systems perspective, Annie’s transition from school is embedded in her intrapersonal, social and environmental-societal systems of influence and her future is integrally connected to her past and present experiences. The various influences on Annie’s transition from school and their recursive interaction are made explicit in her systems map, and these are elaborated in the subsequent analysis.

At the *intrapersonal level*, Annie has some ideas about what she wants to do, but she does not yet have all the necessary skills to enact her future herself. Annie has a limited understanding of the world of work despite having taken some vocational courses at school and completed a work experience. Although she has good

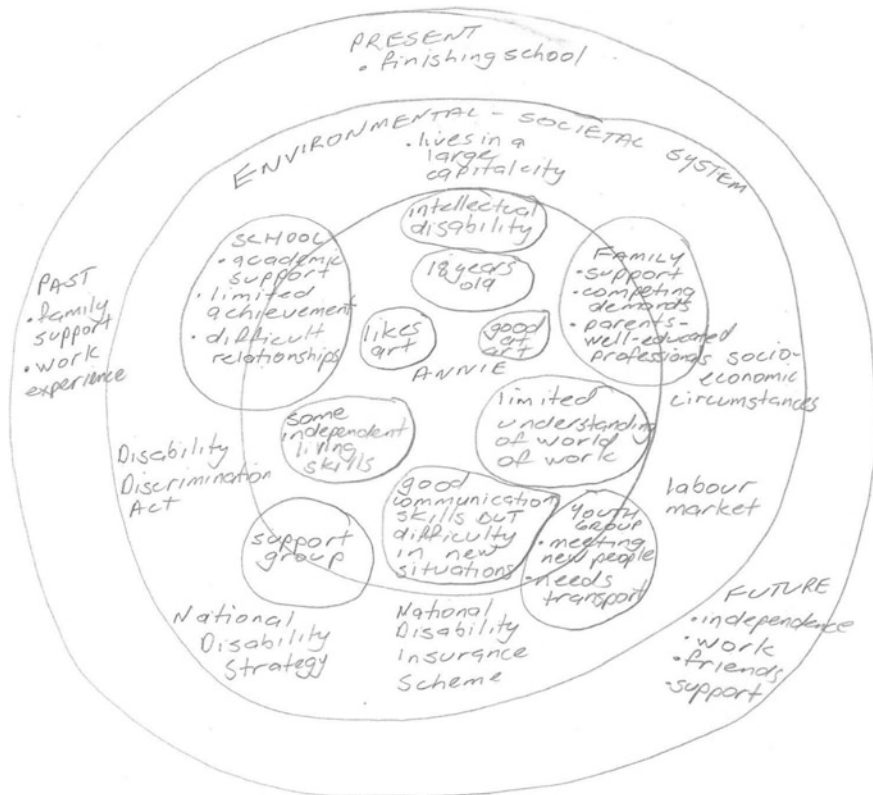


Fig. 2.1 Systems map of influences on Annie’s transition from school



communication skills, in some circumstances such as when she is meeting new people, she is not able to use them. Annie's interest in art is more of a leisure interest, despite having some artistic skills. The influence of Annie's intellectual disability has been and continues to be an important influence on her achievements, her future, and her relationships with others. Annie's completion of secondary school and her work experience is an advantage. For example, in a study conducted using data from the USA, Kaya (2018) found that educational experience was predictive of gaining competitive employment for those with intellectual disability after demographic variables including gender and race were controlled. In addition, those individuals who had work experience and then support within the workplace did better with respect to employment.

Annie is fortunate to have a supportive *social system* including a family with good personal and financial resources. One of the strongest influences on the life choices and opportunities of young adults who are typically developing is that of parents (Helwig 2008), and Annie's parents have had her transition from school in mind from when she was very young. Unlike their other daughters, however, Annie has required much more support and attention and at school-leaving age is still not yet at the same point as her sisters at the same age. The concerns that parents feel as their child with intellectual disability enters this stage of life can be the source of some stress. For example, in an Australian study, more than half the parents surveyed reported that their health and well-being were negatively affected by their concerns regarding their child's transition (Leonard et al. 2016). Parents reported being worried about their child's capacity to cope with learning new routines at the same time as being required to establish new social relationships. They also identified the loss of long-standing social connections as an additional element that may make the transition difficult for their child. Despite these reservations, the parents also saw the transition to adulthood as a normal and exciting development in their child's life.

Annie's school has provided an excellent inclusive learning environment for her where she received one-on-one support and where staff and other students included her. Despite this, she experienced hostile relationships with some students and staff and had difficulty in communicating in new and challenging situations. The school, and in particular, the school career practitioner, provided assistance for students about their transition from school in terms of future learning and work opportunities. Irish research, however, has suggested that school practitioners may be less informed about appropriate post-school options for students with a disability (Scanlon and Doyle 2018). In another Irish study, Doyle et al. (2017) found variable levels and quality in the school support and guidance provided to young people with special educational needs and breakdowns in communication between schools and parents. A study conducted in Australia found that many students were not included in developing their own transition plan (Leonard et al. 2016), suggesting that they are not seen to have agency with respect to these crucial life decisions, a view that is likely to have a range of negative sequelae.

School naturally filled a significant part of Annie's day, and her parents were concerned about how she would occupy her time after she had finished school. Annie's mother was investigating the possibility of incorporating an art-based activity into

Annie's weekly schedule. Annie's parents want to remain outside the disability support system; however, this may reduce Annie's opportunities for community inclusion in the longer term. For example, Kaya (2018) found that in the USA, 46.7% of people with intellectual disability achieved competitive employment after receiving vocational rehabilitation services, with those receiving more services being more likely to be successful than those receiving fewer services.

Self-determination, which may be defined as individuals having a right to control and direct their lives and a capacity to do so, is central to our conception of adulthood (Wehmeyer 2004). Self-determination does not imply that others' views are not sought or considered, but responsibility ultimately rests with the individual. Transition services may unintentionally undermine the self-determination of young people with intellectual disability through failing to include them in the decision-making processes (e.g., Leonard et al. 2016) or by failing to pay sufficient attention to the need to determine the young person's interests, capacities and wishes. In Leonard et al.'s (2016) Australian study, the majority of parents (80%) reported they had been involved in transition planning with the school with 87% saying they had been involved in decision-making; however, just under 60% of their children with intellectual disability had been involved in decision-making, and those who were included, had lower input than their parents. By contrast, data from the National Transition Study in the USA revealed that all students in a sample with a mild intellectual disability participated in their transition planning (Bouck and Joshi 2016). The level of intellectual disability was not reported in the Leonard et al. (2016) study and differences between studies may well reflect this variable or may be related to cultural/systemic differences.

At the *environmental-societal system level*, a number of factors which could seem somewhat remote from Annie's daily life may influence her transition from school and her ultimate inclusion in the workforce. For example, Annie lives in Australia where the Disability Discrimination Act aims to protect the equality of opportunity for people with disability and also protect them from discrimination (Australian Government 1992). Since 2013, there has been something of a revolution in the way that services are provided to those with a disability in Australia with the passing of the National Disability Insurance Scheme (NDIS) Act by the federal parliament. In essence, the Act moved funding for support for individuals with a disability away from service organizations and to the individuals, with the intention of providing them with control over the supports they receive. By 2020, it is expected that 460,000 persons with a disability will be receiving funding from the NDIS, with two-thirds of these having intellectual disability (Bigby 2014).

This change to the NDIS is revolutionary as it moves Australian service provision away from a welfare approach to a universal insurance scheme. This changes the focus of services from short-term to long-term investment in skill development (Australian Department of Human Services 2016) with employment and community inclusion being high priorities for the scheme. There is the clear recognition that investment in individuals that increases independence and supports their social and economic participation in their community will lead to better outcomes for the individuals and also is necessary for the scheme to be sustainable. It is expected that the focus on

individual choice and control and inclusion will drive increased opportunities for independence and community participation (Reddihough et al. 2016).

While policy mechanisms such as these are designed to improve the circumstances of people with a disability, the reality of employment for people with a disability (especially those with an intellectual disability) has historically been very negative, as detailed above. There has been no published research to enable us to ascertain the impact of the NDIS on employment rates to this point. With respect to Annie, because her family lives in a large capital city, many more employment and leisure options are available to her than there would be if they lived in a rural or remote location.

Annie's *future* is also to a large extent being determined by the family in which she has been raised, their socioeconomic circumstances and their attitude towards disability. While Annie aspires to get and hold a job and to live independently, she is not able to achieve these things at this point in her life without the needed support, which is likely to be ongoing. Moreover, it may take Annie longer than young people without a disability to achieve these milestones of adulthood. In a longitudinal study of individuals with intellectual disability and their families in Australia, Gray et al. (2014) reported that in adulthood the majority of those with mild or moderate impairment were living at home, whereas, those with more severe impairments were more likely to be living away from home. Only 11% were in paid employment at the time of data collection with another 22% working in sheltered employment. Daytime activities were rarely undertaken in inclusive settings.

The desire to be productive is a basic human need (see Pierce 2003) and is generally at least partially filled by paid employment. The importance of work for the individual and for the community is well recognized, and there has recently been an increase in efforts to assist individuals with a disability to make the transition from school and into paid employment. In Australia and many other countries, post-compulsory education is increasingly seen as an option for young adults with intellectual disability. In a large study in the USA, Bouck and Joshi (2016) found that approximately one-quarter of the respondents were interested in pursuing further education.

Inclusive post-secondary education is an area in which change and growth is occurring in a number of countries (see, e.g., Qian et al. 2018). Prohn et al. (2018) found there were benefits to those who participated in an inclusive college program. The possibility of continuing education should not be overlooked when transition plans are being made with individuals with intellectual disability, although it may not be part of the future thinking of some of these students (Bouck and Joshi 2016). There are several potential reasons for students with intellectual disability overlooking this pathway with the most obvious being that it is never presented to them as a possibility.

## Conclusions

The transition from school to further learning and work for young people with intellectual disability may be more complex and challenging and take longer than that of

their peers without a disability. In addition, young people with intellectual disability may require considerably more support to make a successful transition. Through the use of systems thinking and systems mapping, the complexity of the transition can be realized, resources and barriers identified, priorities determined, and action plans developed and implemented.

Considering the construction of Annie's future from a systems theory perspective is reflective of Millington's (2012) claim that "The culture in which the person is embedded creates the meaning of disability, creates the identity of the individual, and in very real ways, directs what is possible in terms of adjustment and adaptation" (p. 82). For example, Annie lives in the cultural context of a country that has implemented enabling policies for people with disability. Moreover, she lives in the cultural context of a family system that is well-resourced and well-informed, and that while recognizing Annie's limitations will work with her to achieve her goals of employment, friends and independent living. What is possible for Annie may be different if, for example, she lived in a remote area of Australia with limited access to support and resources, if her parents were less well-informed, or if the degree of her disability was greater.

A systems perspective of career development and transition, particularly when it is aided by a systems map, provides insight into the complexity and challenge of transitioning from school for a young person with an intellectual disability. Systems maps also depict the uniqueness and person-specific nature of each transition. Systems maps may assist people to organize their thinking and subsequently identify future actions (Checkland and Poulter 2010). These maps may be constructed by support workers or by families or sometimes by a young person with intellectual disability and may be constructed individually or in collaboration with others, e.g. career development practitioners.

The chapter provided an overview of intellectual disability and considered from a systems perspective the fictional case study of the transition from school of a young woman with intellectual disability. Systems theory was first proposed in response to complexity. This chapter offers systems mapping and systems thinking as a way of understanding the complex transition from school of young people with intellectual disability.

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# Chapter 3

## Considering the Fourth Industrial Revolution in the Preparation of Learners with and without Disabilities



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**Abstract** As innovation continues to embrace greater interdisciplinary understanding while also increasing in pace, our ability to anticipate and plan proactively for the needs of society will be diminished (Schwab 2016). Zhao (2016) contends that the ability to develop effective educational standards and measures to support human progress is already obsolete. Together, these emergent changes are supporting a global transformation that is already impacting the way we interact, work, and identify with society. The World Economic Forum (WEF) identified the coming age as the fourth industrial revolution (4IR). The 4IR will shape all aspects of human existence from interaction to learning, working, and simply carrying out day-to-day existence. The chapter supports understanding of the 4IR highlighting drivers of the revolution and reviews governmental guidance considerations across various countries. The chapter concludes with considerations for education, disability, and career preparation and transition.

**Keywords** Disability · Fourth industrial revolution · UDL · Innovation · Technology adoption

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## Introduction

In designing curriculums that prepare students for life after school, many schools have neglected to actually consider the future of work and society in their preparation of all students, especially those with disabilities and other diverse learning needs (Wehmeyer et al. 2018; Zhao 2016). This chapter explores a range of implications for what the World Economic Forum (WEF) has identified as the fourth industrial revolution (4IR) on shaping the learning and workforce development contexts for students with special education needs. Due to advances in artificial intelligence (AI), machine learning, and deeper learning, the 4IR will support unprecedented change throughout society and will drastically impact the lives of all of individuals, but especially those with disabilities. This future will result in new possibilities for creating personalized learning and workforce development opportunities for helping all students develop the academic and career readiness skills needed to lead independent lives. The chapter will highlight implications for consideration across practice and policy development in order to enhance the preparation of a pluralistic and inclusive future citizenry. After introducing readers to the basics of the 4IR, the chapter will present future considerations for education, disability, and career preparation and transition. The chapter will conclude with understandings for considering how the thoughtful design of environments and experiences can support greater inclusion, independence, and self-determined lives for all individuals, but especially those with disabilities.

## Understanding the Fourth Industrial Revolution

The WEF termed the ongoing rapid iterative and interdisciplinary development of new technologies and shifts leading us into the future as the 4IR (Schwab 2016). The 4IR builds from the other major historical revolutions (see Table 3.1). As inferred in the term, these notable revolutions have supported major shifts in society. Over time, each of these revolutions has supported a transformation across humanity. Like any change, these revolutions have positive and negative consequences (direct and indirect) many often unforeseen. For instance, the second industrial revolution provided for faster production and greater distribution of desirable products, while also supporting the overpopulation of cities, the political ideology, and infrastructure that contributed to the environmental design that supported two world wars.

Across the field of education but especially in preparing individuals with diverse learning needs and disabilities, there is a need to consider how technological innovations within the 4IR will shape modernity. To baseline this understanding, it is necessary to support universal assimilation for the concept of disability. The basic reality is that variability, defined as disability, is an interaction within and across environments. The International Classification of Functioning, Disability and Health (ICF; World Health Organization [WHO] 2001) provides a starting point for reframing the



**Table 3.1** Overview of the industrial revolutions

Revolution	Estimated timelines	Description	Educational changes
First industrial revolution	1760–1840s	Emergence of capitalist economy associated with moving from hand to machine-based manufacturing. Included the development of steam engine, machine tools industry (e.g., textiles) primarily beginning in Britain	Development of specializations and development of universities
Second industrial revolution: technological evolution	1870–1914	The industrialization of society through adoption of technological solutions and standards-based systems in manufacturing, production, health care, sanitation, and communications at scale. Associated with development of steel, expansion of railroads, internal combustible engine, early electrification, assembly line factory models, and scientific management of manufacturing and business systems, ending with World War I	Standards- and level- based education system with increased focus on specializations, beginning of the science of education, and consideration for efficiency-based models of education

(continued)

**Table 3.1** (continued)

Revolution	Estimated timelines	Description	Educational changes
Third industrial revolution: digital revolution	1950s–today	The digitization of content, processes, and communication. Global expansion and adoption of digital systems across society in areas such as manufacturing, communications, commerce, and daily life	Development and acceptance of national and international standards-based education, support for wide-scale achievement measures (tests), services for and classification of learners with disabilities and other differences. Increased scientific focus on education and learning. Greater focus on specializations across education
Fourth industrial revolution (4IR)	Emerging today	Fusion across biological, physical, and digital domains. Rapid and continued disruptive innovation across various aspects of life (e.g., communication, information, health care, manufacturing, distribution, home, commerce, work). Associated with artificial intelligence (AI), robots, Internet of things (IoT), nanotechnology	Realization of change being constant and of a need for education that supports continued change with focus on expert learners. Need for student-centered individualization/personalization. Need for essential and adaptive growth standards with measures that are personalized and accepting of differences. Acceptance of variability, services for all learners, less focus on categorization, and labeling individual differences

concept of disability by integrating the traditional medical model with a social model to develop a biopsychosocial model. In terms of the medical model, people regard disability as an individual problem that resulted from individual health conditions (or disease). However, the social perspective of disability emphasizes the idea that a disability is based on “socially created problems” (WHO 2001, p. 20). Specifically, environmental variables support the emergence of a problem and by not modifying the environment, society is reinforcing the disability. Hence, WHO (2001) put an emphasis on the ICF to support a more universally accepted perspective that both medical and social implications may contribute to a disability.

According to ICF, one's health condition could be explained by interactions among several components (i.e., body functions and structures, activities, participation) with the environmental factors and personal factors integrated into a biopsychosocial model (WHO 2001). The proposed concept of disability from ICF (WHO 2001) highlights the perspective of functioning of a person within and across both physical and social conditions in an environmental perspective. The importance of considering social effects on disability supports a more dynamic understanding of disability in relation to various environmental design aspects, allowing consideration to be made for barriers that support performance concerns.

The reframed concept of disability and functioning in ICF has been utilized in various countries to provide disability-related policy and legislation. This universal adoption allows countries and organizations to learn from and support one another in the adoption of these practices and policies. As will be learned throughout this chapter, the ability to support a shared understanding of disability as well as the ability to continually improve innovative designs has the capacity to improve, if not transform, the lives of individuals with disabilities. However, while the 4IR can support greater inclusion and progress across society, it will also contribute to economic, education, and societal unrest. Thus, it is critical that individuals with disabilities, their families, and the professionals that serve them become attuned to the 4IR and support inclusion, guidance, and advocacy for future-focused universally designed considerations throughout all aspects of modernity.

## Emergence of 4IR

Different from historical revolutions, modernity and ongoing technological advancement across various domains will support rapid integrative impacts that intersect humankind. Massively distributed communication networks can spread understanding (whether true or untrue) nearly simultaneously. The two core underpinnings of the 4IR include the increased acceptance of *interdisciplinary innovation* and the *rapid adoption of innovation* across society. In tandem, these foundational components support an increasingly rapid self-reinforcing process of iterative development, which will lead to continued change and ongoing disruption. Clearly, within the 4IR, there is a need to rethink the necessary components of a meaningful education, career, and life readiness curriculum for students with disabilities.

## Interdisciplinary Innovation

By definition, revolutions transform how humankind operate across society. However, previous revolutions supported increased standardization within disciplines, producing more vertical impacts, rather than horizontal impacts across disciplines.

What makes the 4IR different from the past is that the current revolution is evolving as “a fusion of technologies across the physical, digital, and biological worlds” (Schwab 2016, p. 1). The merge of interdisciplinary innovations, such as artificial intelligence (AI), robotics, the Internet of Things (IoT), nanotechnology, information technology, biotechnology, and materials science, is or will be changing nearly all aspects of human life.

Under the current 4IR context, the interdisciplinary innovation is having great potential to help dismantle barriers (e.g., physical, cognitive, communication) that limit functioning of students with disabilities, thereby creating accessible, adaptive, personalized learning environments for all learners. For example, Arroyo et al. (2014) developed and investigated the effectiveness of a sensor-based adaptive tutoring system that operates on both AI and biotechnology. This work was done with a team across education, computer science, and nursing. This system integrated machine learning algorithms that analyze real-time data retrieved from students’ learning log files and capture student biometric signals (e.g., facial expression, skin conductance) using physiological sensors. Drawing upon enormous amounts of information on students’ behaviors and emotions, the intelligent system would adapt supports to meet individual students’ learning needs, affective and cognitive states, and self-regulative skills. These interdisciplinary understandings of the human condition (e.g., biometric understanding of stress) relative to situated context married with AI innovations have the potential to adapt to known and emergent in situ variability. Embedding AI that integrates various signals within the environment and personalized technologies (e.g., mobile, wearable, assistive, even implanted) will drastically improve performance for all individuals, especially individuals with disabilities. Well-designed AI innovations should support increased independence and a sense of self-agency.

IoT is another interdisciplinary solution with emerging applications for the education system. According to the WEF (2016), the IoT refers to a system of interconnectivity between physical objects and digital objects. IoT devices, systems, or services can continuously obtain enormous amounts of data by sensing or “listening to” requests or needs and then act upon them (Yang and Cho 2017; WEF 2016). IoT is grounded in integration of the modern wireless telecommunications (e.g., identification, sensing, and tracking technologies), informatics, electronics, and social science, which enables for assessing sensor data and controlling associated physical things (Atzori et al. 2010; WEF 2016). As envisioned by the European Commission, “Things” connected to the “Internet” can be equipped with virtual personalities and use intelligence interfaces to “communicate within social, environmental, and user contexts” (INFSO 2008, p. 4). The application of IoT technologies is now visible in environments (e.g., home, office, city) monitoring, intelligent transportation and logistics systems, medical sensor devices, and social networking (Atzori et al. 2010).

The way that IoT enables the connectedness between physical environments and intelligent digital systems can offer individuals with disabilities more dynamic, personalized, and context-aware assistance and support in transportation, accessing information, communication, and other daily activities (Domingo 2012). Such power is also being harnessed to provide more interactive and personalized support for students with and without disabilities in modern learning environments. For

instance, interactive whiteboards integrated with ubiquitous adaptive learning systems, VR headsets, 3D printers, and other IoT technologies have drawn increasing attention from educational researchers and started to be investigated in K-12 and higher education settings (e.g., Merchant et al. 2014; Buehler et al. 2014). A previous study has shown that in an interactive play and learning IoT environment, young learners with cognitive and sensory disabilities were provided with more opportunities for cognitive skill development, language acquisition, and social interaction with others (Hengeveld et al. 2009). In another study, Bhattacharjee et al. (2018) developed an immersive virtual reality-based learning model that can personalize simulated environments based on user actions. This learning model allowed students to interact with spatial and visual representations from both the real and simulated environments. Responding to participant students' levels of knowledge and constant sensory information (i.e., spatial and physiological signals given by the participants as they moved through the targeted course), the simulation environment would be able to adapt itself to a more optimal mode that better supported students in achieving learning goals through personalized paths. The combination of immersive and personalized techniques showed effectiveness in improving information retention and problem-solving skills for students with attention deficit hyperactivity disorder (ADHD) or auditory processing disorder (APD). Learning environments can be enhanced with interdisciplinary innovations and will keep changing with the rapid adoption for future innovations. As will be discussed, with these potential rapid cycles of adoption, it will be necessary to consider models that provide a means that measure need as well as outcomes associated with cycles of adoption.

## **Diffusion and Adoption of Innovation**

The second underlying structure of the 4IR is continuous rapid diffusion and adoption of innovations (Schwab 2016). This rapid diffusion of information will present new challenges for individuals with disabilities, their families, and the professionals that serve them. Therefore, it is important for educational professionals to understand the interconnectedness of society and the psychology associated with and within these networks.

Traditionally, the process of diffusion is predictable, moving from innovators to laggards in a methodical pace (Rogers 2003). Principled on theory-driven norms, Rogers found that adoption requires four considerations: the innovation itself, a means to communicate about the innovation, time, and an emergent social system for sharing. Moore (2014) expanded upon the work of Rogers with a focus on marketing of innovations and products as well as identifying gaps and a chasm between specific groups of people. The 4IR overcomes the methodical and often slow process of adoption by taking advantage of globally distributed communication networks. By using AI-driven personalized communication networks, information and innovations overcome traditional chasms by individually targeting and then personalizing information at scale. Moreover, innovators are able to use data from these networks

to test and iterate innovation, identify a larger target audience, and develop more sophisticated messaging to more rapidly increase distribution and adoption.

More research is needed on how massively distributed social networks (e.g., Facebook, Twitter) and globally distributed networks impact initial adoption as well as lasting societal change. However, research has already found that network structure and heterogeneity are associated properties that may be attributed to supporting global cascades across networks (Watts 2002). Additionally, interdisciplinary research has also been found to support the notion that to maintain a healthy civilization there is a need to support continued innovation at an ever-increasing rate (Bettencourt et al. 2007; West 2017). While research is needed on the interconnected information networks of modernity, it is clear that the flow and coverage of information are impacting society. Pragmatically, both current and future generations must live and work in a hyperconnected world.

The challenge for individuals with disabilities, their families, and the professionals who serve them is to support independence in navigating, processing, and acting upon this daily barrage of information. Within education, there is need to encourage self-agency in the ability to effectively use information systems and whenever possible to generalize this understanding beyond individual systems or applications. Encouraging self-determined learning across various authentic contexts is critically important in a state of constant fluctuation. Advanced AR, AI, and other simulations could be useful in educating students across contextualized situations. For instance, Teen Career Path (<http://www.teencareerpath.com/>) supports simulated understanding of work across multiple careers. Within these career simulations, students with disabilities are able to work in simulated careers starting with getting ready for work and then completing needed tasks throughout the day. Similar to daily life, players face choices and consequences for making decisions; they also have opportunities to interact socially, and with various technologies. Digital simulations provide educators a way to help students contextualize understanding across a variety of authentic learning environments (Israel et al. 2013). The integration of AR, AI, and various other innovations will offer individuals with disabilities enhanced independence and performance across both life and occupational preparation and support.

## **Policies Regarding 4IR in Asia**

Twelve out of the top 25 companies with the most 4IR patent applications are headquartered in Asian countries (i.e., Japan, China, and South Korea; EPO 2017). The WEF recently established the “Center for the 4IR” to advance global cooperation in 4IR innovations, with one in the USA and the other three in Asia: Japan, China, and India (WEF 2018). The innovative strength of these Asian countries helps align efforts to support the 4IR across national policies.

Japan has committed to developing computing, electronics, and information technologies since 1990 (EPO 2017). To accelerate the integration of core technologies (which transform objects into smart devices) and enabling technologies (which are

applied in combination with connected objects) for the 4IR, Japan initiated the “Connected Industries” as a concept framework for building a smart society called “Society 5.0” in 2017. As the name suggests, connectedness is a key theme of the framework. To be connected, Japan aims to (1) establish a new digital society where human and machines (systems) work together; (2) support multi-level cooperation across regions, borders, and time; and (3) improve human resource development focusing on knowledge and skills including IoT, AI, and big data for digital age (Ministry of Economy, Trade and Industry of Japan 2017).

China has also embarked on a massive digital transformation of various sectors of its society. In 2015, China issued a national strategic plan called “Made in China 2025” as an initiative to build competitive, innovation-driven, and intelligent manufacturing. This plan provides the guiding principles for filling gaps of innovation capacity, adapting institutions for innovation, as well as promoting trans-industrial and interdisciplinary innovation, digitalization, and smart technologies in manufacturing (Li 2018).

South Korea has also been making efforts from government, business, and other societal sectors. For instance, South Korea launched a Presidential Committee on the 4IR (PCFIR) with a mission to develop and apply new science and technology, including AI and data technology (PCFIR 2017a). The major directions of the PCFIR are to (1) create diverse new industries through intelligent technology innovation and strengthen major industries, (2) improve people’s quality of life by resolving chronic social problems, (3) create high-quality jobs and strengthen the social security net in preparation for changes in the job market, and (4) secure world-class intelligent technologies, data, and networks accessible to all. In the same year, South Korea issued another plan called “I-KOREA 4.0” to prepare for the 4IR. This plan emphasized the importance of leveraging educational reforms to prepare students for future society with specific guidance in science, technology, engineering, arts, and mathematics (STEAM) education, embedding personalized learning, and developing accessible digital learning environments (PCFIR 2017b).

Singapore has published several policy reports in 2017 to address the opportunities and challenges brought by the interdisciplinary, rapidly evolving 4IR innovations (e.g., Committee on the Future Economy 2017; Tan and Wu 2017). Just like the other aforementioned Asian 4IR innovation hubs, Singapore has devoted itself to strengthening technological and digital capacities to, among other things, diversify international and domestic connections, scale up 4IR innovations, and implement Industry Transformation Maps (ITMs) to realize synergies across industries (Committee on the Future Economy 2017). Nevertheless, a common challenge faced by Singapore and all other 4IR innovators across the globe is whether a revolution in education will simultaneously accompany the fundamental economic and societal transformation to prepare all students for an uncertain, flexible, and diverse future.

It is necessary for advocates, professionals, families, and individuals with disabilities to ensure that variability is integrated in the 4IR. This begins by planning for all individuals from the beginning. Specific attention should be placed on ensuring that new systems are built with adaptive flexibility in mind. Flexibility is critical to ensure that the future integrates individual as well as economic adaptability. Consideration

should be placed on ensuring that universal design (UD) and universal design for learning (UDL) are core user-centered design frameworks across all planning and innovations. Flexibility is necessary in supporting an economic viability as well as individual variability and should be a central tenet across 4IR design.

## Considering Success and Disability in 4IR

As the education system is called upon to support a society prepared for the 4IR, there is a need to reflect on artifacts that precipitate barriers for designing a future-focused system. While the future of education is dynamic, personalized, and learner-centered, relics of earlier revolutions continue to shape the current education system and should be questioned in relation to the 4IR. Similar to the adoption of any innovation, the existence of these relics supports consequences for the normative practice of the future. If carried through without question, deletion, adaptation, or innovation, these relics will narrow the professions' ability to evolve and meet society's need. Two of the largest relics within the current education system include the measurement of success and the conception of disability. Each of these relics has a distinct relationship with the future of education, transition, and career development.

Throughout the industrial age, standards-aligned tests have been used to evaluate the merit and worth of education (Dewey 1916; Zhao 2018a). For all learners, but especially those with disabilities and other diverse learning needs, these measures provide aims for success, a means for sorting, and barriers for entry. However, Zhao (2018b) found these tests support little understanding of the real world and may be associated with numerous side effects. For example, in a study that took place in Singapore, Bokhorst-Heng and Pereira (2008) found a decline in attitude toward reading, especially leisure reading, as the passing high-stakes assessments become the primary goal of attending schools. Additionally, Zhao (2018b) concluded students from the highest performing countries (e.g., South Korea, China, Singapore) on the Program of International Student Assessment (PISA) report a loss of self-confidence and intrinsic interest in academic subject areas.

These traditional measures precipitate the common misperceptions that all students should progress toward the same standards, that success can be measured simplistically, and that the interaction effects between the students and learning environment are unidimensional in nature. This outdated understanding supports the idea that some students excel, some achieve at an average pace, and others simply do not achieve. In reality, all learners and learning environments are complex and variable (Meyer et al. 2014). While the multidimensional relationship among learners, the environment, and the experience related to outcomes has been overlooked in the past, it will be critical to recognize this complexity as we consider the design of learning environments and experiences that are learner-centered for the future.



## Reconceptualization of Disability and Special Education

Disability is an interaction between environmental and contextualized variables associated with individual factors and conditions. For instance, the ICF highlights the relationship among these factors and conditions as the primary impetus for disability classification (WHO 2001). The interaction effects that take place today will be different in the future with many limitations associated with disabilities overcome with impending 4IR innovations (Han 2017). For instance, AI or robotics has the potential to help accomplish the goals of special education supporting a better quality of life of students with disabilities, developing the sense of belonging in communities and improved social relationship and confidence (Han 2017).

While the 4IR may lessen or even erase disability as defined by human performance deficits, it may not erase human bias and difference. As humans rely on technology (e.g., AI, robots), questions of human versus technology and human-technology performance will emerge. Concerns with human-technology performance enhancements have been a long-standing concern in special education (e.g., role of assistive technology; Basham et al. 2010). Beyond the field of special education, humans generally share perception issues when a machine action tends to too closely mimic or look like human action. In robots, this is often called the uncanny valley, wherein robots become too human. Research has shown that people have perceptual concerns when machines enter the area of the uncanny valley (Gray and Wegner 2012). If the interaction between human and technology is not widely accepted, hidden, or minimally embedded in accepted forms, then the bias and perception of disability may simply shift from disability to human-technology performance.

The 4IR will introduce a host of other variables that will support the greater empowerment of individuals with disabilities. As demonstrated with 2018 elections in the USA, there is potential for all minority groups to gain voice and eventually power. Redistributing the power structure from centralized authorities to decentralized models will support impetus for more pluralism across society (Schwab 2016). Given performance enhancements and pluralism, it could be possible for all minority groups including disability specific, to become more engaged and empowered throughout society.

It is clear that both the interdisciplinary innovations and the adopted practices of the future will drastically impact individuals with disabilities and the field of (special) education. Questions related to who is considered disabled, how a disability might be overcome, and what role human-technology intervention might be considered in this process are critical. Given that disability is attributed to the design of environment, design should be at the forefront of a future-ready education system.

## Designing Future Education Environments

Traditional standardized models of education are attributed to the industrial revolutions of the past and support antiquated understanding of learning and human development. All individuals demonstrate variability that is contextualized by both personal and environmental contexts. The 4IR offers tremendous opportunity to personalize learning and education systems in ways that more effectively connect students to the supports they need to develop and showcase their academic and workforce readiness skills and competencies.

Designing for change in consideration of variability is the key to future career development and transition programs. There is a need to prepare students for an unforeseeable future (Schwab 2016). Schools will have to prepare students to understand and use innovations that are unimaginable today (e.g., AI, IoT, biotech, nanomaterials). Across the aforementioned policy documents, each of the various countries highlighted a need to develop 4IR infrastructure that is flexible, connected, nimble, and can efficiently use altering resources. The education system should be taking on the same attributes as highlighted in these guidance documents.

As education systems consider how to design learning environments and experiences, it is important to consider these decisions within the context of UDL. The UDL framework was established in the late 1990s to support better outcomes for all students, especially those with disabilities. UDL is not a specific practice or strategy; it is a design framework that provides for the foundational design of an educational environment or experience. As a design framework, it has been adopted in policy, practice, and research in various countries, regions, and localities around the globe (Basham and Blackorby *in press*). The framework brings together the aims of effective instructional design, instructional technology, and assistive technology to support proactively designed learning environments for all learners (Rose et al. 2005). While often associated with (special) education, UDL is interdisciplinary in nature with foundational underpinnings within research across Mind, Brain, and Education (MBE; Tokuhamma-Espinosa 2010).

In practice, UDL is about goal-driven design that supports learner variability through the design of flexible learning environments and experiences. The framework considers the design of learning environments and experiences that support accessibility, build understanding, and support internalization with an aim of developing expert lifelong learners (Meyer et al. 2014). As a structure, UDL is inclusive of various educational practices (e.g., evidence-based, self-determination, accessibility, self-regulation) that are critical to the success of all learners (Basham and Marino 2013).

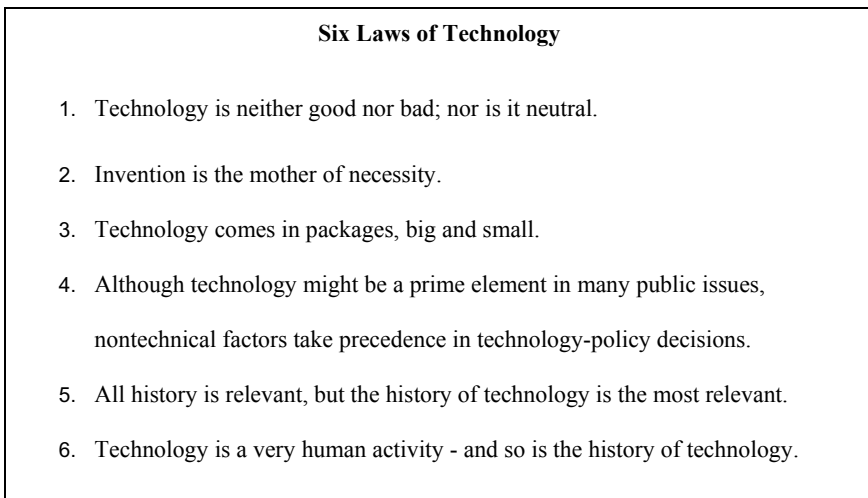
Those interested in learning more about UDL implementation would be encouraged to visit Learning Designed (at [LearningDesigned.org](http://LearningDesigned.org)). Learning Designed is a digital and global platform that supports the adoption and implementation of UDL. Within this field-driven platform, users can obtain resources, achieve individual micro-credentials, and receive voluntary certifications for demonstrating alignment.

Additionally, both individuals and organizations (e.g., schools, universities, non-governmental organizations, governments) can be recognized and contribute to the growing knowledge base on designing future education systems.

## **The Future of Disability Is Neither Good nor Bad; nor Is It Neutral**

Famed technology historian Kranzberg (1986) developed six laws that should be foundational as the field of (special) education considers the future of innovation within teaching and learning for all learners, but especially those with disabilities. These six laws (Fig. 3.1) are timeless and support the idea that similar to disability, technology (or innovation) is embedded in society as an interaction between (and among) humans within their environment. That is, both innovation and human variability exist because of environmental interaction. Thus, whether intentionally or unintentionally society designs the continuum of human performance through its design, adoption, and use of innovation. Simply, a student would never have difficulty writing with a pencil if a pencil never existed. Moreover, if learning environments were designed from the beginning to support flexibility, then students could demonstrate understanding by writing with a pencil, using a stylus, a keypad, speech to text, a switch, or another alternative form of communication (e.g., movie); then, a student whose sole difficulty is writing with a pencil would not be identified as disabled.

As society enters the 4IR, it is necessary for the education system to assess, design, adopt, and use innovations relative to the desired results. If the desire is to design



**Fig. 3.1** Six Laws of Technology (Kranzberg 1986)

a system that is personalized, equitable, and meaningful for all learners, then it is critical to design for all learners. The Six Laws of Technology (Kranzberg 1986) support basic considerations for not only how to design an education system but also what to impart to the learners in the system. While education of the past may have been focused on imparting factual information to prepare for a slow-moving nearly determinable life, the future requires a grounding in many attributes that are overlooked in education today. A primary consideration is how to impart the necessary background knowledge, technical skill, and human interconnectedness while understanding how to make use and evaluate the innovations of the future. A prime consideration for this work is to consider how to design for flexibility (e.g., UDL) while imparting and learning from the Six Laws of Technology. For individuals with disabilities, their families, and the professionals who serve them, these laws should serve as a means to learn from the past while framing innovations and considerations for the future.

## Conclusion

This chapter describes the potential opportunities and challenges of 4IR for special education. Different from other industrial revolutions, the 4IR will support continued interdisciplinary innovation and adoption across society. Rather than emerging in a more predictive and methodical pace, the distribution and adoption of innovations will feel haphazard and splintered. The pace of adoption and the growing interconnectedness of modernity will continue to reshape humanity, including individuals with disabilities. The 4IR will support emergent impacts on how individuals with disabilities engage in society through increased independence and performance enhancements.

Designers of transition and career development programs should consider how learning environments and experiences are preparing learners for the future. Reflection should be made on how learning environments and experiences are adaptive, flexible, and future-ready. The UDL framework provides a foundation for designing transition and career development programs that are aligned to the 4IR. Across disability, change, and innovation, the Six Laws of Technology provide a means to support the future while also learning from the past.

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# Chapter 4

## Webs of Supportive Relationships: A Positive Youth Development Approach to Career and Workforce Development with Risk-Immersed Youth



Sean K. Flanagan, Jonathan F. Zaff, Shannon M. Varga, and Max Margolius

**Abstract** As major social, political, and economic trends reshape the nature of work and careers worldwide, communities are confronted with the challenge of preparing youth to navigate an increasingly complex occupational landscape. For risk-immersed youth, significant barriers across developmental contexts may disrupt progress along productive career pathways. Relationships represent a fundamental vehicle through which to deliver key social supports to empower youth to manage adversity, express resilience, and leverage career and workforce development (CWD) opportunities. This chapter proposes a Webs of Support framework as an example of a strengths-based, relationship-focused, positive youth development (PYD) framework within which CWD approaches can be situated to provide the comprehensive developmental resources necessary to help youth thrive. The authors provide recommendations to assist practitioners, scholars, and policymakers in advancing this relationships-focused PYD approach to facilitate improved CWD outcomes for risk-immersed youth across diverse contexts.

**Keywords** Positive youth development · Career development · Workforce development · Social support · Risk and resilience

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## Introduction

Connections with family, peers, teachers, and other caring adults play a prominent role in shaping the career development and working lives of young people. Relationships represent fundamental avenues through which individuals are socialized into the world of work, fulfill basic human needs for connection through and at work, and receive critical social supports necessary to cope with challenges in work and life (Kenny et al. 2018). Risk-immersed youth—individuals embedded in environments characterized by an unfavorable balance between available risk and protective factors (e.g., Spencer 2006)—are particularly likely to experience substantial barriers impeding progress along productive career pathways. Such barriers place grave demands on youth to divert internal and external resources away from career and workforce development (CWD) in service of coping with adversity across multiple developmental contexts. For risk-immersed youth, caring relationships represent invaluable vehicles to facilitate CWD by delivering the social supports necessary to manage adversity, express resilience, and advance CWD talents, goals, and aspirations.

This chapter provides a relationship-focused, positive youth development (PYD) framework to support caring adults, practitioners, scholars, and policymakers in adapting CWD approaches to more effectively support risk-immersed youth. Within this chapter, the authors first discuss the changing nature of work to situate the rationale for this PYD framework within the evolving global context of work. The authors propose risk-immersed youth as a population with specialized CWD needs and for whom a relationships-focused framework holds particular relevance. The chapter then offers an example of a relationships-based PYD framework, Webs of Support (WoS; Varga and Zaff 2018), to optimize CWD approaches by aligning supportive relationships across multiple contexts. Finally, the authors discuss practice and policy applications for designing effective WoS to facilitate CWD.

Countries substantially vary across social, political, educational, economic, cultural, and historical systems. Considering the profound influence of these systems on CWD policy, scholarship, and practice, the proposed framework aims to transcend recommendations specific to any single country. Instead, this framework is meant to discuss concepts of PYD applicable to CWD efforts across a range of social contexts and provide a general portrait of how diverse communities can promote positive outcomes related to education, work, and life for risk-immersed youth.

## The Changing Nature of Work

Work represents a theater for performing socially imposed roles, expressing personal and professional self-concepts and identities (e.g., Savickas 2012; Super 1990) and offers a means of fulfilling basic needs for social connection, self-determination, and survival (Blustein 2006). Major social, political, and economic influences, including the expansion of capitalism, globalization, advancement in technology, political



change, and demographic shifts (Jacobs and Hawley 2009; World Bank 2019) are reshaping the nature of both formal and informal work across advanced and emerging economies worldwide. These macro-level influences have prompted shifts in the skill profiles required and rewarded in the modern global marketplace and incline competitive workers to remain adaptable (OECD 2017; World Bank 2019; International Labour Organization [ILO] 2018).

The changing nature of work has exciting implications for the future of formal market careers, particularly for highly adaptable citizens in developed nations, and perhaps even for marginalized groups who may capitalize on newly accessible, increasingly flexible opportunities (OECD 2017; World Bank 2019). Rapidly changing global social and economic conditions also impose instability and vulnerability on the lives of those confronted with unemployment, underemployment, and precarious work (Kalleberg and Hewison 2013; World Bank 2019). In emerging economies, a seeming increase in economic opportunity is counterbalanced by gaps in education, training, and access among those who have struggled to find stable, sustainable, decent work (ILO 2018). For example, worldwide, nearly two-thirds of workers hold jobs outside of the formal economy (ILO 2018), with informal employment exceeding 90% in some countries (World Bank 2019). Among the myriad benefits of decent, gainful, and meaningful work, such conditions underscore the importance of CWD as a strategy for promoting human welfare and ameliorating vulnerability to labor, civil, and human rights exploitation among marginalized citizens and communities (Kalleberg and Hewison 2013).

## **Risk-Immersed Youth: A Population with Special CWD Needs**

Existing scholarship investigating the CWD of less economically and socially advantaged youth has focused primarily on racial or ethnic minority youth in low-income, urban, Western contexts (e.g., Diemer and Blustein 2007; Ling and O'Brien 2013; Perry et al. 2010). Such studies suggest that risk-immersed youth, especially those with fewer available social supports, are more likely to experience disruptions along pathways to school and work success (Bridgeland and Milano 2012; Center for Promise 2015). "Risk-immersed" represents a departure from alternate terms (e.g., "at-risk," "high-risk") that imply an origin of vulnerability located in the individual, rather than describing underlying, explanatory developmental processes. Instead, "risk-immersed" relocates definitions of risk to the relation between the person and the contextual conditions within which the individual is embedded (Pufall Jones et al. 2017). Risk factors represent and potentiate one's vulnerability to encountering stressors that challenge progress toward positive developmental outcomes. Youth who experience disconnection from school and/or work are more likely than their more connected peers to have encountered significant barriers including physical or cognitive disabilities, fewer social supports, homelessness, major mental health

issues, early parenting responsibilities (Center for Promise 2015), caregiving responsibilities, poverty, incarceration, and lower educational qualifications (Measure of America 2017).

Youth who experience disruptions to their education and career pathways seldom experience a single form of risk or adversity. Developmental literature over the past two decades has documented the effects of cumulative adversity, suggesting youth who experience greater than three adversities are prone to significantly worse psychological, educational, and physiological outcomes (Anda et al. 2006; Burke et al. 2011). In the USA, youth who experienced disconnection from education and career pathways have been found to have experienced five or more adverse life experiences; approximately twice as many as youth who remained connected (Center for Promise 2015). Moreover, in addition to the number of adversities, research also indicates that the types of adversities matter (Porche et al. 2017); reflecting the notion that “risk-immersed youth” are a widely heterogeneous population with diverse life experiences, which shape unique needs.

Youth with disabilities represent an example of a subgroup of risk-immersed youth for whom there has traditionally been a lack of congruence between CWD needs and environmental offerings (Soresi et al. 2008). Within the USA, youth with disabilities are approximately two-to-three times more likely than same-aged peers to not complete high school (36.9%) or enroll in postsecondary education (24.8–52.8% depending on disability type, Hinz et al. 2017; National Center for Education Statistics 2018). Across OECD countries, youth with disabilities are twice as likely (14 vs. 7%) to be unemployed and substantially less likely to be employed (40 vs. 75%) compared to youth without disabilities (OECD 2009). Moreover, these disparities have persisted since the mid-1990s in many countries, indicating little progress in narrowing the labor participation gap (OECD 2009).

Experiencing high levels of risk does not determine that an individual will have difficulty with school, work, or other aspects of life. Protective factors, such as supportive relationships, can promote resilience and temper the impacts of risk (Masten and Obradovic 2006). Perhaps one universal assumption applicable to this otherwise diverse group of youth is that simple exposure to high-quality career programming may be insufficient for navigating the changing world of work. Instead, more comprehensive, systematic, PYD approaches may be required to shift the balance of risk and protective factors sufficiently enough to promote thriving throughout school, work, and life. The authors therefore offer a relationships-focused PYD framework to encourage a more strategic alignment of support to promote CWD among risk-immersed youth of diverse identities, experiences, and circumstances, including youth with disabilities.

## Leveraging PYD and Relationships to Promote Career and Workforce Development

Positive youth development perspectives (Benson et al. 2011; Lerner et al. 2006) challenge the deterministic and deficit-oriented narrative of youth development by offering a dynamic, strengths-based perspective. PYD approaches view all youth as having the potential to thrive and affect positive intraindividual, interpersonal, and community change through interaction with the social–ecological contexts in which they are embedded. This potential is realized when youth are engaged with multiple, nutrient-rich environments (Benson et al. 2011), in which environmental assets are aligned with the attitudes, competencies, and attributes of that youth (i.e., a supportive youth system; Zaff et al. 2016). Recognizing the dynamic relation among all the factors within a youth’s ecology, one cannot solely focus on one factor in a youth’s life (e.g., schools, job training) to optimize CWD.

Within a supportive youth system, relationships are the primary “vehicle that propels adolescent development” through the delivery of social resources (Varga and Zaff 2018, p. 1). Vocational psychology research and theory also highlight the importance of relationships and social support within CWD processes. For example, meta-analytic evidence illustrates the importance of social support as a critical ingredient of effective career counseling and work-based learning interventions (Brown and Krane 2000; Showalter and Spiker 2016). Moreover, relational perspectives on CWD (Kenny et al. 2018) have synthesized the discipline’s recognition of the centrality of relationships, suggesting the basic tenets that:

1. Work is a context for human connection.
2. Close relationships interact with work in reciprocal and complex ways.
3. Past and present relationships shape career processes and trajectories.
4. Culture and social location critically shape work and relationships, their meaning, and the dynamics between life domains (e.g., work, family), opportunities, and outcomes.

Despite the inclusion of relationships and social support in formal theory across the discipline (e.g., Duffy et al. 2016; Lent et al. 2000), few have clarified the most effective ways to galvanize relationships within a youth system to optimize CWD processes, particularly for risk-immersed youth. Integrating PYD frameworks with career theory, practice, and policy can better illuminate the various developmental processes influencing CWD and therefore, the multiple avenues of intervention to promote success. A WoS perspective complements existing CWD approaches by more clearly articulating the principles by which sources of social support can be effectively organized across developmental contexts to promote CWD. By strategically distributing resources, opportunities, and responsibility across a wider network of enduring relationships, a WoS approach can optimize and provide continuity to CWD intervention efforts across contexts (e.g., school, workforce development programs). Moreover, the application of the WoS framework is transtheoretical and agnostic regarding how it might be integrated with existing approaches to career

assessment, counseling, and programming. Perhaps most salient for risk-immersed youth, a WoS approach encourages the provision of an array of integrated supports to help youth exercise self-determination over career processes by attenuating the impact of adversities that impede engagement in CWD.

## **Webs of Support: A Relationship-Focused PYD Approach to Career and Workforce Development**

The WoS framework (Varga and Zaff 2018) describes an applied translation of PYD theory, integrating literatures on relationships, social support, social networks, and social capital. Instead of focusing on the one-to-one relationships for a young person, a WoS describes the constellation of relationships in which developmental resources are optimally leveraged and aligned to promote positive development across contexts, including CWD. The WoS framework emphasizes several core features, including:

- Youth agency and characteristics: Youth are active participants in their own developmental processes and offer unique personal characteristics that influence dynamics and effectiveness of resources transmitted through the Web.
- Interrelationship between actors: By virtue of the embeddedness of each relationship within a developmental system, all actors within a Web are related to both the young person and one another.
- Delivery of developmental assets: All actors can provide support. Patterns of support provision from one actor may dynamically impact (e.g., potentiate) the action of others.
- Variation in roles and importance: An actor's role and importance may vary, reflecting the nature by which relationships are both behaviorally reinforced and phenomenologically experienced by the young person.

A WoS framework encourages CWD actors to embrace an expanded, integrated conception of CWD emphasizing the interrelationship among activities, programs, and policies related to learning-for-work at individual, organizational, and societal levels (Jacobs and Hawley 2009). Central to this construction is the assumption that the contexts within which individuals and CWD interventions are embedded (e.g., schools, work, community-based organizations) are mutually dependent; a perspective consistent with modern metatheoretical perspective on human development (Overton and Lerner 2014). The WoS approach therefore has utility to transcend traditional dyadic counseling approaches, which have long constituted the prevailing paradigm for studying and impacting vocational development, toward the adoption of a more distributed, youth systems approach.

## Relationships, Social Support, Social Networks, and Social Capital

Central to relational developmental systems' perspectives (Overton and Lerner 2014), but often inadequately captured in theory and research, are the people within each context with whom the individual interacts. Though youth–adult relationships have been found to positively impact youths' behavioral, academic, and psychological outcomes (Rhodes and Dubois 2008), little scholarship has investigated the interrelatedness of various relationships within a youth system, across contexts, and how these variations shape vocational outcomes (Varga and Zaff 2018). A WoS approach views relationships as embedded, interrelated sources of social support and capital within a youth system.

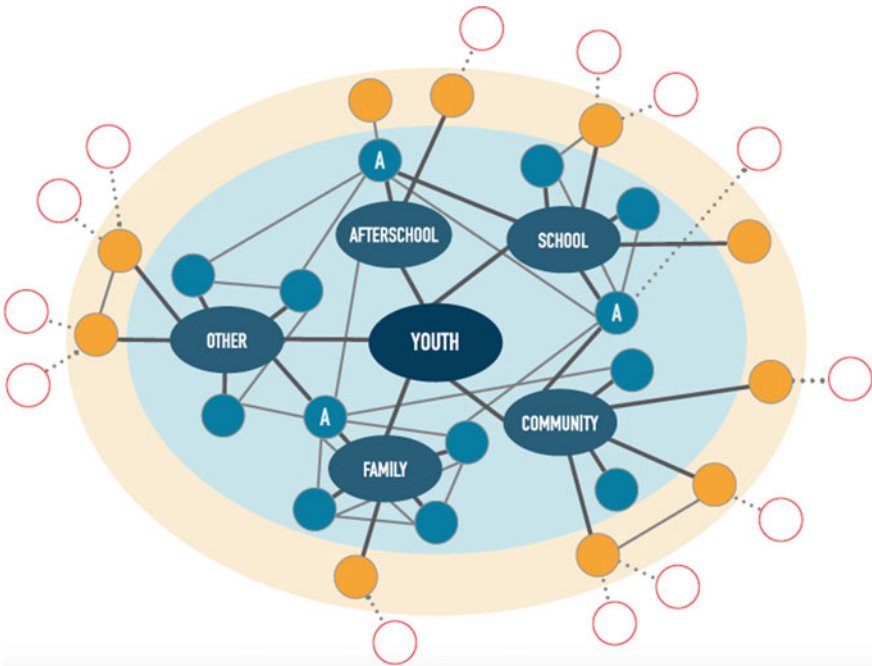
Social support describes the resources perceived, available, or provided to a young person through relationships, which may vary by source (e.g., family, friends, teachers; Chu et al. 2010) and type (e.g., instrumental, informational, emotional, appraisal; see Varga and Zaff 2018). Social support directly promotes positive developmental outcomes for all youth and can buffer the impacts of stress on developmental trajectories (Kawachi and Berkman 2001). A range of general supports alone, however, is unlikely to substantively advance CWD for risk-immersed youth. Examinations of PYD interventions without formal career intervention components demonstrate effectiveness in improving a range of developmental outcomes, however, bear only marginal effects on select CWD outcomes (e.g., Lerner et al. 2013). To promote CWD, youth require high-quality CWD intervention and support specific to CWD needs and goals. The combination of domain general and specific supports is critical to build both general and specific human capital (Tilak 2003) required to (1) buffer the impact of risk and adversity encountered across multiple life contexts and (2) foster development specific to CWD competencies.

Social capital represents a fund of social resources generated, accessed, and shared among individuals and institutions that can potentially reduce inequities (Bourdieu 1985). Social capital is often studied in the context of social network research to explore the ways in which variation in networks is associated with the generation and distribution of social capital (bonding social capital) as well as the expansion of social networks (bridging social capital; Putnam 2000). Youth development studies illustrate promising links between social capital and an array of academic, vocational, and psychological outcomes (Ferguson 2006). The structural characteristics of social networks impacting social capital have received modest attention. Definitions of social capital (e.g., economic vs. psychological resource), as well as the nature of the youth–adult relational interactions by which social capital is generated and shared, are less well understood, particularly regarding CWD outcomes.

## Structural Components

Actors in a Web are not plotted across the Web at random. Instead, they are organized according to the youth's phenomenological perception of relationships as located in the salient contexts in which a given actor is embedded (see Fig. 4.1). Furthermore, relationships vary in strength, within and across contexts. Key elements of a Webs of Support include:

- *Strong ties* represent more enduring, consistently supportive relationships (e.g., parent) and may provide higher levels of direct supports (e.g., bonding social capital; emotional support) than weak ties.
- *Weak ties* represent less frequent, consistently supportive relationships (e.g., coworker). Weak ties may be more likely than strong ties to facilitate new connections, networks, and resources (e.g., bridging social capital; informational support) unavailable within the Web, although each may provide instances of both. Weak ties may transition into strong ties.
- *Cores* represent clusters of strong ties organized within a given social context (e.g., family, school, work), who engage consistently with the young person and



**Fig. 4.1** Webs of support (adapted from Varga and Zaff 2018)

each other. The interconnection among members creates resiliency (e.g., structurally and functionally stable) and adaptability when confronted with change (e.g., adversity, membership changes).

- *Anchors* represent a person, rising above others, to provide all the functions of the ideal supportive actor (Varga and Zaff 2018). The anchor is the strongest tie, to whom one can turn to for any need. Anchors are the actor the young person leans on most to effectively navigate existing contexts, bridges the young person to new contexts and supports, and provides the youth with a sense of mattering. Ideally, youth have an anchor within each salient developmental context. However, even one anchor in a given Web can promote more positive developmental outcomes (Center for Promise 2015).

## Helping Youth Design and Strengthen Webs of Support for Career Development

Designing an effective WoS for CWD entails helping youth establish and strengthen multiple interrelated, resilient cores of caring relationships. Relatively small variations in cumulative risk or developmental assets are unlikely to move the needle on shaping developmental outcomes (Benson et al. 2011). Relying on single dyadic relationships to drive substantial change is therefore an unrealistic proposition (Freeland Fisher 2018; Greene 2018). To meaningfully alter developmental outcomes, more moderate changes engaging multiple aspects of a youth system are required (Durlak et al. 2011; Eccles and Appleton 2002). Establishing and integrating a specialized CWD core within the Web can enable risk-immersed youth to more effectively navigate adversity, developmental tasks, and transitions along CWD pathways (Pufall Jones et al. 2017). To accomplish this, caring adults should adopt a youth-centered approach, leverage existing relationships and caring adults within key developmental contexts, identify a CWD anchor, and if necessary, bridge youth to more specialized CWD services and programming.

## Adopting a Youth-Centered Approach: Recognizing Youth Identity and Agency

Developmental theory emphasizes that developmental processes are keenly informed by a young person's phenomenological interpretation of their own attributes, identities (e.g., class, gender, ethnicity), agency, and their lived experience interacting with the world through the lens of these socioculturally located aspects of self (Spencer 2006). In engaging risk-immersed youth to design a WoS, it is important to consider the confluence of multiple personally and socially constructed identities impacting CWD processes (Carter and Constantine 2000; Gushue 2006) and the ways in

which they are related, experienced, categorized, located, and treated within systems of power, privilege, and oppression (Cole 2009). Helping risk-immersed youth construct and share career narratives can communicate youth's lived experiences to WoS members (Savickas 2012). Moreover, emphasizing redemptive narratives related to experienced adversity can improve mental health and foster well-being, resilience, and agency (McAdams and McLean 2013).

Agency is a critical component of both PYD and CWD, describing one's capacity for active self-determination over developmental processes (Larson 2000; Savickas 2012). Youth develop agency through daily experiences in both formal and informal activities across multiple contexts including family, school, community (e.g., service, civic, leisure), organizations (e.g., clubs, programs), and peers, among others (Larson 2000). Helping youth develop initiative, control, and strategic thinking (Larson and Angus 2011) is instrumental for navigating life transitions, CWD, and occupational role responsibilities (Larson 2000). Helping youth view themselves as agents (Ginwright and Cammarota 2002; Savickas 2012), not simply actors, is critical for empowering youth to exercise their innate capacity to effect change over their own CWD processes. Moreover, promoting agency empowers youth to proactively manage (e.g., activate, disengage, prune, and acquire) relationships and navigate their WoS to optimize accessibility of necessary supports.

Placing youth agency, characteristics, and lived experience at the center of planning can allow potential WoS members to form more meaningful, authentic, and empowering relationships with youth. Doing so also enables WoS members to consider the ways in which youths' experience of power, privilege, and oppression (e.g., in past relationships, observed at more distal ecological levels, historical marginalization) are implicated in CWD processes and experienced within WoS relationships. This deep understanding should facilitate an alignment of developmental assets with the needs and strengths of the youth, contributing to positive developmental outcomes related to CWD and across interrelated life roles, such as health, education, character development, and civic engagement.

## **Build and Strengthen Ties: Leveraging Existing Relationships and Developmental Contexts**

PYD approaches emphasize the value of existing assets and relationships in a young person's life. One of the first considerations, therefore, is to deepen understandings of youths' existing WoS. One approach to qualitatively evaluate an existing network is to have youth map their Webs (Pufall Jones et al. 2017). Engaging existing relationships in WoS is critical as a wide range of naturally occurring relationships in key developmental contexts (e.g., family members, peers, mentors, neighbors) have been associated with improved outcomes across education, work, psychological, well-being, and health outcomes (DuBois and Silverthorn 2005).



In strategizing to build a resilient Web and strong CWD core, existing WoS members can help youth identify new ties, increase strong ties, incorporate complementary weak ties, and strengthen density within and across cores. Caring relationships to support CWD can be identified across multiple contexts including, parents, siblings, peers, schools, and community adults (Ali et al. 2011; Perry et al. 2010). Moreover, engaging positive relationships in one context can generalize to promote strengthened relationships and competencies in other contexts. For example, high-quality mentoring relationships have been demonstrated to improve youth relationships between parents and teachers, which in turn predict better academic outcomes (Chan et al. 2013). Several examples from the mentoring literature provide insightful models describing how potential CWD core members can build close, enduring, supportive relationships with youth, including Search Institute's Developmental Relationships model (Benson et al. 2011), Rhodes' (2005) model of youth mentoring, and Hagler's (2018) extension of Rhodes' model.

Schools can be a particularly instrumental context for identifying WoS members (Osher et al. 2018). One school-based approach that has gained momentum in the USA is integrated student supports (ISS), which puts students on positive educational trajectories by engaging a broader WoS. The ISS model involves in-depth needs' assessments, the coordination of new and existing resources, and the integration of supports within and beyond schools to help resolve academic and non-academic issues (Moore et al. 2017). Such approaches can include a dedicated staff (e.g., anchor) to engage community partners, conduct needs assessment, and coordinate supports (Walsh et al. 2014). Other examples distribute these functions among the existing teachers, counselors, and administrators (Corsello et al. 2015). When implemented with fidelity, ISS have been shown to impact academic achievement, attainment, and social-emotional competencies (Moore et al. 2017).

These approaches, however, rarely incorporate explicit supports for CWD processes. Strategically engaging caring adults from multiple contexts with the capacity to provide targeted CWD support can more effectively establish a strong CWD core. Although teachers and students themselves are highlighted as the most important factors in determining school outcomes (Freeland Fisher 2018), incorporating staff and partners beyond the classroom (Osher et al. 2018), particularly those with CWD expertise (e.g., school counselor, career counselor, work-based learning supervisor, mentor) is an effective way to identify potential strong ties to establish a more robust CWD core.

## Identify an Anchor

Identifying an anchor in one or more cores is important. However, identifying a CWD anchor who can serve as the "go-to" person for CWD may be critical. Any caring adult capable of supporting CWD processes may serve as an anchor. Adults with CWD expertise, such as school counselors, career counselors, teachers, or work-based learning mentors may be uniquely effective. The CWD anchor may provide an

array of direct supports to the young person, help the young person strategize how to best leverage existing supports, and bridge the young person to new relationships and resources that facilitate CWD goals. For example, a school counselor may engage in direct career counseling efforts with a young person, identify existing mentors or resources the young person can reach out to (e.g., teacher), or facilitate relationship building with new actors who may become part of the core (e.g., an alumnus, prosocial peers with similar interests, a work-based learning opportunity). The CWD anchor may also serve as a liaison to strengthen the interrelationship among actors in the CWD or other cores; facilitating engagement with peers and close ties has been suggested as particularly effective strategies for impacting a youth system (Jones and Deutsch 2011).

### **Career Pathways Programs: Promising Contexts for Strengthening CWD Cores**

Recognizing the multiple, oftentimes severe needs of risk-immersed youth (e.g., housing instability, economic constraints), more intensive strategies may be required to coordinate developmental assets across contexts, beyond what family, school, friends, or other existing cores can provide (Center for Promise 2015). In this instance, youth may benefit from targeted services or formal programming in which new relationships (e.g., staff, peers, or mentors) may become critical members of their WoS.

Recent research with risk-immersed youth indicates career pathways programs may benefit youth by infusing WoS with tailored services, relationships, and opportunities to strengthen the CWD core (Pufall Jones et al. 2017). Career pathways' approaches encompass systemic and/or programmatic efforts to develop coherent, navigable, sequential, and aligned systems of education, training, and support to assist youth in obtaining certification, employment, and advancement in a given occupation and industry (Alssid et al. 2002; Fein 2014; Kazis 2016). Although approaches may vary as a function of population, location, industry, institutions, and policies, career pathways' models share core features including: (a) aligned and connected programming; (b) multiple entry and exit points; (c) focus on careers, work-based learning, and employer engagement; and (d) support services to facilitate student success (Kazis 2016).

Aligning with these core features, impact evaluations in the United States of Year Up, YouthBuild, Young Adult Internship Program, and Job Corps provide evidence that such programs can impact later earnings, and educational and vocational credentials (Fein and Hamadyk 2018; Miller et al. 2018; Skemer et al. 2017). These findings are consistent with meta-analytic examinations of CWD programs in the USA and worldwide (Betcherman et al. 2007; Card et al. 2009; Greenberg et al. 2003).

These and other recent examinations of PYD-informed career pathways programs portray a deliberate, intensive, sustained focus on supportive relationships as the centerpieces to building a nutrient-rich CWD milieu required for learning and success (see Pufall Jones et al. 2016). PYD-informed career pathways programs design structured and consistent opportunities for relationship building (formal and informal) as a foundation to programming. Further, PYD-informed career pathways programs offer a range of services to holistically support youth beyond the traditional scope of CWD. Some, for example, provide resources and services internally, whereas others adopt case management models to connect youth with a range of supports, including child-care, transportation, housing, food resources, mental health services, legal resources, and health care. Other notable examples include two-generation approaches to provide services for both youth and their families (Sommer et al. 2018) or integrating Universal Design for Learning with PYD to provide more inclusive approaches for youth with disabilities (Johnston and Castine in press).

Historically, however, CWD programs have not adopted robust WoS approaches to coordinate connections between cores and leverage the power of relationships across youth's lives. Few have focused on facilitating the interrelationship between members and cores outside of formal programming to more fully impact a Web. Adopting a more comprehensive WoS approach can reinforce the value of formal support services and interventions provided within programs, encourage program persistence, and support youth more fully toward lifelong learning.

## Implications for Practice and Policy

In addition to the many practice applications reviewed thus far, the WoS also warrants important policy considerations. Public policies can shape social norms, systems, institutions, and build capacity to scale asset-rich experiences to promote positive CWD outcomes for individuals and communities (Benson et al. 2011). Applications of PYD to formal education contexts (Scales et al. 2006) provide a foundation for the proposition that CWD is as much a human development endeavor as an economic or labor activity; and, as a corollary, that human development is the most effective strategy to promote positive CWD outcomes.

Human capital approaches view CWD policy in a linear fashion, conceptualizing indicators such as education and training as investments, which produce returns in the form of direct (income, productivity) and indirect (health, civic activity) personal benefits to individual agents (Schuller 2000). CWD policy has a long history of direct investment in disaffected workers through the lens of human capital approaches. A recent World Bank report (2019), for example, encourages countries to significantly invest in human capital, strengthen social protections, and mobilize national revenue (e.g., infrastructure investment, restructuring tax-base revenue streams) as primary strategies for preparing an adaptable workforce. The World Bank's Human Capital Index measures basic indicators of education, health, and productivity to enable uniform comparison across emerging and advanced economies. The anticipated benefits

of a human capital approach include providing citizens with the skills necessary to navigate the changing world of work, growing access and participation within competitive markets, and advancing a new social contract between societies and citizens concerning work (World Bank 2019).

In addition to human capital investment, the WoS framework would encourage stronger advocacy for CWD policy framed from a social capital lens. In contrast to human capital policy approaches, a social capital approach encompasses a more interactive/circular model for understanding social development. Social capital approaches focus on relationships, rather than individual agents, and seek to promote attitudes, values, membership, participation, and trust as indicators of social cohesion, economic achievement, and additional social capital (Schuller 2000). A variety of efforts within the USA provide examples of how federal policies can facilitate WoS. The full-service community schools programs (Elementary and Secondary Education Act of 1965) and the Promise Neighborhoods and Choice Neighborhoods demonstration programs were geared toward helping youth generate WoS and provide a holistic set of resources for each youth in a given community. These efforts, however, were focused primarily on children and youth through the end of secondary school. Initiatives within the career pathways space are far less common within and outside of the USA. Perhaps the closest CWD analogs are the US Department of Labor's Workforce Innovation and Opportunity Act of 2014 Youth Services Programs. These services provide low-income youth facing barriers to employment with career development (e.g., education, tutoring, work experience, skills training, leadership development), comprehensive supports (transportation, childcare, work uniforms, tools, financial literacy education), and a range of counseling, mentoring, and transition services to support relationship building and sustained supports for the future success. Additional expressions are the aforementioned support components of career pathways programming efforts within the USA (Alssid et al. 2002; Kazis 2016).

Of notable importance is the recognition that the effectiveness of efforts to promote human and social capital as strategies for CWD may be inherently limited by factors such as the adult capacity within a given community or the existence of formal education and labor systems within which human capital gains can be expressed and actualized. As such, the importance of formal job creation cannot be overlooked. Initiatives such as the International Labor Organization's decent work agenda (ILO 2018) have sought to advance just such strategies. In addition, social capital policy approaches, although historically enacted to a lesser extent in CWD policymaking, may be a necessary complement to optimize human capital by bringing it into a relational context. Ultimately, a more balanced approach in which investments in education, qualification, and certification are paired with policy instruments expressing values of relationships, networks, social capital, and culture may be most fruitful to create positive developmental systems that more effectively scale CWD efforts.

## Conclusion

Although work remains a critical developmental context for youth, young people across diverse contexts are confronted with navigating increasingly complex pathways toward decent, meaningful, and sustainable careers in the evolving global economic landscape. These challenges are particularly formidable for youth seeking to overcome barriers across multiple developmental contexts en route to engaging along productive CWD pathways. PYD theory offers a promising avenue to serve risk-immersed youth by advancing more inclusive and developmental CWD policy, scholarship, and practice. PYD approaches, such as the Webs of Support framework, offer useful foundations for adapting CWD efforts across diverse contexts to assist youth in accessing the developmental supports and resources required to thrive in school, work, and life.

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# Chapter 5

## Career Development of Twice-Exceptional Individuals: Present and Future Issues



Jae Yup Jung

**Abstract** This chapter presents an overview of some of the key issues in the career development of twice-exceptional individuals. Drawing on research from a number of related areas, multiple factors that may influence the career development of twice-exceptional individuals at the present time are outlined, before a discussion on the general lack of career counselling support that is currently available. Thereafter, the possible characteristics of the work environment of the future are proposed, followed by a discussion of the ways in which twice-exceptional individuals may be advantaged or disadvantaged in this environment, and the expected career counselling needs of twice-exceptional individuals in the future. The chapter concludes with remarks on the need for greater attention to this topic by scholars and practitioners in the fields of career development, gifted education, special education, and information technology.

**Keywords** Career development · Future employment · Twice-exceptional individuals · Dual-exceptional individuals · 2e

### Introduction

The term ‘twice-exceptional individuals’ may be defined as individuals who simultaneously possess at least one area of giftedness and at least one disabling condition (Foley-Nicpon et al. 2011). These individuals appear to comprise a broad and heterogeneous group due to the multiple domains in which giftedness and disabling conditions may be found. For example, Gagné (2009) has proposed that giftedness may exist in one of six domains (i.e. intellectual, creative, social, perceptual, muscular, and motor control), while the Individuals with Disabilities Education Act (2004) in the USA recognises more than ten categories of disabling conditions (i.e. autism, deaf-blindness, deafness, developmental delay, emotional disturbance, hearing impairment, multiple disabilities, orthopaedic impairment, specific learning disability, speech or language impairment, traumatic brain injury, visual impairment,

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and other impairments such as attention deficit hyperactivity disorder). Wormald (2011) cites existing estimates that 14% of the gifted student population may have some form of twice exceptionalism. In this chapter, an examination is made of the career development of twice-exceptional individuals, not only at the present time but also in the future. Due to the limited research literature that exists in this area, the chapter draws on research from multiple related areas, including the career development of gifted individuals, the career development of individuals with disabling conditions, the post-secondary education of twice-exceptional individuals, protean and 'boundaryless' careers in the 'new career era', and the literature on career counselling.

## The Present

At the present time, the outcomes that result from the career development of twice-exceptional individuals appear to differ widely, ranging from unemployment, underemployment, and employment in low-skilled roles to outcomes in the prestigious professional fields that may be more typical of gifted individuals (Gerber et al. 1992; Jung 2019). The literature suggests that a multitude of factors may determine where within this range of possible career outcomes twice-exceptional individuals may find themselves. These factors may include the pursuit of a career in the area of the twice-exceptional individual's strengths and interests, the development of compensatory strategies, the possession of a strong motivation for success, early exposure to work experience and training, and a supportive work environment. It is unfortunate that meaningful and satisfying career outcomes that closely align with the areas of giftedness may not be achieved by *all* twice-exceptional individuals.

### *Pursuit of Careers in the Areas of Strength and Interest*

Many scholars have proposed that the greatest chance of future career success for twice-exceptional individuals may lie in selecting careers that cater to their areas of strength and interest, while minimising any demands placed on their disabling conditions (Dipeolu et al. 2015; Hua 2002; Lee and Carter 2012; Mayes et al. 2014; Rehfeldt 2003; Reis et al. 2000). This may be due to the greater likelihood of satisfaction, focus, and persistence in careers that twice-exceptional individuals may be most capable and interested in (Jung 2019). Nevertheless, in the situation where a conflict exists between the areas of strength and interest, the area of strength may need to take priority (Jung 2019). For example, Reis et al. (2000) have proposed that major obstacles to learning and performance in some fields may be overcome by sacrificing one's areas of interest. It is noteworthy that the placement of a reduced focus on the areas of interest may not represent a major issue for many twice-exceptional individuals in the Asia-Pacific region due to the generally greater emphasis on extrinsic values over intrinsic values in many societies in the region (Jung *in press*). Some scholars

have gone as far as to specify the career fields that may best align with the areas of strength of the different categories of twice-exceptional individuals, with Dipeolu et al. (2015) proposing that twice-exceptional individuals on the autism spectrum may be most suited to careers in fields such as accounting and IT.

### ***The Development of Compensatory Strategies***

As it may not always be feasible to identify career paths that place *no* demands on disabling conditions, twice-exceptional individuals may need to develop strategies that rely on their areas of giftedness to *compensate* for any disabling conditions. The literature suggests that the development of effective compensation strategies is likely to be dependent on a thorough and clear understanding of both the areas of giftedness and disabling conditions, along with the relationship between these two exceptionalities (Tallent-Runnels and Layton 2004). Compensation strategies are likely to be unique for each individual, and dependent on the nature of their areas of giftedness and disabling conditions (Reis et al. 2000).

A number of documented cases exist that illustrate compensation strategies that have been developed from a young age by twice-exceptional individuals. Such strategies may either be developed in close collaboration between the individual, his or her teachers, and his or her parents, or wholly self-developed through a process of trial and error over an extended period of time (Reis et al. 2000; Tallent-Runnels and Layton 2004). An example of a compensation strategy in the domain of reading disability is the use of a predominantly visual approach, with a reliance on sight word recognition and the prediction of meaning from context (Tallent-Runnels and Layton 2004). In the domain of writing disability, some twice-exceptional individuals use computers and the support of others as part of a compensatory strategy to check for spelling and grammar (Hua 2002). Of note, some individuals have been found to ‘compensate’ for their disabling conditions by devoting extraordinary amounts of time, effort, and energy to their studies and careers (Nadeau 2005; Reis et al. 2000).

### ***Strong Motivation for Success***

As a complement to the other factors, the possession of a high level of motivation for career success appears to be imperative for positive career outcomes to be achieved by many twice-exceptional individuals (Sloan 2018). Such a motivation for success is consistent with Confucian values espoused in many East Asian societies and may arise from a strong self-belief in one’s own abilities to combat the low expectations that significant others often convey to twice-exceptional individuals (Hua 2002; Reis et al. 2000). For example, Hua (2002) has suggested that gifted students with learning disabilities tend to receive very few opportunities from their parents or teachers to demonstrate their strengths in academic areas, while their teachers have generally

been found to advise them to pursue vocational pathways (rather than pathways involving tertiary study) that do not require academic skills.

Some of the ways in which a strong motivation for career success may be manifested in twice-exceptional individuals include the setting of clear and achievable career-related goals that allow for focused study and related activities (Gerber et al. 1992; Hua 2002; Madaus et al. 2008; Reis et al. 2000), and persistence with one's schooling despite substantial academic and non-academic difficulties (Gerber et al. 1992; Hua 2002; Jung *in press*; Madaus et al. 2008). Others have suggested that a 'reframing' of the disabling condition in a positive and productive manner may be equally important. For example, Gerber et al. (1992) have proposed that rather than treating the disabling condition to be the issue, twice-exceptional students should recognise their inability to address the consequences of the disabling condition to be more problematic.

### ***Early Exposure to Work and Training***

Independent of the actual career path that is to be pursued, Lee and Carter (2012) propose that early access to a range of work experiences during schooling may be useful for twice-exceptional individuals to allow for the acquisition of valuable work skills and to inform future career decisions. These experiences may come in the form of formal and informal work experience programmes, internships in various organisations, and part-time or holiday jobs. Relatedly, early on-site training in work-related skills—for example, the teaching of self-regulation strategies to individuals with attention deficits, and the teaching of social interaction and communication skills to individuals on the autism spectrum—may maximise the likelihood of future career success for many twice-exceptional individuals.

### ***A Supportive Work Environment***

Lastly, scholars have suggested that when twice-exceptional individuals do enter the workforce, successful outcomes may be most likely in work environments that are accommodating and supportive of their particular needs. Some scholars have gone as far as to suggest that the identification of supportive work environments may be more important than the identification of optimal types of careers (Dipeolu et al. 2015). The specific accommodations that employers may offer include periodic breaks, open or closed work stations, adjustments to work schedules, the issuing of clear and consistent instructions, the scheduling of time to learn new skills, adjustments to work facilities/furniture to address any sensory issues (e.g. lighting), and the making of connections with mentors or co-workers who may be able to support twice-exceptional individuals in their work activities (Burgess and Cimera 2014; Crowe et al. 2011; Dipeolu et al. 2015; Lee and Carter 2012).

For twice-exceptional individuals who are unable to work independently, supported employment arrangements that involve twice-exceptional individuals working alongside employees without disabling conditions are also available (Rehfeldt 2003). Various models of supported employment exist, from those that allow substantial independence for the worker—with support only provided as needed—to arrangements whereby an individual worker is permanently under close supervision (Rehfeldt 2003).

### ***Career Counselling for Twice-Exceptional Individuals at the Present Time***

Despite the substantial needs of twice-exceptional individuals for counselling support to maximise their chances of achieving satisfactory career outcomes, the fact that many individuals are unemployed, underemployed or employed in low-skilled positions suggests that such support has generally not been forthcoming (Jung 2019). Unfortunately, the ‘de-professionalisation’ of the field of career counselling that has arisen with the entry of multiple career counselling practitioners with variable qualifications (Herr 2003), combined with the lack of expertise of these practitioners in adequately addressing the needs of various subgroups of the population, may mean that very few career practitioners in the Asia-Pacific region are in a position to provide the necessary support for twice-exceptional individuals. Career practitioners in general may be unfamiliar with the unique issues facing twice-exceptional individuals, while those who specialise in supporting individuals with disabling conditions or gifted individuals may not have the necessary expertise to tailor their support so that both exceptionalities are acknowledged. Therefore, it is possible that those twice-exceptional individuals who *have* achieved satisfactory career outcomes may have done so without any specialist career counselling support.

### **The Future**

The work environment of the future that is likely to affect everyone, including twice-exceptional individuals, may be very different to the work environment that is found today. Scholars suggest that some of the changes that are expected in the future may include the following:

- (a) *Increased automation*: Advances in technology are likely to lead to increasing automation of previously labour-intensive work activities. This may lead to a reduced number of low-skilled roles which many twice-exceptional individuals currently occupy (Jung 2019).
- (b) *Increasing globalisation*: The likely improvements to communication and transport in the future may result in the increasing internationalisation of product and

labour markets. This may have the simultaneous effect of increasing competition for local employment opportunities and the opening up of employment opportunities overseas (Savickas 2003).

- (c) *Complexity of jobs*: While there may be increasing displacement of low-skilled roles, scholars predict that many new types of jobs and careers will emerge, particularly those that require complex, intellectual, and creative skill sets that are combined in different ways to the past (Tang 2003).
- (d) *Simplified organisational structures*: Organisations in the future may become leaner, flatter, and more decentralised so that they are more responsive, and therefore more competitive in an increasingly globalised environment (Chudzikowski 2012; Höpfl and Atkinson 2000).
- (e) *Greater flexibility in work forms*: Organisations in the future may become increasingly reluctant to offer permanent employment based on ‘relational’ employment contracts between employers and employees. Instead, project-based temporary or part-time roles that explicitly outline the expectations of each party (i.e. ‘transactional employment contracts’) may become more common (Chudzikowski 2012; Jung 2019; Littleton et al. 2000; Savickas 2003). This may mean that there is a reduced level of job security in workplaces in the future (Verbruggen 2012).
- (f) *Increasing diversity of the workforce*: The composition of the workforce may become much more diverse. Not only will increasing numbers of women be working, but there may also be greater numbers of older workers and workers from culturally diverse backgrounds (Savickas 2003).

For most people, the work environment of the future is likely to mean that they will need to change jobs throughout their working lives, which may take them across many organisational, occupational, cultural, and geographic boundaries to perform increasingly complex roles (Chudzikowski 2012; Verbruggen 2012). In the Asia-Pacific region, the increasing movements of people within and across these boundaries may lead to a greater acceptance of non-traditional approaches to the planning of careers (Jung *in press*). While such nonlinear and ‘boundaryless’ career paths may offer freedom, challenge, and independence, they are also likely to mean that workers in the future may experience considerable uncertainty, stress, isolation, and a lack of job security (Chudzikowski 2012; Verbruggen 2012). Scholars agree that in such an environment, workers may need to take greater personal responsibility for the management of their careers (i.e. protean careers), which may involve continuous learning and development of transferable work-related skills. It may also be necessary to develop and maintain a strong network of experts, colleagues, friends, customers, and associates to keep abreast of changes in the career field and to take advantage of opportunities to advance one’s career (Chudzikowski 2012; Hess et al. 2012; Littleton et al. 2000; Watts 2000).

### *Potential Advantages for Twice-Exceptional Individuals*

Of particular relevance to twice-exceptional individuals may be the consequences of the expected advances in technology. While it is possible that the displacement of low-skilled roles through automation will lead to an increasing level of unemployment among twice-exceptional individuals, it is also possible that these technological advances (which may include advances in robotics and artificial intelligence) will enable more effective technology-assisted compensatory strategies to be developed (Brose et al. 2010; Sauer et al. 2010). As an example, Perelmutter et al. (2017) have suggested that some assistive technologies that may be particularly effective in supporting individuals with specific learning disabilities include those that utilise multimedia, hypertext, and word processing technologies.

In comparison, the availability of a wider range of complex new jobs that require unique combinations of intellectual and creative abilities may benefit twice-exceptional individuals who are able to take advantage of their areas of giftedness. This is particularly so as those who possess areas of high ability may often demonstrate capabilities and interests in multiple areas (Jung 2017, 2019; Jung and Young 2019; Rysiew et al. 1999), particularly in the investigative type fields that involve independent, scholarly, research-related intellectual activities (Holland 1997; Jung 2017, 2019; Vock et al. 2013). While their disabling conditions may restrict twice-exceptional individuals from pursuing every emerging career opportunity in the future, they may nevertheless have a larger pool of possibilities from which to make a choice.

Despite the wider choice, the multiple job changes that are expected in the future may lead to high levels of anxiety. Interestingly, some scholars have proposed that the resulting periods of unemployment, underemployment, temporary employment, and part-time employment may actually be favourable for twice-exceptional individuals. For example, Burgess and Cimera (2014) have proposed that such arrangements may represent a better fit for the learning styles, strengths, and needs of those on the autism spectrum, which may be why many such twice-exceptional individuals are not in full-time employment today. It remains to be seen whether measures such as training will allow greater numbers of twice-exceptional individuals of the different categories of twice exceptionality to be better suited to full-time employment in the future.

Lastly, the anticipated increase to the diversity of the workforce, which may see workers from non-traditionally represented backgrounds participating in increasing numbers, may mean that a greater culture of acceptance of difference is established in workplaces of the future. One of the possible consequences of such a development may be that employers have a more open and positive attitude toward the recruitment of twice-exceptional individuals.



### ***Potential Disadvantages for Twice-Exceptional Individuals***

In contrast to the areas of advantage, one possible area of disadvantage for twice-exceptional individuals in the future may relate to the necessity for employers to make accommodations on the job. In a situation where major adjustments involving substantial additional resources or costs are necessary (e.g. the reconfiguration of office spaces, the provision of training that goes substantially beyond the training provided to other employees, and the hiring or retraining of co-workers for the supervision of twice-exceptional individuals), employers in the future may need to give preference to employees who do not require such accommodations or are able to arrange such accommodations by themselves. It is noteworthy that the expected internationalisation of labour markets may mean that many employers in the Asia-Pacific region in the future will have a larger pool of qualified employees to choose from.

A second area of possible concern relates to the additional burdens that may be associated with the need for twice-exceptional individuals to self-manage their careers. Twice-exceptional individuals are already likely to be preoccupied with the task of addressing and managing their disabling conditions, depending on the nature and severity of these conditions (Jung 2019). Consequently, they may face some difficulty in the continual development of transferable work-related skills, and the identification of mentors, training institutions, or other organisations to support the development of such skills. Furthermore, the development of a strong professional network may present a major challenge for twice-exceptional individuals, not only because of the extra time commitment but also due to its requirements for strong social skills and skills in self-promotion. Multiple scholars have noted that managerial, social, and entrepreneurial skills may not be among the strengths of those who are gifted, which may be one of the reasons why many such individuals have a lower likelihood of pursuing careers that require such abilities (Chen and Wong 2013; Jung 2019; Vock et al. 2013).

### ***Career Counselling Needs of Twice-Exceptional Individuals in the Future***

Twice-exceptional individuals are likely to require a substantial level of career counselling to navigate their career paths. Scholars have suggested that the focus of such counselling will need to be on preparing these individuals for the career-related challenges that are likely to arise across the life span, including initial career planning and job search, career transitions, adjustment to different workplaces, unemployment, underemployment, and retirement (Herr 2003; Savickas 2003; Verbruggen 2010). It is noteworthy that career counselling has been recognised to be particularly important for groups in society, such as twice-exceptional individuals, who may be considered *marginally* employable (Herr 2003). Some scholars have proposed that

career counselling may need to commence early and be conducted in close collaboration with professionals in the fields of gifted education, special education, and information technology (Assouline and Whiteman 2011; Jung 2019; Tang 2003; Whiston 2003).

As a starting point, it is recognised that the early assessment of the areas of giftedness and disabling conditions of twice-exceptional students may be necessary. Foley-Nicpon et al. (2011) suggest that, depending on the category of twice exceptionality, different assessment procedures may need to be followed involving multiple identification instruments. For example, scatter analysis, profile analysis, the ability–achievement discrepancy approach, and the response to intervention approach are recommended for the assessment of twice-exceptional individuals with specific learning disabilities, while a comprehensive clinical and psychological evaluation by experts in both the fields of gifted and special education may be necessary to assess twice-exceptional individuals with attention deficit hyperactivity disorder. In comparison, a battery of instruments that assess intelligence, academic achievement, behaviour functioning, social skills, and autism appears to be necessary for the assessment of twice-exceptional individuals on the autism spectrum (Foley-Nicpon et al. 2011; Reis et al. 2014).

An early assessment of the two exceptionalities may allow for the early implementation of any educational and career interventions needed to develop areas of giftedness and to provide support for any disabling conditions. Such interventions may involve the provision of access to formal or informal educational and career opportunities, access to necessary resources, and the establishment of connections with role models and mentors (Jung 2019; Reis et al. 2000). Compensatory strategies that address the disabling conditions, which may or may not involve the utilisation of the areas of giftedness or assistive technologies, may also start to be developed after the assessment of the two exceptionalities. Such strategies may be more easily and effectively developed at a younger age than in later life, as the twice-exceptional individual's parents, teachers, and counsellors may be more readily available to collaborate and co-operate in the process (Jung 2019; Tallent-Runnels and Layton 2004).

Similarly, the development of a strong motivation for future educational and career success should commence as early as possible for twice-exceptional individuals. This is particularly so as scholars have noted that many psychosocial skills and attributes associated with a motivation for success, including a strong self-belief, perseverance, determination, and resilience may be useful for highly able individuals regardless of the career field that is ultimately selected (Jung 2012, 2019; MacNamara et al. 2016; Subotnik et al. 2011). Some possible strategies for the development of motivation and associated psychosocial skills may include connecting twice-exceptional individuals with appropriate role models and mentors, or case studies of other twice-exceptional individuals who have achieved educational and career success through the development of long-term educational/career goals, and the making of proactive efforts to overcome the hurdles that may be associated with their disabling conditions. It is probable that the Confucian values of perseverance and hard work, that

may be conducive to the development of a strong motivation for future career success, will remain a major element of the career-related thinking of twice-exceptional individuals in the Asia-Pacific region in the future.

In making decisions about fields of study, there may be value in encouraging twice-exceptional individuals to take advantage of their likely multipotentiality (i.e. capabilities and interests in multiple areas; Jung 2017, 2019; Jung and Young 2017; Rysiew et al. 1999) to pursue multiple specialisations of study up to the tertiary level. This could involve the pursuit of multiple majors in a degree programme or the pursuit of dual degrees. Having the educational preparation for multiple career fields may maximise one's chances of securing employment, being adaptive to changing job conditions and requirements, and successfully changing jobs (and even careers) as necessary. To complement the areas of study, career counsellors may need to offer opportunities for twice-exceptional individuals to gain early exposure to work and training experiences that align with their areas of ability and interest (Jung 2019). For this purpose, and in recognition of the heterogeneity of the twice-exceptional population, career counsellors may find it useful to develop inventories of jobs and careers that may be most suitable for individuals of each category of twice exceptionality. To be most effective, such inventories should also take into consideration the different levels or severity of each exceptionality.

Finally, it may be useful for career classes to be offered that focus on the development of skills relating to the self-management of careers. In recognition of the suggestions of Verbruggen (2010), these classes could have a focus on the development of self-awareness (e.g. regular assessments and reflective exercises on one's abilities, interests, ambitions, and qualifications) and adaptability (e.g. conversations and case studies relating to the maintenance of one's flexibility and the development of strategies to handle environmental changes). Furthermore, explicit instruction on the development of professional networks could be provided, which may involve the development of targeted interpersonal and relationship skills, along with intercultural skills, in light of the increasing internationalisation of the workplace. Moreover, the provision of resources and strategies for 'learning how to learn' may allow twice-exceptional individuals to better prepare for the continuous learning that may be expected in a future work environment where the shelf life of vocational skills may become increasingly short (Watts 2000). The development of many of these skills may contribute to the maximisation of the employability of twice-exceptional individuals in the future (Jung 2019).

## **Final Remarks**

Twice-exceptional individuals in the Asia-Pacific region and around the world appear to be faced with a unique set of issues in their career development that clearly distinguish them from others in the general population. Unfortunately, only minimal research has been undertaken on this group to date, which has meant that the current

understanding of their career development remains inadequate and incomplete. Perhaps reflecting such a state of affairs, twice-exceptional individuals appear largely to have been neglected by career practitioners. The consequence is that large numbers of twice-exceptional individuals remain unsupported in their career development. Urgent attention to the career development of twice-exceptional individuals is therefore necessary, by researchers and practitioners alike, to ensure that the outstanding potential of these individuals is realised in the future.

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**Part II**  
**Strategies for Personnel Preparation,**  
**Parent Education,**  
**and Disability-Specific Issues**

# Chapter 6

## Strategies to Promote Effective Secondary Special Education and Transition Content into Teacher Preparation Coursework



**Kendra L. Williams-Diehm, Amber E. McConnell, Mindy Lingo,  
and Belkis Choiseul-Praslin**

**Abstract** Despite over 40 years of research discussing the importance of embedding secondary special education and transition education into teacher education content, institutions of higher education in the USA continue to fail at providing this content in programs. This chapter describes the process one university undertook to develop a program to ensure graduating students obtained the knowledge and skills necessary to deliver quality transition services to secondary students with disabilities. Details are provided regarding the process utilized to develop a fully aligned, graduate-level degree program with the Council for Exceptional Children Advanced Standards for Transition Specialists (CEC transition standards. Retrieved from <http://community.cec.sped.org/dcdt/cec-transition-standards>, 2013). Strategies are provided to promote transition education based upon both program evaluation and input from graduates on the most beneficial components.

**Keywords** Program development · Teacher education · Transition

### Introduction

Despite decades of research to increase postsecondary outcomes for students with disabilities, the majority of institutions of higher education and educator preparation programs do not offer targeted instruction in transition practices (Morningstar et al.

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2018; Williams-Diehm et al. 2018). Lack of transition training continues to occur even though practitioners in transition education have been emphasizing the importance of these skills (Benitez et al. 2009). There is sufficient evidence showing that we in teacher preparation programs know the best strategies for teacher preparation (Anderson et al. 2015; Council for Exceptional Children 2009; Sayeski and Higgins 2014) and we have the critical content and standards to maximize secondary transition services (Council for Exceptional Children 2013; Kohler et al. 2016). Therefore, the question remains, why are we as a field not doing better merging these two bodies of research to provide high-quality educators who are knowledgeable and competent?

## **Current Practices in Secondary Special Education Teacher Development**

Transition planning for students with disabilities is not a new concept. The Individuals with Disabilities Education Act (IDEA) has mandated transition planning since 1990 and made it a point of focus in the 2004 reauthorization. The Every Student Succeeds Act (ESSA) of 2015 also stressed the importance of preparing students for college and career, areas which heavily rely on transition-related skills. Decades of research have essentially pinpointed the importance of effective transition planning to support positive postschool outcomes for youth with disabilities. Despite this research and known area of need, education, employment, and independent living outcomes continue to remain low for youth with disabilities (Newman et al. 2009). While there are many factors associated with this, one particular concern is teacher preparation in higher education programs.

Years of research have informed the special education field on the need to increase postsecondary outcomes for students with disabilities (Morningstar et al. 2018; Williams-Diehm et al. 2018), and yet, the majority of higher education institutions and educator preparation programs do not offer specific, targeted instruction for pre-service or in-service teachers in transition practices. Lack of transition training continues to occur even though practitioners in transition education have been emphasizing the importance of these skills (Benitez et al. 2009). As a consequence, teachers lack knowledge of transition competencies, are not prepared to deliver appropriate and effective transition services, and may be contributing to poor outcomes for students with disabilities (Benitez et al. 2009; Blanchett 2001; Knott and Asselin 1999).

Studies show that to effectively prepare teachers, higher education institutions must go beyond what is currently offered in teacher preparation programs (Anderson et al. 2003; Morningstar and Clark 2003). Anderson et al. (2003) conducted a national survey of special education preparation programs and found less than half of the programs offered stand-alone transition courses. Ten years later, Morningstar and Benitez (2013) found similar results when teachers reported completing an average of one transition course at the undergraduate level and graduate level. In this

study, almost half of the participants reported having no transition courses. In fact, Greene and Kochhar-Bryant (2003) found most secondary special education teachers received transition-specific training once they were working in the field as opposed to being exposed during their formal education. This strongly implies that teacher preparation needs have not caught up with research or the realities of student needs.

When presented with this information, one may logically assume the glaring needs revealed by years of research on teacher preparation programs would lead to an overhaul in special education preparation programs and an increase in the number of transition courses offered at higher education institutions would occur. Unfortunately, logic has not won out as there continues to be a lack of emphasis on teacher training on transition knowledge and practices. A survey of secondary special education teachers found 73% of participants disagreed or strongly disagreed they gained knowledge regarding transition evidence-based practices through their university preparation program (Plotner et al. 2016). Most recently, Morningstar et al. (2018) found less than half of all educator preparation programs ( $n = 145$ ) reported offering a transition course. These paralleled findings spanning nearly 20 years continue to report the importance of training teachers and the lack of programs offering this crucial training. At this point, it is an undeniable fact that secondary special education teachers need devoted transition training. Educators who had enrolled in at least one transition course reported being much more likely to feel prepared to implement transition competencies (Morningstar and Benitez 2013). In their study, Morningstar and Benitez (2013) found the level of implementation of transition practice was significantly influenced by a teacher's completion of transition courses.

Not surprisingly, teacher preparation in secondary special education and transition has been identified as a national priority (Morningstar and Mazzotti 2014). Williams-Diehm et al. (2018) found only 36% of higher education institutions with a special education teacher preparation program required a transition course for initial licensure and only 21% of syllabi reviewed from higher education institutions explicitly addressed standards related to transition competencies.

These findings indicate pre-service programs are not providing future teachers with sufficient instruction on transition content. A further consideration in higher education is the manner in which current higher education institutions offer and structure available transition courses. Morningstar and Benitez (2013) reported types of transition courses offered vary and are usually driven by individual faculty interests. As stated previously, teachers who receive transition training feel more equipped to teach and implement practices with their students. Thus, institutions that are not providing this content and experience to teachers may be contributing to continued dismal postschool outcomes of youth with disabilities. Therefore, we are at a crisis point in higher education to ensure transition content is embedded and directly taught to those entering the field.

## Current Transition Framework and Standards

A primary strategy to ensure transition competencies are taught to pre-service educators is to embed the content in university coursework. However, instructors of such coursework must know what to teach. Fortunately, the field of transition has identified both critical transition competencies and frameworks surrounding components of effective transition programs. The *Taxonomy for Transition Programming 2.0* (Kohler et al. 2016) is the most recent and comprehensive framework. The five domains of this taxonomy include (a) student development, (b) family involvement, (c) program structure, (d) interagency collaboration, and (e) student-focused planning. The constructs for the taxonomy are heavily based upon the body of research correlated with positive postsecondary outcomes for youth with disabilities and, more recently, the system-level constructs to help with a successful transition into adulthood (Mazzotti et al. 2015; Wilkins and Huckabee 2014). These competencies are not new to the field, and individuals have argued this content must be incorporated as a priority in teacher preparation (Morgan et al. 2014).

A second major source of content resulted from the 2013 Council for Exceptional Children Division on Career Development and Transition's (CEC-DCDT) revised Advanced Transition Specialist Standards. Based on research by multiple authors (Morgan et al. 2014, Morningstar and Clavenna-Deane 2014; Li et al. 2009; Wolfe et al. 1998), a validation team consisting of experts in the field of transition, including Dr. Jane Razeghi (Executive Director of DCDT), Dr. Mary Morningstar (DCDT Past President), Dr. Robert Morgan (member of the DCDT Knowledge and Skills Committee), and Dr. Kendra Williams-Diehm (DCDT Secretary), was created for the purpose of updating the existing Transition Specialist competencies. A complete validation process followed, including external reviewers and input from the CEC Knowledge and Skills Committee. The resulting set of competencies identifies 19 knowledge-based and 44 skill-based standards across the seven identified domains of the CEC standards (Table 6.1). Since the publication of these standards, DCDT has delivered numerous presentations and webinars to ensure teacher preparation programs know how to incorporate these standards into their coursework (Razeghi et al. 2015, 2016).

As a result of the *Taxonomy for Transition Programming 2.0* (Kohler et al. 2016) and the CEC Transition Specialist Standards (2013), the necessary transition content for teacher preparation programs is known. However, university programs must ensure this content is delivered and practiced to improve educational outcomes for students with disabilities across all demographic variables. As such, current pre-service educators at both teacher preparation programs and institutions of higher education must strategically incorporate transition education competencies into their coursework. The remainder of this chapter outlines the process one university took in order to develop a fully aligned graduate program in transition education.

**Table 6.1** Seven domains: CEC Advanced Transition Specialist Standards*Specialty set: CEC advanced special education transition specialist*

(approved by CEC PSPC and accepted by the CEC Board, October 2013)

1.0 Special education specialists use valid and reliable assessment practices to minimize bias

2.0 Special education specialists use their knowledge of general and specialized curricula to improve programs, supports, and services at classroom, school, community, and system levels

3.0 Special education specialists facilitate the continuous improvement of general and special education programs, supports, and services at the classroom, school, and system levels for individuals with exceptionalities

4.0 Special education specialists conduct, evaluate, and use inquiry to guide professional practice

5.0 Special education specialists provide leadership to formulate goals, set and meet high professional expectations, advocate for effective policies and evidence-based practices, and create positive and productive work environments

6.0 Special education specialists use foundational knowledge of the field and professional Ethical Principles and Practice Standards to inform special education practice, engage in lifelong learning, advance the profession, and perform leadership responsibilities to promote the success of professional colleagues and individuals with exceptionalities

7.0 Special education specialists collaborate with stakeholders to improve programs, services, and outcomes for individuals with exceptionalities and their families

*Note* For a full list of standards with key elements, knowledge components, and skills, please visit <http://community.cec.sped.org/dcdt/cec-transition-standards>

## Experiences from Program Development

Resulting from vision and personal research interest, the faculty at one large, research-intensive university in the USA, the University of Oklahoma, developed a model program addressing transition education standards. During the early 2000s, a course was added to the degree plan for undergraduate teacher educators titled *Transition and Self-Determination*. The purpose of this course was to equip all special education pre-service teachers with the basic knowledge of transition services, including ideas such as transition planning, assessment, postschool outcomes, self-determination, and interagency collaboration. Although the class was initially a required stand-alone class offered at the undergraduate level, it was soon apparent that additional instruction and field placements were needed for students to develop skills associated with the content. This initial course was expanded, and undergraduate students were required to dually enroll in a secondary education practicum placement where they spent 200 h in a public-school classroom with a teacher who had advanced knowledge of transition education.

While the professors at the university felt their pre-service teachers were getting the foundational knowledge for transition education, they believed more needed to be done to educate current practitioners on transition education best practice policies. Many graduate-level students were already enrolling in the undergraduate level class on *Transition and Self-Determination* and asking for more content. With this

knowledge, the transition education program at the University of Oklahoma formally expanded into the graduate realm in 2011. The program was awarded funding from the US Office of Special Education Programs (OSEP) to support graduate students financially while pursuing a degree in secondary transition services. The resulting program in secondary transition services infused a five-course sequence to fully address all CEC Advanced Transition Specialist Standards (2013). The transition education courses were designed to build knowledge to provide students with a scaffolded learning approach throughout their programming. The remainder of this chapter presents **four** strategies that resulted from the program evaluation of the most critical and influential components of the program.

## **Strategy #1: Competency Alignment and Course Development**

Instruction and content must be intentional. Therefore, the primary strategy must involve careful consideration of course alignment. Although the program originally started with one course related to transition services, it was quickly determined one course was not sufficient to appropriately address all competencies associated with the CEC Advanced Transition Specialist Standards (2013). Prior to drafting of course syllabi, the program faculty outlined all standards and any other critical content deemed appropriate by university faculty. This included additional state-specific information such as state-specific adult service providers and IEP transition planning material. University faculty also wanted to highlight excellent examples of transition planning occurring in the state.

The faculty then carefully grouped the CEC standards and designed coursework around the specific objectives. Assignments and projects were carefully considered and designed to address demonstration of the skills associated within the standards. This process led to five separate 3-h university courses taught through both the special education program and the school of social work. The five resulting classes were centered around the following topics: (a) introduction to transition and self-determination, (b) educational and employment outcomes for individuals with disabilities, (c) transition for a multicultural society and for all youth, (d) transition assessment, and (e) transition practicum. Following this general course outline and objectives, specific class content was developed to ensure that every competency was addressed. To ensure knowledge-based competencies were addressed, university faculty examined all reading materials, planned lectures, and other content to cross-list with CEC competencies. If competencies were not addressed, faculty either found additional readings or developed other materials (i.e., lectures, guest speakers, etc.) to cover topics. Similarly, to address skill-based competencies, faculty developed in-class activities, group projects, and individual assignments to allow students opportunities to demonstrate skill ability. Again, if it was determined course content was not providing an opportunity to acquire necessary skills, assignments were examined

and changed; and if necessary, new assignments were created. This process occurred over an estimated 6 months and resulted in complete course development. Courses were updated and changed gradually over consecutive teaching semesters based upon student feedback, newly published materials, and updated evidence-based practices in the field of transition education.

Two examples of how this process of building an exemplary transition education program proceeded are provided. Table 6.1 presents the seven domains of CEC standards. The first example addresses the second CEC domain of the overall need for knowledge to improve programs, academics, school change, and outcomes. This general knowledge standard (K2.1) is addressed across all courses in the five-course transition sequence. However, the skills associated with this domain are covered individually in different courses. The first course in the transition education program sequence, *Transition and Self-Determination*, addresses the second skill of instructional activities and curriculum resources. Through this course, graduate students are exposed to numerous curricula and have in-depth discussions on the pros and cons of various curricula. The fourth skill area in this domain refers to resources related to career awareness and employment preparation, and the second course in the sequence addresses this skill through an assignment on gathering resources from state-based adult service providers.

The second provided example is from the seventh domain, which addresses collaboration across a multitude of key stakeholders. This domain is also covered through all coursework in the transition sequence. However, individual skills are targeted across the course sequence. The first two skills of domain seven ensure active family involvement and interagency collaboration. These skills are demonstrated in the final course titled *Transition Practicum* in which students are expected to conduct actual transition planning meetings and ensure active participation from all stakeholders, especially families and adult agency providers. However, the seventh skill in this domain is targeted in the second course in the sequence. Through this course, students are required to visit multiple work-based programs and compare the strengths and weaknesses of what was observed.

## **Strategy #2: Evaluation and Continual Improvement**

Upon building the program in transition education, it was decided that graduate students enrolled in the program must become familiar with the CEC transition standards and that students would use these standards to evaluate themselves at strategic points in the program. Graduate students complete a self-evaluation at three points during their two-year master's program. All knowledge and skills competencies were entered into a Qualtrics survey in which students rate themselves on a four-point Likert scale. The initial self-evaluation occurs prior to beginning coursework. This provides a measure of baseline knowledge and general understanding. This evaluation also allows faculty to look at specific competencies associated with individual

coursework and tailor lectures and content to specifically build upon student knowledge variance between cohorts. The second self-evaluation is conducted during the final weeks of the fourth course, *Transition Assessment*, and prior to the final class in the transition coursework sequence—*Transition Practicum*. Students then utilize this evaluation to develop projects during their practicum experience. The final self-evaluation of competencies occurs following graduation and/or completion of the transition sequence. This evaluation is purely for program evaluation, so that faculty can identify trends in areas where competencies need additional exposure and/or assignments and projects to build knowledge and skills (Figs. 6.1 and 6.2).

Faculty obtained IRB approval to utilize and analyze results from graduate student self-evaluations. Students had the option of indicating if they want their answers to be utilized for program evaluation only or for both program evaluation and potential research publications. A consent form was utilized. Table 6.2 presents the results

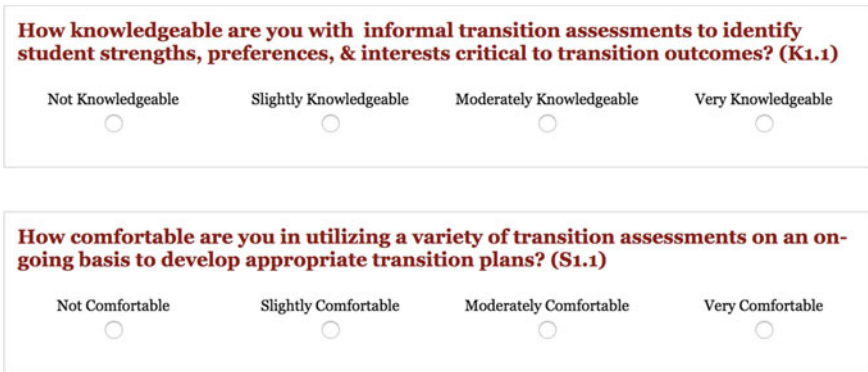


Fig. 6.1 Example of Qualtrics evaluation question

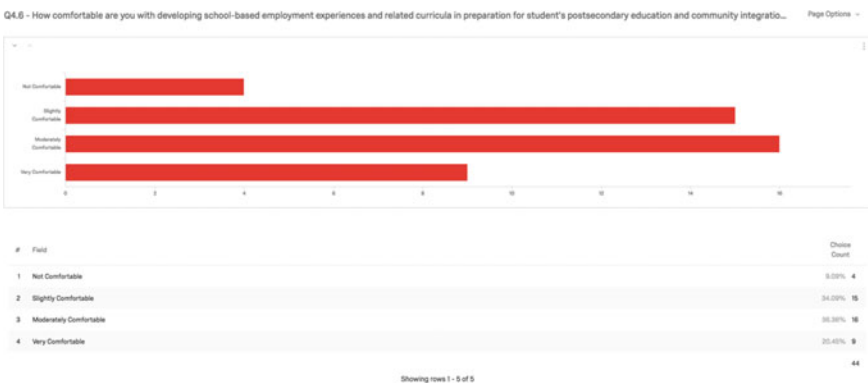


Fig. 6.2 Results of example of Qualtrics evaluation question

**Table 6.2** Graduate student knowledge at initial survey on transition standards

Domain number	Not comfortable (%)	Slightly comfortable (%)	Moderately comfortable (%)	Very comfortable (%)
1.0	13.3	48.9	24.4	13.6
2.0	9.0	34.0	36.4	20.5
3.0	4.7	46.5	34.9	13.9
4.0	16.7	33.3	38.1	11.0
5.0	7.0	39.5	37.2	16.3
6.0	9.3	32.6	30.2	27.9
7.0	13.9	32.56	34.88	18.60

of students' knowledge at the baseline level. It is hypothesized that student knowledge was inflated at this administration, because (a) students were typically current educators and had some experience with the transition process through their current employment, and (b) students were unaware of what they did not know.

### **Strategy #3: Internship and Practicum Experience with Model Programs and Mentor Teachers**

As a means to ensure all participants have a high level of knowledge regarding transition education best practices, all students enroll in a *Transition Practicum*, which highly individualizes the coursework for each of the participants during the final semester of coursework. In this course, students utilize their midterm self-evaluation of the CEC Advanced Transition Specialist Standards (2013) to identify individual strengths and areas of improvement pertaining to the CEC advanced transition standards, including key elements, knowledge components, and basic skills. This process also allows the instructor of the course to identify overall areas of improvement for each student cohort. For example, if it is clear that the entire cohort is demonstrating weakness on a particular standard, the instructor can embed into the course additional readings, class activities, and guest speakers to build competency in this area. Practicum participants' coursework then consists of assignments and practicum placements geared toward improving their specific areas of need. However, two standardized projects related to writing and implementing compliant transition plans remain due to the importance of this skill.

The remainder of assignments in this course is negotiated with the instructor to address weaknesses in meeting the CEC Advanced Transition Standards and typically involves field-based work with experts in those areas. Hands-on learning is an important aspect to teacher preparation programs, so important, in fact, teacher candidates are required to spend designated hours in the field working alongside experienced teachers as part of their programming (Wilson 2006). According to the National Council for Accreditation of Teacher Education (NCATE) Standards (2008),



field experience and practicum should introduce teacher candidates to the responsibilities within their future roles as educators and should occur in environments where they learn how to meet professional standards. Field placement should also be “characterized by collaboration, accountability, and an environment and practices associated with professional learning. Field experiences represent a variety of early and ongoing school-based opportunities in which candidates may observe, assist, tutor, instruct, participate in service learning projects, or conduct applied research” (NCATE Standards 2008, p. 32). These placements should allow for “full immersion” into the educational setting, allowing for demonstration of their future professional roles (NCATE 2008).

These practicum and field experiences are designed to bridge the theory-to-practice gap, but that is not always case with all placements. To adequately bridge this gap, field placements and practicum experiences must align with best practices and demonstrate evidence-based teaching procedures. In order to link the theoretical perspectives learned during methods courses to practice in the field, teacher preparation programs must design their programming to ensure field-based learning is sequenced both within the curriculum and throughout program coursework (Allsopp et al. 2006). Programming must also include strong communication between teacher candidates, field-based practitioners, and campus-based instructors where all parties need to have explicit understanding and support the purpose of field experience in adherence with professional standards (Capraro et al. 2010). Preparation programs need to also provide frequent evaluation and collect ongoing data on teacher candidates in field placements to ensure strategic placement of candidates with experienced practitioners, adequate progress is being made (Allsopp et al. 2006), and to provide professional development opportunities for mentoring practitioners as a means to stay current on best practices in the field (Capraro et al. 2010). Field placement and practicum are an integral part of teacher education programs, but to be beneficial for all educational stakeholders, these placements must be developed and implemented with the utmost efficacy in their professional field, which will foster consummate student learning.

The course instructors strategically place all practicum participants to ensure their areas of need are being addressed and they achieve mastery of all transition education practices. An example of this would be if a participant scores low in the Standard 2-S2.1—*Provide teachers with instructional practices and related activities to embed transition content within general academic courses* (Council for Exceptional Children 2013), he or she would be placed a site known for infusing transition education into its general education courses. During the site visit, the practicum student would interview site staff and observe the exemplary programming, then write a reflection on the practicum placement, and detail how they will use this new knowledge to improve their current practices. All practicum participants are required to make various site visits during the span of the course. Additionally, assignments in the course are focused on improving transition knowledge through research and practice. One of the most important assignments is geared specifically toward each individual’s improvement in transition education knowledge through a final cumulative assignment on their personal implementation of a transition education improvement plan

at the school, local, state, or national level. To demonstrate beneficial learning, the final requirement of the course requires participants to synthesize their knowledge and write an article for a journal in the field of education geared toward educating practitioners on how to improve their transition education practices. This transition practicum provides a means for all the key components taught throughout the graduate programming to come together in demonstration. Upon completion of the program, participants receive their Master of Education as well as certification as a Transition Specialist.

## **Strategy #4: Explicit Instruction on Developing Indicator 13—Compliant Transition Plans**

The US Department of Education requires each state to evaluate 20 special education performance indicators to ensure compliance with IDEA 2004 educational requirements. Indicators related to transition include 1, 2, 13, and 14. In simplified terms, Indicator 1 is percent of students with disabilities who graduate within 4 years with a regular diploma. Indicator 2 is the percent of students with disabilities who drop out. Indicator 13 measures eight specific transition requirements needed in compliant IEPs addressing transition planning.

Percent of youth with IEPs aged 16 and above with an IEP that includes appropriate measurable postsecondary goals that are annually updated and based upon an age appropriate transition assessment, transition services, including courses of study, that will reasonably enable the student to meet those postsecondary goals, and annual IEP goals related to the student's transition service needs. There also must be evidence that the student was invited to the IEP Team meeting where transition services are to be discussed and evidence that, if appropriate, a representative of any participating agency was invited to the IEP Team meeting with the prior consent of the parent or student who has reached the age of majority. (OSEP 2018, p. 18)

Indicator 13 is process oriented and assures conformity to IDEA, but also provides structure for developing IEPs which adequately plan for and prepare students with disabilities for postsecondary education, training, employment, and independent living. While Indicator 13 is more process oriented, Indicator 14 shifts the data collection to more of a result-oriented process (Gaumer Erickson et al. 2014). Indicator 14 measures the percent of youth who are no longer in secondary school, had IEPs in effect at the time they left school, and were

(a) enrolled in higher education within one year of leaving high school, (b) enrolled in higher education or competitively employed within one year of leaving high school, or (c) enrolled in higher education or in some other postsecondary education or training program; or competitively employed or in some other employment within one year of leaving high school. (20 U.S.C. 1416(a)(3)(B))

Compliance in transition planning has been an important indicator of transition success. Using compliant indicators plays a pivotal role in guiding appropriate transition practices. Past research has shown that schools districts fail to develop complete and compliant transition plans (Landmark and Zhang 2012), despite research maintaining compliant transition plans lead to more successful postsecondary outcomes (Gaumer Erickson et al. 2014). Current teacher candidates do not receive targeted instruction on the meaning or importance of indicators, which contributes to non-compliant transition plans (Doren et al. 2013). Teachers report a lack of comprehension of federal mandates and lack of training on implementing practices that adhere to these guidelines (Finn and Kohler 2009). In order to address these issues, teacher preparation programs need to ensure students are learning both the process-oriented and result-oriented foundations rooted in IDEA. Teachers improve their transition knowledge through focus on relevant content, opportunities for active learning, team-based participation, and sustained planning and implementation (Holzberg et al. 2018). Program strategies are provided here to explicitly infuse this content into teacher preparation programs. The University of Oklahoma's transition course sequence includes two courses that cover the IDEA State Performance Plan Transition Indicators and requires students to accurately complete transition pages of the IEP to ensure Indicator 13 compliance. Prior to writing the IEP, pre-service teacher candidates are taught through rich discussions and demonstration of IDEA mandates and implications in practice. They then build upon this knowledge step-by-step through construction of an IEP with a transition plan. The IEP is developed from individualized case studies including background knowledge, student assessment results, and student preferences. The candidates work collaboratively with peers and instructors during this process to confirm the appropriate methods are being used, which, in turn, increases their awareness of the individualized focus associated with IEPs after being exposed to their peers' IEP projects. Once the IEP with transition plans is completed, the teacher candidates use an Indicator 13 checklist (NSTTAC 2012) to evaluate their work and make any adjustments necessary to safeguard they are compliant with federal regulations. This in-depth analysis of IDEA 2004 requirements ensures the candidates are well-versed in this important aspect that may lead to improving postschool outcomes for their students (Fig. 6.3).

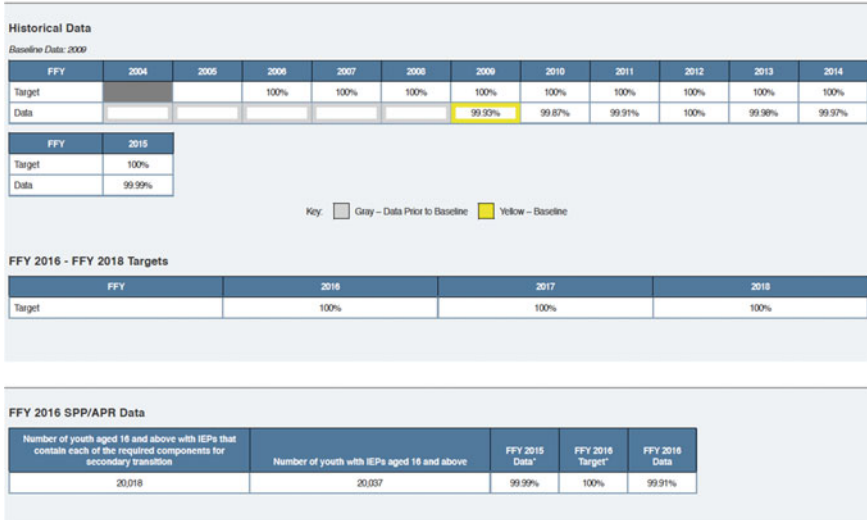
In conclusion, the authors hope that additional universities will be able to utilize this information to build strong teacher preparation programs which ensure strong educational backgrounds for graduates in the area of transition education. Students with disabilities continue to experience lower postsecondary outcomes when compared to students in general education. One of the best methods to address this problem is through teacher preparation coursework (Williams-Diehm et al. 2018). Table 6.3 outlines students comfortability with the CEC domains upon graduation. These results show stark improvement from the initial survey self-evaluation.

**FFY 2016 Part B State Performance Plan (SPP)/Annual Performance Report (APR)  
Indicator 13: Secondary Transition**

Monitoring Priority: Effective General Supervision Part B / Effective Transition

Compliance Indicator: Percent of youth with IEPs aged 16 and above with an IEP that includes appropriate measurable postsecondary goals that are annually updated and based upon an age appropriate transition assessment, transition services, including courses of study, that will reasonably enable the student to meet those postsecondary goals, and annual IEP goals related to the student's transition services needs. There also must be evidence that the student was invited to the IEP Team meeting where transition services are to be discussed and evidence that, if appropriate, a representative of any participating agency was invited to the IEP Team meeting with the prior consent of the parent or student who has reached the age of majority.

(20 U.S.C. 1416(a)(3)(B))



**Fig. 6.3** Annual state performance report

**Table 6.3** Graduate student knowledge at final survey on transition standards

Domain number	Not comfortable (%)	Slightly comfortable (%)	Moderately comfortable (%)	Very comfortable (%)
1.0	0	5.7	28.6	65.7
2.0	0	3.0	26.5	70.6
3.0	0	0	38.2	61.8
4.0	0	9.1	21.2	69.7
5.0	0	0	48.5	51.5
6.0	0	3.0	30.3	66.7
7.0	0	3.0	15.1	78.8

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# Chapter 7

## Training Teachers to Become Effective Life Design ‘Agents of Change’: Suggestions and Directions for Future Actions



Lea Ferrari and Teresa Maria Sgaramella

**Abstract** Several efforts have been devoted in the last decades to identify the essential skills, knowledge, attitudes and values that characterize inclusive teachers and to develop training programmes and curricula that take all this into account. According to the UN 2030 Agenda for sustainable development, teachers are also called to renew their visions and skills in order to provide career education to all their students, thus promoting positive development and reducing the risks of complex transitions. After reviewing the most relevant literature, this chapter deals basically with the question of the relevance and the feasibility of training teachers to become effective life designing agents of change and prevention. Conceptual bases currently relevant are described together with possible steps and actions suggested by past and recent Italian experiences for positively addressing these issues.

**Keywords** Inclusive teachers · Career education · Prevention · Teacher training · Positive transitions

### Introduction

It is well known that September 2015 marked a change of pace with the 17 Sustainable Development Goals (SDGs) set up by the UN being formally adopted by all 193 member states. With its 169 targets, the UN 2030 Agenda has rapidly become a global framework supporting efforts and investments in meeting ‘the needs of the present without compromising the ability of future generations to meet their own needs’ (Brundtland Commission, WCED 1987, p. 43). Reducing poverty, protecting the planet and ensuring prosperity for all are mentioned as the main aims which require addressing key challenges such as climate change, innovation and sustainable consumption, collaboration among countries, peace and social justice. More

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specifically, in the field of vocational psychology, the idea of dignified and decent work has recently emerged as a key SDG strategy to realize individual and societal well-being especially for marginalized groups (Blustein et al. 2019). Accordingly and adopting a preventive perspective, education and teachers are viewed as potentially very effective agents of change towards developing a sustainable world and achieving decent work (Annan-Diab and Molinari 2017). As reported in the 4th SDG, *there are in fact several challenges that teachers can and should embrace across the world to co-construct a better future for their students* (Guichard 2018). Moreover, reaching SDGs requires adopting a positive contamination attitude such as advancing along unusual paths and drawing inspiration and suggestions from diverse approaches. More specifically, they are required to incorporate inclusive views and visions, become more open to participation and equity, disseminate and share know-how coming from the world of disability, as well as to integrate into their frameworks insights suggested by career construction and career education that value and advocate for self-determination and prosperity for all. Two apparently distant fields of research that can support us in finding new insights and suggestions to advance teachers' education and constructing curricula promoting professional goals more in line with our times (Ferrari et al. 2017). As regards transitions, these actions possess a high potential insofar as education is concerned and especially teachers working in secondary education can certainly support students facing and dealing with current and incoming transitions within the educational system and towards the world of work. They can actually contribute not only to secondary prevention, and so changing the endings of people's stories, but also and with long-term effects with actions carried out in primary school or even earlier they can accomplish effective primary prevention (Israelashvili and Romano 2016; Welde et al. 2016).

Within this perspective, we will first discuss the concept of inclusion and inclusive teachers as the premise supporting the need to invest more efforts in their training. Secondly, we will emphasize the role of career and life designing in building all children's ability to design their own life before career issues can arise and school-to-school or school-to-work transitions risk to reduce the pursuing of decent and dignified work. Thirdly, we will describe the teachers' training education currently provided in Italy and highlight its potential contribution to SDGs.

## **Inclusion and Educational Contexts**

Disability studies and many international institutions, most notably the World Health Organization (WHO), have emphasized the need to review the traditional vision of disability and adopt participation and inclusion as the guidelines driving thoughts, emotions and actions of every single individual (WHO 2001). The *International Classification of Functioning, Disability and Health* (ICF) framework looks at disability from the perspective of 'function' for which we all vary. The key point of intervention and policy is to assess what accommodations and resources individuals need in order to be fully included and thrive. As a result, definitions of inclusion



typically include several aspects ranging from equitable access to the development of human potential to engaged participation (Ainscow and Messiou 2018).

Linking this definition more specifically to educational contexts, UNESCO (2015) underlines its role as ‘a process that helps overcome barriers limiting the presence, participation and achievement of learners’ (p. 13). The motto ‘every learner matters and matters equally’ well summarizes this view. Similarly, Robinson (2017) stresses that it refers to the process through which education systems respond to diverse learners in ways that enable participation, equal opportunities, respect for difference and social justice.

The salience of the role that context may play, as suggested by ICF, and the idea that inclusion concerns everyone induced a specific attention to actions everyone can undertake in constructing an inclusive context. Recent contributions have come, for instance, from an analysis conducted by several authors on answers provided from all over the world by more than 600 adults asked to complete a set of open-ended questions to participate in the construction of a manifesto on inclusion (Nota and Soresi 2017). Sgaramella and Scorgie (2017), who contributed to this analysis, identified what they called *two postures* towards inclusion.

The first posture refers to engaging in *looking inward*, that is reflecting on attitudes and dispositions and reflecting on a mindset for inclusion. The act of looking inward, that is to examine attitudes, beliefs, values and behaviours, defines the identity that individuals recognize to themselves and which is reflected in the various roles they play in everyday life. Acts following from such self-reflection deal, for instance, with developing personal attitudes and dispositions supportive of inclusion, such as open-mindedness, respect for others, empathy, sensitivity but also responsibility and commitment to one’s own values. The second posture refers to *looking outward*, that is working in various contexts to promote and secure inclusion; acting in a way that vigorously stimulates inclusion practices across different domains and contexts.

All these actions facilitate access to supports needed within the community, development of a sense of belonging, and opportunity to expand knowledge and engage in significant experiences as members of the community. These postures are not mutually exclusive. They can be conceptualized as the two sides of the same coin, as two aspects of a continuous tension that can support individuals in their journey towards inclusion. Moreover, these postures can apply both to private and public contexts, to civil community contexts and institutions and organizations where they are tailored-made to promote inclusive relationships and partnerships, policies and actions.

The emphasis on looking inward and outward can be easily traced and highlighted in the explicit recommendations of the European Agency for Development in Special Needs Education (2012) in illustrating the work and skills of inclusive teachers. In the final report that summarizes the result of the project ‘Teacher Education for Inclusion’ (TE4I), the values of inclusive teachers and of their areas of competence (see Table 7.1) are described in detail with the aim of disseminating shared guidelines and designing training courses for inclusive teachers.

It is evident that there is the need to develop and implement educational pathways for training teachers capable of significantly impacting a complex set of variables,

**Table 7.1** Values and areas of competence of inclusive teachers

Values	Areas of competence
Valuing learner diversity	<ul style="list-style-type: none"> <li>• Conceptions of inclusive education</li> <li>• Teachers' view of learner difference as a resource and an asset to education</li> </ul>
Supporting all learners	<ul style="list-style-type: none"> <li>• Promoting the academic, practical, social and emotional learning of all learners</li> <li>• Effective teaching approaches in mixed classes</li> </ul>
Working with others	<ul style="list-style-type: none"> <li>• Working with parents and families</li> <li>• Working with colleagues and a range of other educational professionals</li> </ul>
Personal and professional development	<ul style="list-style-type: none"> <li>• Teachers as reflective practitioners</li> <li>• Initial teacher education as a foundation for ongoing professional learning and development</li> </ul>

among them intentions, attitudes, concerns, knowledge about disabilities and innovating teaching strategies. Kurniawati et al. (2017), for example, involved a group of in-service primary school teachers. They found that 32 h of face-to-face training sessions focused on attitudes and knowledge about special education needs (SEN) and on teaching strategies produced a significant increase in the dimensions addressed, which ranged from medium to large effect size. Aiello and Sharma (2018) describe the impact of a postgraduate university master's course proposed for persons wanting to become support teachers in which special and inclusive didactics and pedagogy were taught for 157.5 h. In total, the lectures, workshops and onsite practice amounted to 750 h of activities. The authors showed the effectiveness of the course in increasing primary, middle and high school teachers' attitudes and self-efficacy and in reducing their concerns about inclusive education.

Robinson (2017) describes a one-year research project attended by teaching assistants, pre-service teachers and serving teachers. In the first phase, lesson activities were based on observation data: A student-teacher worked with a more experienced teacher in analysing the data, co-planning and rethinking the teaching to improve its inclusivity. The second phase was devoted to setting up a personalized learning plan for students practising assessment of student resources, defining, implementing and monitoring personalized goals. In the third phase, teaching assistants were involved with the aim of observing and providing feedback to student teachers as well as organizing workshops on communication, working with parents, nurture groups and behaviours.

The number of topics and the length of time required to implement the training described in the literature clearly indicate the need for greater investment in terms of research to understand factors that are more effective in positively impacting attitudes and personal competences as well as in monitoring implementation of inclusive strategies and achievement of sustainable outcomes. In terms of contents, actions fostering inclusion can extend their domain and go far beyond time-framed boundaries, thus addressing more general developmental goals. Recent approaches to career and

life designing can provide a relevant theoretical background to pursue this goal as they emphasize the role that resources and strengths may play in positive identity development and in the transition to the world of work also for those who experience disability and vulnerabilities (Sgaramella et al. 2015b).

## **Career and Life Designing as Support to the Agenda**

In career and life designing, a prominent role is actually given to approaches that take into consideration the complexity of today's world, open the horizons to heterogeneity of perspectives and focus their attention on constructs, tools and interventions that can respond more ethically and equally to global and personal challenges, and on fostering resources and early building capacities for present and future designing (Guichard 2018). Teachers, more than in the past, are recognized as professionals who can make a difference in the lives of their students also concerning career issues (Zhang et al. 2018). Typically, they have the possibility both to integrate career contents into their course content and to realize specific career education programmes outside their subject (Welde et al. 2016).

Accordingly, a turning point has been marked by approaches depicted as lifelong, holistic, contextual and preventive in which the process of self-construction and relationships in the diverse contexts of life play a crucial role. Career and life designing aims at promoting skills and competences in life planning, thus responding to new opportunities as they arise as well as creating new occasions for growth. The goal is in fact to equip people to learn 'how to do' rather than 'what to do', by opening their view to contexts, and thus instilling the seeds of advocacy and equity for themselves and for others, and adopting a preventive and inclusive perspective. At this regard, a growing interest is devoted to promoting career adaptability and its components (concern, control, curiosity and confidence) as a psychosocial set of resources for managing transitions and successfully adapting to the environment (Savickas et al. 2009).

Within a perspective of positive contamination, several other constructs derived from conceptually close approaches and theories are called into play to provide the greatest benefit for all individuals and their life contexts. Among this self-determination that enables people to be the causal agent in their life, problem-solving competencies that enable people to deal with non-routine situations and social skills that guarantee communication and collaboration in systems complexities predict outcomes such as employment and community participation in the twenty-first century (Shogren et al. 2015; Funke et al. 2018). They in fact positively orient attitudes towards one's own future personal story, support understanding complexities and detecting at-risk situations. Moreover, learning actions and behaviours associated with these personal and contextual resources influence successful transition and access to the world of work (Koen et al. 2010; Hirschi et al. 2011). This also applies to students with vulnerabilities among which those with 'special needs' are included. They are actually increasingly required to manage and address barriers

and challenges that impact life and career transitions and changes (Sgaramella et al. 2015a). Additionally constructs such as hope, optimism, resilience and future orientation were shown to positively affect life satisfaction and mediate the impact of career adaptability on multiple outcomes (Santilli et al. 2018).

Accordingly, adopting a positive youth development (PYD) perspective (Lerner et al. 2011) is particularly meaningful for the emphasis on the acquisition of resources and competencies and the development of a positive identity. The development of the five Cs (competence, confidence, character, caring and connection) promotes resources that when simultaneously present maximize the probability of finding oneself in successful trajectories. It has been in fact shown that adolescents who score higher on PYD also score higher on 'contribution', active and engaged citizenship (Lerner et al. 2011).

Career and life designing and PYD perspective both share a common emphasis on promoting *people's freedom* to achieve the functioning they value, agency and self-determined goals; a *lifespan perspective* on the development of identities and social roles; a *holistic perspective* with attention to contexts, both local and global. They also share a focus on *providing opportunities* in the work and learning domains; on *exploration* to support people in developing a full understanding of their own characteristics and their routes to overcome barriers; on *maximizing capabilities* in challenges that individuals, especially those who experience vulnerabilities, face in everyday life. A dual tension between present and future characterizes the two approaches, with the first placing the emphasis on *designing*, that is, fostering and developing resources to actively project themselves into the future and designing future goals and paths, and the second more on *capacity building*, that is, fostering and developing resources useful to deal with current everyday life and to achieve positive outcomes useful in their present and future life. Context, which was initially under scrutiny because of the support that persons in the living environment (parents, peers, teachers) can provide, has now a different role in the actions carried out insofar as the community's capacity building can be seen as one of the goals of the actions undertaken.

Both of them are nonetheless in line with the 2030 Agenda and the goals of sustainable development. By adopting paradigms close to *Universal Design for all*, the core dimensions addressed have a universal value. The tools should then be conceptually designed to be used with a wide variety of clients with the aim of enhancing hyperdiversity and giving everybody the opportunity to benefit from the advantages of career counselling and education. The ability of researchers to adopt an inclusive perspective becomes crucial as does the ability of professionals to personalize their work taking into account the needs of their clients and avoiding the adoption of a priori 'special' visions. Keeping this in mind, Ginevra and Nota (2018), for example, tested in mainstream classes, an intervention programme to teach primary school children knowledge about professions and the world of work thus facilitating their career adaptability development.

Actively involving teachers and providing them specific training play a crucial role (Slomp et al. 2014). One of the few studies on training programmes in career guidance for teachers that refer to life designing was conducted by Kuijpers and

Meijers (2017) with the aim of enabling them to engage in effective career dialogues with students. In the three days of the off-the job part, participants were trained with theory explanations, exercises, role playing and analysis of video-recorded career conversations. In the on-the-job part, national experts trained two teachers for each of the involved schools for four days with the aim of enabling them to create a team that implements career dialogues into the school. A fifth day was used to discuss all the teaching and learning process. Results confirm the possibility to train teachers to become effective agents of change opening to new contents such as inclusion, participation and sustainability.

### **Training Programmes that Allow Teachers to Become Agents of Change: The Italian ‘Curriculum Formativo’ as a Reference Model**

As concerns the Italian context, we are proud to say that our country is universally recognized as a pioneer in inclusive education. The Italian history of inclusion followed three main waves that improved school reforms and the various laws that were promulgated first in favour of placement, then of integration and more recently of inclusion. Law N. 118/1971 opened the way to giving parents the choice of whether their children with disabilities would attend special schools or be included in mainstream classes. However, the support provided was mostly limited to transport, access to facilities and assistance in the most serious cases. The idea of integration intended as taken over by the teachers of the class was promoted by Law 517/1977 which also introduced the figure of the ‘support teachers’ and by Law 104/1992 which definitively ratified integration in all school levels. The creation of the support teacher was a special moment in the field of teacher education as it led to the setting up of specific training programmes which were added to the traditional teacher courses. Unfortunately, however, this also effectively established a division of roles and marked the support teacher as working one-to-one with the child with disability rather than together with the class teacher. At the end of the 1990s and in the early 2000s, Italy adhered to international conventions, the idea of inclusion became predominant and the training for teachers began to involve higher education. Initially, the course lasted four years with a further year allowing students to acquire the specialization necessary to become support teachers.

In the 1990s also career education began to become relevant. The 1997 ministerial directives effectively sanctioned vocational guidance and career education as an institutional activity in schools of all levels, an integral part of the study curricula and, more generally, of the educational and training process right from preschool. More recently, the national guidelines for lifelong guidance published by the Italian Ministry of Education, University and Research in 2014 underlines the strategic role of career education as an instrument that promotes active employment, economic growth and social inclusion, thus fostering a better future for every student. As a

result, the inclusive value of career education was recognized. Although specific training actions aimed at teachers have not become part of the training curricula, teachers are expected to attend further study courses after graduation. Many universities activated such courses, and at the University of Padova, a postgraduate master course has been provided since 1996 (Nota et al. 2005).

As concerns the degree programme in science of primary education, the current five-year long curriculum (300 European Credit Transfer, ECT) is structured as a single common curriculum both for kindergarten and primary school teachers. An integral part of the study plan is 320 h devoted to 16 laboratory activities and 600 h dedicated to direct and indirect internship with compulsory frequency. The characterizing formative activities are grouped into two main areas: The first focuses on school learning and includes linguistic, literary, historical, geographic, mathematical–scientific disciplines, motor activities, visual and musical arts. The second concerns teaching aimed at promoting the inclusion of pupils with disabilities and vulnerabilities. It comprises inclusive pedagogy and teaching for inclusion, psychology of disability and inclusion, clinical psychology, developmental and educational psychology, child neuropsychiatry and psychopathology, legislation and health education.

A closer look at the course on inclusive pedagogy and teaching for inclusion is informative. Students learn to define the concepts of integration and inclusion, to refer it also to our legislation and to define disability in accordance with the International Classification of Functioning (WHO 2001). Models and teaching strategies to work for and improve inclusive schools are also provided with the aim of helping future teachers in their work, especially with students with SEN and learning disabilities. Special emphasis is given to cooperative learning, study strategies and class management.

Additionally, the course on psychology of disability and inclusion focuses on promoting inclusion through knowledge about disabilities and learning how to implement activities aimed at developing positive attitudes among peers of students with disability, and how to acquire helping and solidarity behaviours. Basic knowledge of positive career construction is also provided with the aim of helping future teachers to work with parents and students with disability to positively invest in the future and develop a personalized education plan.

Similarly, under the guidance of the Ministry of Education and in collaboration with the regional administration, a number of postgraduate courses have been proposed to teachers interested in working as specialized support teachers. The three courses provided annually at the University of Padova are proposed by the Department of Philosophy, Sociology, Education and Applied Psychology and coordinated by Marina Santi, professor of didactics and special pedagogy, and Laura Nota, professor of career counselling and vocational guidance. About 720 teachers, ranging from kindergarten to secondary school, have already attended the courses. Each course lasts one year and involves participants in a total of 930 h of teaching activities (60 ECT), including subject courses and thematic seminars, laboratories, practice and a final essay. Table 7.2 summarizes disciplines and topics addressed in the course.

**Table 7.2** Disciplines and topics addressed in the postgraduate course for specialized support teacher

History of pedagogy and special teaching	Introduction to special pedagogy, main approaches; strategies for teaching students with intellectual disability and generalized developmental disorders
Developmental psychology and education	Models of learning and cognition, moral development; self-determined development and social skills; parents as supports to inclusion
School legislation on school integration	Primary and secondary law-based tools; care and educational support in diverse educational contexts, with a specific attention to school
Developmental neuropsychiatry	Basic characteristics and patterns of neuropsychiatric disabilities, with an emphasis on deficits and skills relevant for activities carried out in educational contexts
Life projects and quality of life models	Conceptual and methodological tools useful to optimize the cognitive and metacognitive potentials for meaningful learning, for orienting and developing students' commitment to future goals and a life of quality
Personalized educational plans	Co-designing, co-management and co-evaluation of life projects; emphasis on the principles of authenticity and personalization
Teaching and learning with sensory disabilities	Teaching skills for working when dealing with visual and other sensory disability, aimed at developing communication and language skills
Special teaching skills	Cooperative and metacognitive approaches and techniques that can be used in learning for students with disabilities in an inclusive perspective
Pedagogy of helping relationships	Managing communication in educational relationship with an inclusive community approach
Integrated management of class group	Pedagogical skills in an integrated management of the class group; social representations on disability
Models for integrated psycho-educational intervention	Positive, adaptive and inclusive approaches useful in managing class group and the interactions among students; promoting social relations with students having intellectual disability and generalized developmental disorders; guiding principles for age specific career education activities with emphasis on career positive resources and sustainability approach and resources, such as resilience and future time perspective and adaptability

With an interdisciplinary approach based on the principles of the bio-psycho-social model of functioning and on positive approaches aimed at well-being, different themes are dealt with from a theoretical and applicative point of view. Inclusion and participation act as a *leitmotif* by addressing the analysis of the concept of inclusion, definitions and indicators of inclusion, rights and commitments to inclusion, individualization and personalization for inclusion.

The course, 'Integrated models of psycho-educational intervention for intellectual disability and generalized developmental disorders' paid particular attention to students with disabilities and vulnerabilities and addressed several topics: challenges in our current society, threats to inclusion, barriers created by new forms of labelling and the role that inclusion plays in the twenty-first century. Considerable time was devoted to the analysis of psychological resources and attitudes towards present challenges and future planning, both personal and professional. In particular, with theoretical insights and laboratory activities, knowledge and practical activities to be implemented in the educational context were proposed for the development of social skills, executive skills and career adaptability resources. Teachers were supported in reflecting on the inclusion process and in the construction of future citizens more attentive to the needs and inclusive objectives contained in the 2030 Agenda.

We had the opportunity to analyse the participants' reflections and to read them in light of Agenda 2030. In a first study, Sgaramella et al. (2016) analysed the answers provided by 142 teachers, from kindergarten to high school, to questions on what inclusion is for a teacher in the twenty-first century and what actions teachers are called upon to carry out in order to support it. The answers underline the role of several actors in the context, mainly colleagues, parents and children as well as the relevance of actions carried out by them. Colleagues were indicated as crucial in the process of inclusion (66% of cases) and their actions, when not in favour of inclusion, were perceived as the greatest barrier (67%). Together with the relevance of working in an environment where inclusion represents a value and goals of actions, this result suggests that working to promote participation for all can never be taken for granted and does require constant commitment. Children were mentioned less than colleagues (12% of cases) and their difficulties in becoming inclusive emerged as salient (89%), suggesting it is a goal that school education teachers should address. Similarly, parents emerged as relevant partners (13% of cases) and again the descriptions highlighted the risk of no action (71%) and a limited proportion of supportive and collaborative actions, suggesting the need to devote some effort to their involvement to make a significant impact on their community.

More significantly, teachers highlighted the relevance of working to achieve an inclusive context in order to develop their own professional development and describe actions that inclusive teachers can carry out: *persevering*, that is enduring adversities in order to reach a relevant goal and suffering with dignity (20%); *reacting*, addressing a complex or risky situation determined by an error, a problem or a crisis and events counting on personal characteristics, skills or facing risks (23.5%); *oppositioning*, taking the initiative in confronting with and contrasting other meanings (22.6%); *changing*, facing challenging and difficult situations in order to improve, develop and innovate (33.9%). These results support the importance of inclusive teachers to



be agents of change who (a) *develop and express the courage* to shift the attention onto students' positive characteristics in order to set up constructive and effective life planning; (b) *agentically contrast threats to inclusion*, implementing personalized actions and programmes to foster participation of all; (c) *stimulate opportunities* by taking advantage of resources and supports, developing opportunities ex novo, or encouraging those already available both within the school or in a larger context; (d) *recognize and promote the uniqueness of people* contributing to feelings and behaviours that express personal efficacy, solidarity and respect for all; (e) *recognize their personal role* as agents of change; (f) *activate and develop* ideas about personal and professional growth through their goal orientation, hope and resilience.

In a second study, a group of 48 teachers who attended the course were asked to answer some questions about their definition of career counselling and education as well as their role as specialized teachers in the career construction of their students. As concerns the definition of career counselling and education, two main categories emerged. The first refers to the goals it allows to achieve and includes: (a) 'knowledge about themselves' when the emphasis is on becoming aware of personal strengths and weaknesses (i.e. 'clarifying passions and beliefs'; 'it concerns children's passions and interests'; 'to develop self-reflection'), mentioned by 17 (24.3%) participants; (b) 'knowledge about the world of work' when the emphasis is on acquiring more knowledge about occupation and occupational trends (i.e. 'providing them with higher knowledge about a lot of jobs'; 'knowing better the parents' jobs'), mentioned by 11 (15.7%); (c) 'making informed decisions', where the emphasis is on making decisions (i.e. 'guiding children towards achieving decision-making skills in the present and future'; 'it aims at fostering informed choices to facilitate transitions'), mentioned by 9 (12.8%); (d) 'thinking about the future and defining a life project' where the emphasis is on projecting into the future (i.e. 'to realize the life project'; 'to provide children with a new *forma mentis* and open horizons'), mentioned by 13 (18.6%). The second category concerns its educational usefulness, and it includes: (a) the 'importance' and the positive characteristics of this activity (i.e. 'fundamental'; 'useful'), mentioned by 7 (10.0%); (b) 'a tool that teachers should use to help students' where the emphasis is on the activities teachers can implement (i.e. 'a path that should be divided into steps'; 'a path that should be discussed with the student'), mentioned by 13 (18.6%).

As concerns the possibility to implement career counselling and education, two main categories emerged. The first refers to contextual resources and includes: (a) 'colleagues' support' where the emphasis is on the supportive role colleagues and principals can have (i.e. 'if I have a team of experts'; 'if the team of teachers is collaborative'), mentioned by 14 (28.6%); (b) 'parent involvement' where the emphasis is on positive school-family partnerships (i.e. 'I believe parents' participation is interesting and meaningful for children'), mentioned by 3 (6.1%); (c) 'possibility to attend specific educational training' where the emphasis is on professional expertise (i.e. 'if adequately trained'), mentioned by 9 (18.4%); (d) 'more time at their disposal' where they emphasize the necessity to have more time (i.e. 'if I had more time'), mentioned by 6 (12.2%). The second category covers specific career activities that include 'curricular activities' where the emphasis is on implementing career

education at school (i.e. ‘it should be part of the regular curriculum’), mentioned by 12 (24.5%); ‘the school-to-school or school-to-work transition’ where the emphasis is on working to facilitate transition (i.e. ‘it could be profitable to work with other school grades’), mentioned by 3 (6.1%). Two (4.1%) answers were not classified.

To summarize, if among these teachers, more traditional aspects such as self-knowledge and the world of work emerge as important goals of career education, other elements will arise that are more in tune with current positive approaches to career and development which emphasize a life project and a holistic vision of the individual. This embraces the inclusive and sustainable achievements mentioned in the 4th SDG on education. In its first point, in fact, it emphasizes the need to ensure the completion of quality education, fair and free for all. The responsibility that teachers have when they recognize themselves as significant agents of change in the life of the students they are working with emerges as crucial and includes the involvement of all the actors of the learning process. The prospect of co-building, together with colleagues, parents and communities that work as one towards the common goals appears to be a basic requirement to bring about a significant change.

## **Final Comments upon the Journey Towards Inclusive Career Development**

The sustainability approach with its declinations in the 2030 Agenda can be seen as the conceptual basis for forthcoming actions and more effective educational programmes. Monitoring progress towards education is, in fact, a target adopted by the United Nations member states in 2015 and by many others as the World Education Forum in the ‘Education 2030 Framework for Action’ (UNESCO 2015). Echoing the leading commitment of SDGs to leave no one behind, teachers are called to be active agents in ensuring inclusive and equitable quality education and in promoting lifelong learning opportunities for all, regardless of the subject, specialism or age range they teach or the type of school they work in (European Agency for Special Needs and Inclusive Education 2012).

Career guidance and education emerge as a key that might significantly and successfully open the door for ‘the full and effective participation, accessibility, attendance and achievement of all students, especially those who, for different reasons, are excluded or at risk of being marginalized’ (United Nations Committee on the Rights of Persons with Disabilities 2016, p. 3). The Italian experience that had its founding principle in school inclusion suggests the following as key elements that appropriately adapting to diverse cultural contexts could guide the development of training programmes for teachers to become agents of change:

- Adopting inclusive approaches, providing knowledge about disabilities and their psychosocial impacts;
- Adopting positive developmental and career approaches that focus on strengths of all children, with and without disability;

- Disseminating teaching strategies based on personalization thus meeting the needs of each student in a preventive and lifelong perspective;
- Providing knowledge of specific training programmes and implementing strategies that could value diversity and facilitate career and life designing with the aim of actively contributing to sustainability and equipping people in achieving decent and dignified work for themselves and others;
- Providing practical experiences in the form of tutoring and supervision, and engaging teachers in a reflective process that allows them to renew themselves as citizens and professionals;
- Stimulating sustainable planning skills to co-construct partnership with community members and stakeholders (i.e. parents, research centres, public institutions, etc.).

By adopting the suggested views and undertaking the associated actions, teachers will then play a key role in the journey of inclusive career development and prevention of transition issues under the umbrella of sustainability.

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# Chapter 8

## Social Workers' Strategies for Supporting Career Transition for Disadvantaged Girls with SEN: A Hong Kong Case Study of a Class in Digital Drawing



Victor Wong and Toby C. Y. Yip

**Abstract** By discovering the strengths of students with special educational needs (SEN), we can develop better ways of helping them gain self-esteem and empowerment. This chapter contests the notion of being ‘learning-disabled’ by indicating how students with SEN are actually ‘differently-enabled’ when career practitioners adopt a neurodiversity perspective. We provide a case study to illustrate how Hong Kong social workers in a community-based career development project supported three disadvantaged girls with SEN to consider their options more positively when making the transition from school to work. It represents an example of a ‘strengths-based’ and ‘empowerment-oriented’ approach that builds on the girls’ deep interest in digital drawing to pursue a meaningful learning process in career path exploration.

**Keywords** Career and life development · Digital drawing · Dyslexia · Leisure pursuits · Transition

### Introduction

In our practice in Hong Kong, we apply the acronym SMART (Strengths-based, Meaningful, Aspirational, Realistic, and Talents-based) to facilitate learners in preparing a career path. We believe that by using strengths, talents, interests, and aspirations, individuals can make realistic career decisions to fulfil their dreams and make a better future.

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## ‘I Draw, Therefore I Am’

This chapter tells the career learning journey of three disadvantaged girls who have a dream to become anime artists. The three girls were ‘doodlers’ during their primary school years and, perhaps trying to kill time in the classroom, they drew impulsively, sometimes incessantly, in the margins of textbooks and exercise books, or on walls and notebooks when they were at home. They have all been classified as students with special educational needs (SEN)—Amelia with moderate dyslexia, Billie with severe dyslexia, and Chalice with early psychosis, social phobia, and a school record of being bullied. These are, of course, fictitious names to conceal their real identities. Informed consents had been obtained from them for sharing of research data for academic, educational, and professional training purposes.

The career learning journey began for the girls in the summer of 2017, with two social workers from a community-based Career and Life Adventure Planning Project for Youth (*CLAP for Youth @ JC Project*) funded by the Hong Kong Jockey Club Charities Trust. As a starting point, what do these three girls have in common? The CLAP worker (a social worker) said, ‘The first time I met them, Amelia was on the verge of dropping out of high school. Billie had just dropped out of a vocational education program. Chalice was a socially withdrawn youth who had stayed at home for more than two years’. It is well recognized that students who disengage from or drop out of education have major problems in identifying a career path and in transitioning to employment (Duffy and Elwood 2013; McMahon et al. 2016; Roberts 2005; Williamson 1997). In terms of social status, the girls could be regarded as either NEET youth (Not in Education, Employment, or Training) or a NEET-at-risk students, and therefore, they were referred by teachers or school social workers to the CLAP team.

When this chapter was submitted, the girls’ journey was still continuing. But over a period of about 18 months after they became involved, the social workers and the authors had already noticed positive and meaningful changes in the girls, especially in the areas of self-esteem and career awareness. By reviewing the girls’ stories and social workers’ practice narratives, we were privileged to witness the positive changes the girls have made regarding their self-regard, career hopes, and expectations.

Regardless of their history of difficulties in learning within the school curriculum, outside of school Amelia, Billie, and Chalice were fascinated with Japanese animation. Just by watching YouTube videos, and driven by their desire for creating beautiful manga artwork, they had mastered the basic drawing techniques without help. The social worker said, ‘They love drawing. They are self-directed learners in the world of anime and manga art. They prefer working and expressing themselves with pictures rather than with words, and their passion in pursuing beauty tends to get overlooked’. This strength that they have illustrated very well the notion that dyslexic students and others with learning difficulties should be regarded as ‘differently-enabled’ rather than ‘learning-disabled’ (Thompson et al. 2015).

## Responding to the Traditional Deficit Discourse

The deficit perspective on learning difficulties considers that learning problems stem from deficiencies within the learner, such as low IQ or perceptual impairment, or in the learner's environment (social disadvantage or poverty). These are seen as problems to be 'fixed'. Some scholars in the field have argued instead for adoption of a concept termed 'neurodiversity' that liberates practitioners from perpetuating the conventional deficit-based perspective (Armstrong 2012; Cooper 2006; Hendrickx 2010; Robertson 2009). These scholars remind us that for effective intervention of any type we need a mindset that is not solely based upon deficits but also recognizes that individuals simply differ in their cognition and neuro-functioning which results in differences in strengths, aptitudes, and interests. The relevant implication is that we have to step outside the conventional box with its focus on deficits, and use a new discourse and concepts to re-frame how best to engage students like Amelia, Billie, and Chalice (and all other at-risk individuals) in experiences that bring them a feeling of success (Benton et al. 2014; Damiani 2017). For example, if we look at these girls as possessing a talent that they have acquired by hard work and persistence, a strength that can really empower them, we are likely to devise helpful interventions.

Despite the existing bank of research on youth with SEN, relatively few studies directly address how to re-engage at-risk students with SEN. The project described here has contributed to the existing knowledge base on this population. In this project, social workers were involved with the authors as co-researchers, using a reflective approach with continuous discussion about our values, relevant 'practice wisdom' that questions traditional career intervention for young people with SEN, and how new strategies can result in positive career development outcomes (Cheung 2016; Scott 1990). Direct observation and in-depth interviewing were also conducted as data collection processes. Interviews were carried out with the girls and social workers on a one-to-one basis or in groups. Taken together, these discussions, observations, and interviews helped to answer three questions: (i) How do the social workers in the project re-engage these girls? (ii) How do the social workers take the girls' interest and strength in drawing as a medium for career learning? (iii) What supporting strategies are used, why and with what effects?

## Thinking Outside the Box

In order to re-engage the three girls, the project workers had to think in a different way, with a focus on a strengths-based approach and applying the Expanded Notion of Work (ENOW) strategy (Wong 2015). Career, in the language of ENOW, is not limited to paid work but can start from volunteering or engaging in leisure activities that may offer a mix of potential career paths (Stebbins 2014). Some of these paths may use a leisure pursuit to develop interest and motivation (Wong and Yip 2019).



As a result, the workers created an enabling space in which they regard the girls with SEN as career learners with a personal strength as the basis of any intervention.

## **The Strengths-Based Approach: Identifying What Motivates the Girls to Learn**

Moving young people with SEN from being ‘demotivated’ to be ‘ready to engage’ in career learning requires recognizing their strengths and empowering them. The belief that although they might have challenges in one area of learning, they also have talents in other domains is important. For example, Billie’s dyslexic difficulties affect mainly her literacy (reading and writing); and although teachers must bear in mind how these literacy difficulties affect her academic learning, self-esteem, motivation, and communication skills, they must not emphasize what she cannot do well, rather what she can do extremely well. For example, some studies have pointed out an association between dyslexia and artistic creativity (Bacon and Bennett 2013; Wolff and Lundberg 2002).

As an empowerment process, the focus on strengths magnifies the girls’ capabilities rather than highlighting any so-called deficits (Blundo 2001; DEECD 2012). During home visits, the social workers observed what the girls chose to do and often did well. The workers talked to each girl about what they were passionate about. This led to the discovery that anime drawing is a form of expression that allows Amelia, Billie, and Chalice to experience enjoyment and success on their own. At the time when Billie and Chalice were referred to the social workers by other professionals, they stayed at their parents’ home all day to read manga and develop drawing proficiency in the art of manga through online self-learning. Such behaviour was regarded by their parents as of no real value. In individual interviews, one girl told us that in her mother’s eyes, drawing is just play, which is non-productive and wasting of time. However, in the social workers’ eyes, drawing was seen as an ability that could be instrumental in supporting the girls’ career learning journey. Over time, all the social workers recognized more deeply the value of appreciating any SEN student’s strengths and interests and that this can motivate them.

## **A Door to Success: ‘Open Sesame’**

The social workers made use of a digital drawing class held at their service centre. It provided Billie and Chalice with an informal learning setting that helped reduce their socially withdrawn behaviour. Low self-esteem was an issue for Billie, and she was afraid of unforeseeable complications in social interaction with others. At this time, it was the school summer holiday, so Billie managed to attend the interest class with support from Amelia as her companion. They were classmates before Billie dropped

out of secondary school three years ago, and Amelia had also begun to question why she should stay in school.

Delivering the interest class activities in an appealing way was important to ensure participants stayed involved. A variety of tactics were used to achieve this purpose. The atmosphere of the small class was relaxed and informal, which helped them feel comfortable. The afternoon digital drawing class allowed flexible arrival time, so that difficulty with time management and self-regulation (often reported to be typical of students with special needs) was not an issue. The flexible arrival time reduced the girls' stress. After arrival, no matter at what time, each girl would pick up a laptop computer to draw anime characters by herself. The girls were able to work with one another, and could comment on each other's pictures and offer mutual support. When the artwork instructor arrived and began his teaching, the girls were already attuned to the session. The informal free practice time before the instructor arrived had helped create a socially cohesive peer group. In the later days, even without the class, the girls continued to spend several afternoons a week in the centre together, to chat and practise drawing. They have fostered emotional connections with each other and with the social workers and instructor. Improvement in self-awareness and social functioning has increased and will ultimately assist the girls when they transition to the world of work. Social functioning is about the ability to interact and relate to others when performing various social roles, an important attribute in the world of work. This social ability also strengthens self-concept and facilitates life choices and career preferences (Super 1980).

There is no doubt that digital drawing had captured the curiosity of these three girls. They now have a great desire to know more about advanced skills in creating digital artwork through using painting software. This inquisitiveness has helped them focus on learning to a much greater extent than their classroom lessons in school. When the class first started, Chalice's anime world already contained dozens of characters, and she had planned her first chapter of romance manga. She was fascinated to see what would happen if she posted her drawings and story online—how many 'likes' would she get? What started out simply as a digital drawing class had ended up as a key to opening a possible career door. We believe that if an interest or talent has links with a potential career path, motivation problems are likely to be minor (Ainley 2010; Harpine 2007). In this project, the social workers encouraged the girls to produce art products for selling in the marketplace. This incentive was created to open the girls' eyes to the possibility of turning their leisure interest into transition to a career.

The concept of zone of proximal development (Kravtsova 2008; Vygotsky 1978) suggests that, with a little assistance from instructors and peers, the girls could increase their expertise to create beautiful anime characters that could become commercial products. For example, the instructor introduced skills and techniques for manufacturing postcards. Although the process was quite challenging, the level of motivation increased when the girls listened to the personal struggle of the instructor in achieving his design goal. Billie found the required measurements and calculations in the process difficult to handle, but she still made every effort to learn. Her success is evidence that persons with dyslexia are smart in areas that do not involve literacy skills. Amelia has a vivid imagination and had contributed ideas to solve

artistic problems in artwork production for the group. She is also communicative and able enough to initiate conversations with potential customers when selling their art products in a craft fair. Chalice had taken the peer tutor role in the class, helping Amelia and Billie to learn shortcuts in the digital drawing software.

## **Work and the World Beyond Digital Drawing**

In our ENOW practice model (Wong 2015; Wong and Yip 2019), the social workers were less concerned with cognitive difficulties associated with Amelia's and Billie's dyslexia but paid more attention to the psychological and social struggles that the three girls have faced, and the resulting feelings of inferiority and frustration. Encouraging them to make commercial artwork or worthy handicrafts was an engagement strategy the workers employed to strengthen the girls' positive beliefs in themselves. Through attending the classes and the increased engagement with the public, the girls have learnt how to take control of unfamiliar social interactions and have developed a sense of contribution to others. This has had tremendous benefits for Chalice. In the activities of digital drawing, the girls' literacy learning problems are separated from their identity of being confident anime artists, and volunteers in the community. This has created opportunities for facilitating personal growth and change (White and Epston 1990).

To become an anime artist had been the common fantasy of these three girls since early adolescence. They had not really taken any action to explore the possibility, but the digital drawing interest class had created an awareness of how they might shape the fantasy into a pathway to a real career.

After the summer vacation, Amelia left the small group for a short time and decided to resume studying at high school. Amelia's current situation is that, while she still has difficulty in the language subjects (as a student with dyslexia Amelia is entitled to extra time in examinations), but she is also proud of herself as an A grade student in visual arts. It remains to be seen whether her school can provide her with the necessary personalized career support she will require; meanwhile, she keeps in touch with Billie and Chalice.

Billie and Chalice continued their journey as buddies in their career exploration to discover how craft artists make a living by selling their work. They discovered that they needed to acquire skills to cope with business situations—such as budgeting, interpersonal communication, and marketing. How to start making money as an artist was a challenging topic for Billie and Chalice to explore. The first stumbling block they needed to overcome was how to find the seed money to make the minimum viable products for selling. Billie and Chalice were able to get grants to produce artwork products for selling from the 'Dare to Dream: Strive for a Different Life' Award Scheme, funded by *CLAP for Youth @ JC project*. Although Billie had a clear artwork production plan in mind, she found filling out the award application form a difficult task that required assistance from the social workers. With the seed money at hand, and with their hearts in it, Billie and Chalice quickly completed the next step

of putting their own anime characters in a postcard layout and a keychain sample. They then produced the items in larger quantities for sale.

The workers' role in this was to serve as a coach and advisor so that the girls could put their plan into action. Billie had shown the ability to complete the drawing tasks promptly, but she needed help from the social workers for setting a reasonable price for the work by considering costs and profits. Chalice had shown her creativity in designing the figures in the production process. Fortunately, the two girls working in collaboration had augmented each other's strengths in project completion. This venture had created new possibilities and had equipped them with knowledge and skills to walk their career path together with a sense of empowerment (Poehnell and Amundson 2011).

For the social workers, the follow-up challenge became how best to utilize community resources to meet Billie and Chalice's career exploration needs of selling artwork. The workers spent time connecting to stakeholders, and during this process, an unexpected career opportunity emerged for Billie and Chalice. They got a chance to set up a fundraising booth at a company annual dinner party and earned more than HK\$2000 within three hours by turning the craft items into income. By selling their postcards and keychains, Billie and Chalice had to talk to people, tell their stories, and conduct demonstrations of anime drawing with digital software. They had to step out of their comfort zone to overcome fear of engaging in social interaction. But with social workers' help, encouragement, and preparation, the girls took responsibility for their actions. They received much praise from the guests, especially on their drawing ability. They felt they were successful and valued. Both Billie and Chalice believed that most guests' expression of appreciation was sincere and genuine. The power of recognition has released Chalice and Billie from the expectation of failure. In the reviewing session, the social workers noted that feeling valued and hearing authentic praise was an experience that helped them acquire a sense of worth and break free from negative thinking.

## **To Be, or not to Be a Professional Anime Artist? That Is the Question**

The social workers spent time discussing with Billie and Chalice individually to explore goals for transition to working life. They focused on encouraging the girls to explore possible alternatives and expand their horizons to consider multiple pathways forward. For example, drawing as a full-time paid job could be one among several goals for transition; or drawing could remain as a serious hobby and source of casual income.

An appropriate method to introduce career options is to try an ENOW-informed Workplace Experience, based on a series of unpaid- and paid-work experiences. The specific career counselling objectives include helping them to see (i) the difference between what is possible, and what is available in the world of work at this time;

(ii) the possible conflict between a girl's aspirations and parental expectations when considering a job, and (iii) the discrepancy between where the girl is and where she wants to be. With a solid relationship built on trust, caring, and understanding, the conversation at this stage allowed the girls to consider and reflect upon personal weaknesses, working habits, and interpersonal conflict behaviours. The advice and insights they gained have motivated them to change their plans where necessary. Billie told us in an interview, 'My biggest change is that today I am not afraid to show my drawings to others, especially strangers. I am more open to the opinions given by others ... may be I have more confidence in my drawing ability'. With peer support in the digital drawing class, Billie had overcome the imagined fear of criticism. Her social worker added, 'Improving her self-esteem is a prominent change. Now, Billie's interpersonal skills are better'. But her reading and writing difficulties and her inadequate communication skills remain a weakness, and she also felt that she was unskilled in marketing her art products. For these reasons, Billie decided to take work in a shop and got a part-time job at 7-Eleven. She told us, 'I need a convenience store job, but I want to keep on drawing in my leisure. I do that to stay happy'. She hoped to use her digital drawing talent to generate other income or to exchange for something she wants. She had already successfully traded her art service of producing posters for a teacher's studio with a handicraft teacher for professional classes in sewing doll clothes.

Unlike Billie, Chalice loves thinking more than taking action and it is often difficult for her to remain motivated to finish a task. In the past, Chalice's family members helped her a lot financially and she had become an overly dependent young girl. She stayed at home for more than two years after dropping out from school. But like Billie, the charity dinner event helped Chalice build her self-esteem. The involvement of the community stakeholders has also helped her gain positive working experiences towards healthy independence. With an arrangement by the social worker, Chalice started her first paid job as a children's painting class tutor in an art studio. She then enjoyed a second placement in a florist shop. These placements gave her the opportunity to learn about herself in a work environment that needs responsibility, caring attitudes, and interpersonal skills. At the same time, she was using her talents in dealing with colours, shapes, and styles. The social workers told us in an interview, 'Chalice's artistic ability is not in question, and was viewed favourably by employers. For me, her big improvement is that she is able to complete the placements smoothly'. Reliability, punctuality, and attendance are the behaviours that have most improved. Chalice also tried a few unstable jobs to support herself. For instance, she worked more than two months in a cybercafé as a cashier and at the same time carried out her plan of selling art products by renting a 'consignment mini-cube shop' (格仔舖) inside a trendy shopping mall that targets teenagers.

Over the last nine months, the social workers witnessed how Chalice made pleasing progress in various types of work that represented her wish to achieve a good work-life mix, and strive for economic independence. It is a marked improvement in her social participation and personal growth. Her career transition goal is to take up art-related work along with some light manual jobs that will not take up her full amount of mental and physical energy.

## The Intersection of Gender, Class, and Non-traditional Career Choices for Students with SEN

This chapter has described the concerted effort that social workers made to develop the artistic talents, strengths, and self-esteem of these disadvantaged girls. However, focusing only on a disability such as dyslexia is insufficient to explain the many barriers that exist to career choices and equity for such girls. It must be recognized that factors such as gender and socio-economic status also exert an influence. For example, gender stereotypes affect boys' career options and can restrain them from considering occupations that are perceived to be associated with female interests (Huppatz and Goodwin 2013). Similarly, girls may steer clear of careers that appear to be in the province of males. In the animation industry, there is a male-dominated culture, especially in leadership positions such as directorial or technical roles. The gender imbalance in animation workforce is a result of the prejudiced socio-cultural view of men as more 'capable' in this non-traditional entertainment field (Smith et al. 2019).

Socio-economic status and social disadvantage also exert an influence that goes beyond the effects of a disability. Billie, for example, tends to limit her career choices due to her lower-class family socialization and lack of financial resources.

There is thus a systemic inequality issue in labour force participation of individuals with a disability which stems from the intersectionality of gender, class, and ability (Mullaly 2010). These barriers need to be recognized and addressed at many levels through advocacy to make cultural and institutional change at the societal level.

## Conclusion

The authors echo the beliefs of social workers and other helping professionals that everyone should enjoy social justice in career development. The concept of neurodiversity implies that the individual differences evident within any group of people (their strengths, weaknesses, talents, interests, personalities, motivations) should not lead to someone being regarded as 'unable' or 'disabled'. Engaging a person's curiosity and creativity, and using their strengths and talents to bypass or overcome weaknesses is a positive approach to help all learners. In the case described above, we have illustrated how social workers used their own 'practice wisdom' to utilize the girls' leisure interests and talents to build self-awareness and confidence. This provided an enabling path to transition from school to work. The girls were helped to develop their career and life purpose according to their capabilities (Egdell and McQuaid 2016; Nussbaum 2001). The ability of the social workers to utilize both planned interest class activities and unplanned happenstance opportunities represents a successful intervention (Mitchell et al. 1999). The social workers emphasized that career guidance answers are not always black or white, and thinking outside the box of conventional career service is often necessary, particularly with atypical clients.

In a capitalist society such as Hong Kong, with its growing inequalities, the helping professionals still have to fight for our disadvantaged young people and their families to ensure they have access to the rights, resources, opportunities, and networks they need. Those who have special needs must be afforded appropriate opportunities to achieve their potential in employment and in life.

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# Chapter 9

## The Power of Parent Education: Transition Planning for Students with Moderate to Severe Disabilities



Lusa Lo

**Abstract** Due to the underrepresentation of Asian students with disabilities in the USA, only a dearth of studies have focused on this population, and none have focused on training Asian families to be engaged in transition planning. There is a need to note that the number of Asian students with disabilities continues to grow in several disability categories, such as autism. To address this research gap, this chapter discusses how a train-the-parent trainer program prepares Chinese immigrant families to be engaged in the transition planning process and empowers them to be leaders and advocates, so they can offer support to other Chinese families of students with disabilities in the community. Although a train-the-trainer model has been used frequently in other areas of special education and is found to be very effective, this is the first program that focuses on training a parent population and those whose primary language is not English.

**Keywords** Culturally and linguistically diverse · Disability · Special education · Transition · Train-the-trainer

### Introduction

There is no question that parent engagement is one of the essential elements to promote students' school success, such as academic achievement (Castro et al. 2015; Topor et al. 2010), attitudes toward school (McNeal Jr. 2014; West 2000), school attendance (Henderson and Mapp 2002), and student behavior and social development (Callahan et al. 1998; El Nokali et al. 2010). Family engagement is also an important factor in improving school climate and development. In order to increase the quality of learning and teaching, Congress has enacted numerous regulations, such as Goals 2000: Educate America Act and No Child Left Behind, which emphasize the importance of family engagement (U.S. Department of Education 1998, 2003). Schools are often encouraged to develop creative and effective programs to engage families.

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In special education, parent engagement is especially crucial. Due to their disability, children and youth with disabilities may not have the abilities to advocate for themselves in their individualized education program (IEP) meetings and discuss what services and supports they need. To ensure that they receive free and appropriate education and their special education programs include services that address their individualized needs, the Individuals with Disabilities Education Improvement Act of 2004 mandated that parents must be a part of their children's IEP team (IDEIA 2004, § 300.321.e.). Certain parental rights are written in the regulation. For instance, schools must obtain parental consent before any types of assessment can be conducted (IDEIA 2004, § 300.300). A copy of the child's IEP must be provided to the parents at no cost (IDEIA 2004, § 300.322.f.). A copy of the procedural safeguards and due process procedures must be provided to parents (IDEIA 2004, § 300.500).

As students with disabilities enter high school, schools and families need to work collaboratively and determine how to prepare their young adults so they can acquire the necessary skills and can be ready to lead a successful adult life after graduation, such as postsecondary education, vocational education, employment, independent living, and/or community participation. IDEIA 2014 mandated that transition planning process must begin at the age of 16 (IDEIA, § 300.43). Many states, such as Massachusetts, Texas, and Washington, believe that 16 years of age may be too late for schools and families to plan for transition and lower the transition age to 14 years of age. Transition planning process involves youth with disabilities, their parents, school professionals, and, sometimes, representatives from state agencies. Previous research found that the levels of family involvement in transition planning and post-school outcomes are closely connected (e.g., Hanley-Maxwell et al. 1995; Kim and Turnbull 2004).

Policymakers expect all these mandates to not only ensure that schools engage families in the special education process, but also anticipate that families of students with disabilities will take active roles and become their children's decisionmakers and advocates. When families and youth are actively engaged in the transition planning process, the youth are more likely to lead a successful adult life. However, a significant discrepancy has continued to exist between this requirement and actual school practices (e.g., Kohler and Field 2003). Furthermore, not all families, especially the ones who are culturally and linguistically diverse, are prepared to be engaged in this process (e.g., Geenen et al. 2001; Kim et al. 2007; Povenmire-Kirk et al. 2010).

In the US, demographics of its population continue to grow increasingly diverse. The US Census Bureau (2015a) projects that, by 2044, Whites will no longer be the majority. Instead, more than half of the US population will belong to the minority group. By 2060, the foreign-born population is expected to be increased by another 20% (US Census Bureau 2015b). Among the ethnic groups, Asian-Americans continue to be the fastest-growing population. Between 2014 and 2060, the projected increase of Asian-Americans will be 128%. Clearly, this demographic shift is reflected in the US student population. The percentage of students from diverse backgrounds shows a 51% increase, with Asians and Hispanics be the two largest groups, while the number of White students continues to decrease (U.S. Department

of Education 2017a). This pattern of change in the demographics of student population is expected to continue through the next decade. On the other hand, students with disabilities from diverse backgrounds, ages 3–21, comprise over 53% of the special education population, marking a 45% increase since 2000 (U.S. Department of Education 2017b, c).

While IDEIA 2004 mandates schools to engage families of students with disabilities in the special education process, the level of engagement among diverse families continues to be low. Existing research suggests that many of these families face multiple barriers that prevent them from being actively engaged (e.g., Geenen et al. 2001; Kim et al. 2007). Shapiro and colleagues (2004) conducted focus groups with 16 Latino mothers of young adults with severe developmental disabilities and examined their beliefs and perceptions around the issues of their child's transition planning process. The participated Latino mothers felt that the communication between schools and families was poor. There was a lack of coordination between the professionals. Often, the transition services offered or suggested by the schools were not consistent with their child's special education programs and needs. Additionally, the parents felt that they were often rushed through meetings, and the professionals were not open to their questions. Professionals' attitudes gave parents the impressions that they were wasting their time by asking too many questions.

Similar results were found in another related study conducted by Kim and colleagues (2007), who interviewed 10 Korean-American families and examined their perspectives regarding the transition experiences of their youth with disabilities. Although the families felt fortunate that their youth with disabilities were born in the USA and could have a better special education system than the one they had in Korea, they were dissatisfied with the attitudes and lack of professionalism of the school professionals. They were frustrated with the unresponsiveness of professionals to their requests. Furthermore, professionals frequently ignored their comments and suggestions. For instance, one mother of a 19-year-old son with down syndrome informed school that her son's strength was music, so it would be suitable to provide appropriate job training and work in a music store or location that was related to music. However, the professionals did not consider her son's strengths and her suggestion. The school assigned her son to work in a department store and to be responsible for sorting out clothing by size. Such negative experience was also echoed by other Korean-American parent participants in the study.

In addition to being dissatisfied with professionals on how they handled the transition planning process, diverse families were found to lack knowledge about what the transition planning process was and how to be prepared for the meetings. Landmark and colleagues (2007) phone-interviewed 19 African, Asian, Hispanic, and European-American parents of high school students with disabilities and wanted to examine their experiences in the transition planning process. Over half of the families knew little or did not know what the process was. The families expressed that they did not have sufficient knowledge about the legal requirements of transition for their children with disabilities and did not know how to be engaged in the process. The Latino families of youth with disabilities in the study by Povenmire-Kirk and colleagues (2010) reported the same barrier. These Latino families stated that

schools did not inform them what transition planning was and they did not know how important such a process was.

Language barrier was also another common challenge that diverse families faced. Many families of youth with disabilities, who were non- or limited-English speakers, frequently avoided participating in school meetings, since interpreters were rarely available for them (Kim et al. 2007). For those who attended their child's transition planning meetings, they lacked the language abilities to be engaged in the process. Additionally, their low English proficiency levels prevented them from seeking information about transition planning elsewhere, since a majority of the information that could be found in books, articles, and Web sites was available in English only (Povenmire-Kirk et al. 2010).

The above studies consistently suggest that families of youth with disabilities, especially for those who are culturally and linguistically diverse, need information about transition planning, how to be engaged in the process, and how to be prepared for such meetings. Educating these families about the transition planning process is crucial. The use of train-the-trainer (TTT) approach may be applicable. TTT has been used widely in many settings, such as health preparedness in public health facility (Orfaly et al. 2005), behavior modifications in residential facilities (Shore et al. 1995), occupational safety in construction companies (Trabeau et al. 2008), cultural competence in universities (Assemi et al. 2007), and nutrition education in congregate nutrition sites (McClelland et al. 2002). Previous studies suggest that the use of TTT model can be efficient and cost-effective, especially when translating interventions from research to practice, putting ideas into practice, providing ongoing support to trainees, and offering information to a larger population.

In one study, Shepherd and McDougall (2008) adopted the use of TTT model to train library staff to use communication boards, so individuals who used augmentative and alternative communication (AAC) could receive the same library resources, instruction, and support as those who did not require AAC. AAC clinicians were hired to be the "master" trainers in the study. They were responsible for training two groups of library staff. From these two groups, three librarians were selected and became trainers. The three trained librarians were in charge of training the rest of the library staff. At the end of the study, 300 staff members and volunteers at the library were trained. Results indicated that the use of TTT model helped the library to better prepare their library staff, so they could become more confident about their skills of using communication board to communicate with and assist individuals who require AAC.

In another study, Suhrheinrich (2015) utilized the TTT model in school setting. The purpose of this study was to disseminate the use of pivotal response treatment (PRT) with students with autism in schools. The participants included three school staff, nine special education teachers, and 18 students with autism aged 3–8. The author of the study first provided 15 training hours about PRT to three school staff. Each of the staff then trained three special education teachers, who then used PRT with six students with autism in their classes. Class observational data were collected and indicated that teachers were able to implement PRT correctly with their students with autism. Six of the teachers implemented 100% of the components of PRT, while the

remaining three teachers implemented 89% of the components correctly. In addition to observational data, teacher participants were surveyed about their satisfactions of the training. All teachers were either very satisfied or satisfied with the quality of the training. They indicated that they would recommend the training to other teachers working with students with autism.

Although the use of TTT model in various settings has been proven to be effective in strengthening how services are provided and equipping staff with the necessary skills, almost all the studies focus on professionals, such as librarians, college faculty, clinicians, healthcare providers, and teachers. None of them target on preparing parents to be parent trainers, especially in the field of special education. Providing families of students with disabilities the opportunities to meet and learn from other families of students with disabilities who are experienced in navigating the special education process can be beneficial (Troy et al. 2008). They not only can improve their knowledge and skills in communicating and collaborating with schools (Solomon et al. 2001), but can also be empowered to handle issues regarding their children with disabilities (Lo 2010). Furthermore, due to the underrepresentation of Asian students with disabilities in the USA, only a limited number of studies have focused on this population, and none have focused on engaging Asian families in the transition planning process. While the number of Asian students with disabilities continues to grow in several disability categories, such as autism (U.S. Department of Education 2017b, c), engaging their families in the special education and transition planning process becomes essential. To address these research gaps, this chapter aims to discuss a train-the-parent trainer program that not only prepares Chinese immigrant families to be engaged in the transition planning process, but also empowers them to be leaders and advocates so that they can offer support to other families of students with disabilities.

## Overview of the Train-the-Parent Trainer Program

In the last six years, the number of Asian students with disabilities has grown 22% in our state. A few schools who had enrolled a large number of Chinese students with disabilities had informally shared with us that many families of these students often did not know how to navigate the special education process and prepare for their child's transition planning (A. Lee, personal communication, May 15, 2015; Y. Liang, personal communication, September 12, 2013). Beginning in 2015–16, we partnered with a nonprofit organization and developed a train-the-parent trainer (TPT) program. This nonprofit organization served students with disabilities and their families from diverse backgrounds, including Chinese-speaking families. The organization had over 20 staff members responsible for developing programs, providing training, and supporting families of students with disabilities. Many of their training, services, and written materials were available in multiple languages and were free of charge. A majority of their staff were also bilingual. Although train-the-trainer model has been used frequently in other areas of special education and is found to be very

effective, such as training teachers to implement interventions with their students with disabilities, this was the first TPT program that focused on training a parent population and those whose primary language is not English in our state.

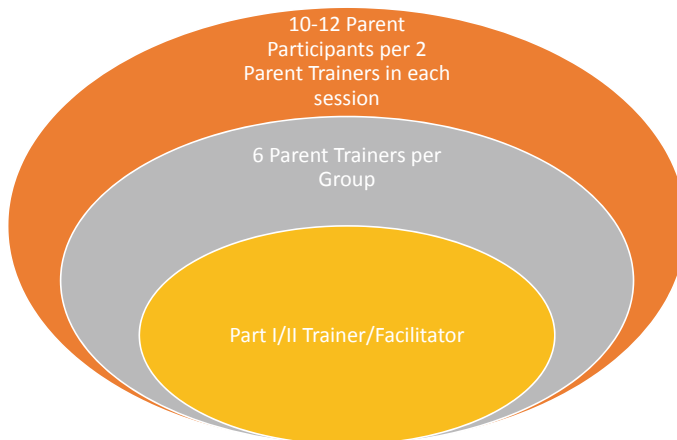
### *Part I of the Program*

The TPT program consisted of two parts. Part I focused on providing parent participants with basic training about relevant sections of the US special education system. The goal was to provide families with information about what their roles and responsibilities were during the special education process, so they would know how to collaborate with the school and develop an individualized education program (IEP) that addresses their child's individualized needs. See Fig. 9.1 for the TPT structure.

Topics in Part I of the program included but were not limited to the following:

- IDEA of 2004 and special education state laws
- Importance of family engagement and family/school partnerships
- Parental rights and important timelines in the special education process
- How to be prepared for annual IEP meetings and how to develop an effective IEP
- What transition planning was and how to be prepared for transition meeting
- Services available for adults with disabilities.

Part I of the program consisted of eight sessions. Each session was given in parents' primary language, Cantonese and Mandarin. Each session lasted for about two hours. All training sessions took place at a community organization, which was the most convenient location for the parent participants. Since all sessions were offered in the evenings, light dinner and childcare services were provided.



**Fig. 9.1** Train-the-parent trainer program structure

## ***Part II of the Program***

Part II of the TPT program focused on selecting and training Chinese-speaking parents who had successfully completed Part I of the program and had shown potential to be parent leaders. The potential parent participants must fulfill three criteria: (1) Attended all Part I training sessions, (2) received 85% or above in Part I training quiz, (3) demonstrated willingness to assist other families of students with disabilities, and (4) had flexible schedules to receive additional training and provide support and advocacy to other Chinese-speaking families of students with disabilities. The selected parent participants went through a series of parent leadership training. Topics included but were not limited to the following:

- Federal and state special education laws
- Different types of disabilities, diagnoses, and needed support and services
- Ways to locate and obtain special education and transition services in schools, community, and government agencies before and after graduation
- How to handle conflicts, parental stress, and unresolved issues
- Roles of parent advocates and how to become effective advocates
- Active listening, presentation, leadership, and advocacy skills.

Part II of the program consisted of 12 sessions. Each session was given in parents' primary language, Cantonese and Mandarin. Each session lasted for about two hours. Compared to Part I of the program, this part of the training was much more interactive. In addition to presenting the information to the participants, we emphasized the need to apply what they had learned and how the skills could be applied in a real setting. Therefore, role plays and group discussions were embedded throughout the training. Similar to Part I of the program, all Part II training sessions took place at a community organization and in the evenings. Light dinner and childcare services were provided.

Upon completion of the parent leadership training, each parent trainer was required to first co-present with the researcher in at least two of the sessions in Part I of the program. Prior to each co-presentation, they met, went over the presentation materials and rehearsed making the presentations. The goal of these meetings was to enable the parent trainers to be supported and mentored, and feel comfortable with the assigned tasks. After each presentation, the researcher met with the parent trainer, debriefed and discussed how she/he could be improved. Gradually, two of the parent trainers would work collaboratively, plan, and co-present in Part I training sessions. We have already trained 21 parents in Part I and 6 parent trainers in Part II of the program. See Tables 9.1 and 9.2 for the demographics of parent participants and parent trainers.

**Table 9.1** Demographics of parent participants in Part I of the TPT program

Characteristics	Number of parent participants
<i>English proficiency level</i>	
Non-English speaking	6
Limited-English speaking	10
Fluent English speaking	5
<i>Types of child's disability</i>	
Autism	10
Emotional and behavioral disorder	5
Intellectual disability	4
Specific learning disability	1
Hearing impaired	1
<i>Child's grade levels</i>	
Elementary school	10
Middle school	5
High school	6

**Table 9.2** Demographics of parent trainers in Part II of the TPT program

Characteristics	Number of parent participants
<i>English proficiency level</i>	
Limited-English speaking	4
Fluent English speaking	2
<i>Types of child's disability</i>	
Autism	3
Emotional and behavioral disorder	1
Intellectual disability	2
<i>Child's grade levels</i>	
Elementary school	1
Middle school	2
High school	3

## Program Evaluations

### *Part I of the Program*

Both qualitative and quantitative data were collected to evaluate the effectiveness of each part of the program. In Part I of the program, pre- and posttests were used to evaluate the knowledge and skills of the parent participants about transition planning



and how to be engaged in the special education process. The pre- and posttests consisted of 15 multiple-choice questions. Pretest results indicated that all the parents had limited to no knowledge about what transition planning was and how to be engaged in the transition planning and special education process ( $M = 18\%$  out of 100%,  $SD = 1.63$ ). Two of the parents responded to all the questions incorrectly. After the training, their knowledge of transition planning had gained tremendously ( $M = 92\%$  out of 100%,  $SD = 1.38$ ).

In addition to pre- and post-tests, we surveyed the parent participants about their perceptions of the training. Survey results suggested that all parent participants strongly agreed or agreed that they felt prepared to be engaged in their child's transition planning ( $M = 4.88$  on a 5-point Likert scale,  $SD = 0.34$ ). Almost all the parents ( $n = 19$ ) reported that they now knew how to be actively engaged in their child's transition planning process. One father of 14-year-old twins with autism spectrum disorder said,

I saw the flyer about this training and didn't know what transition planning was. Before coming here, I didn't know that schools were supposed to start transition planning process when my children with disabilities turn 14 years old. I have twin boys who are going to turn 15 years old, but their school never mentioned transition planning. I am going to write to the school and request for a meeting to discuss our sons' transition plans.

A mother of a 16-year-old youth with intellectual disability commented,

My daughter is 16 years old. We have started the transition planning process, I think. However, the meeting was very brief. I didn't know the difference between transition planning meeting and IEP meeting. Now I know how different they are. Also, we talked about transition assessment in the training, but I don't think the school had done any transition assessment with my daughter. At least I know nothing about it. I contacted the school last week and asked if they had done transition assessment with my daughter. If so, I wanted to see what they had done and the results.

In addition to program evaluation, two school principals informally told us that the Chinese parents at their schools who had gone through our training not only attended their youth's transition planning meetings, but were also better prepared for the meetings. They understood the purpose of the meetings and what they should consider when discussing their youth's transition plan with the school personnel.

## ***Part II of the Program***

Part II of the program focused on parent leadership training. Both surveys and unstructured interviews were used. Surveys were given to both the parent trainers and parent participants who attended training presented by parent trainers. Surveys for the parent trainers consisted of 12 questions regarding their perceptions of the leadership training. Survey results indicated that all parent trainers strongly agreed or agreed that the leadership training was very helpful for preparing them to be parent leaders and advocates ( $M = 4.87$  on a 5-point Likert scale,  $SD = 0.17$ ).

During the interview, one parent trainer said,

When helping other families of students with disabilities, we sometimes recalled our own previous experiences and could get emotional. Now that we are parent advocates, we have to be calm and think of what is best for their children with disabilities. ... The role plays in the training helped a lot. We got to practice how to communicate and support other families of students with disabilities.

Another parent trainer indicated,

My son is much older now and he is doing well. I now have the time and always wanted to help other families who need assistance, but did not know how to do so. Chinese parents do not always know what their rights are and how to advocate for their children. I went through a hard time advocating for my son, so I do not want other families to go through the same as mine. This training gave me lots of information and skills to help others.

In addition to the parent trainers, we surveyed parent participants who attended the training presented by the parent trainers. We added three 5-point Likert-scale questions and two open-ended questions about their evaluations of the parent trainers to their Part I evaluation survey. Results indicated that having parent trainers was very effective ( $M = 4.88$  on a 5-point Likert scale,  $SD = 0.16$ ). One parent of an 18-year-old son with cerebral palsy said,

All the presenters were excellent. I really like how knowledgeable (the researcher) is. I received so much information about transition planning. I also think that it's great that the program included parents as presenters. My case is quite unique. My son has a lot of needs. Not many families understand that. Having the parent trainers in the training, I feel much more connected, since some of their kids also have similar type of disability as my son. They understand my struggles.

Another parent of a 9-year-old daughter with emotional behavioral disorder commented,

I have never attended a workshop where the presenters are parents of children with disabilities. (Names) not only gave us useful information, but also gave us some tips when working with schools, so we don't make mistakes. ... (Trainer's name) also has a child with emotional behavioral disorder. She understands how challenging it can be to have this type of child.

## Conclusions and Future Directions of the Program

Evaluation results of the program clearly suggested that the training content was effective in coaching and empowering Chinese immigrant families of students with disabilities to be prepared and engaged in their youth's transition planning process. A majority of the parent participants not only understood what transition planning was, but also knew how to be prepared for their child's transition planning meetings ahead of time. Furthermore, these parent participants applied what they had learned and became engaged in the transition planning meeting of their youth with disabilities.

The addition of having parent trainers in the program was also extremely helpful. Parent participants reported that they felt connected with the parent trainers, because they also had children with disabilities and understood their struggles. Additionally, the parent trainers often shared their own experiences about how to navigate the system and offered participants tips and strategies, so they would not make the same mistakes as the parent trainers. The parents felt that these sharing were priceless.

Among the six parent trainers, besides continuing supporting other Chinese families of students with disabilities, they also took leadership roles in schools and the community. One parent of two children with autism worked at a nonprofit organization and provided family services to the Chinese community. One mother worked in a public school as a special education paraprofessional. Two of the parents served on an advisory board of a government-funded agency. The rest of the two parents took officer positions in their child's school parent-teacher association.

Currently, the TPT program is developing the third part of the program, which focuses on preparing the parent trainers to also becoming parent advocates, who can support Chinese-speaking families in the field, such as reviewing evaluation reports and accompanying families to meetings in relation to special education. Based on our previous research (Lo 2012, 2015), we learned that, in addition to receiving information and training about the special education system and how to support their children, this population required continuous support. However, there are currently limited Chinese-speaking advocates in the state. Due to the cultural and language barriers, Chinese-speaking families have difficulties hiring English-speaking advocates to provide them with further support and attend IEP and transition planning meetings with them, when needed. The Chinese parent participants ( $n = 18$ ) in this project also indicated that they often felt overwhelmed in their child's IEP and transition planning meetings and/or were rushed and pressured by the professionals. They felt that it would be better if Chinese-speaking advocates could be present in the meetings and offer them with continuous support.

Having children with disabilities can be a challenging journey for many families, especially for those who are culturally and linguistically diverse. There are often updates in the state regulations and district policies that not all families are aware. Furthermore, these updates and policies are not always available in languages other than English. A knowledgeable, skillful, culturally and linguistically diverse, and experienced advocate cannot only help guide diverse families through the complicated special education process, but may also be able to seek solutions that may not be obvious to families and schools (Federation for Children with Special Needs n.d.).

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**Part III**  
**Effective Policies, Programs,**  
**and Approaches for Career**  
**Development and Transitions**  
**in the Asia-Pacific Region**

# Chapter 10

## Creating New Narratives to Give Hope and Optimism to At-Risk Students in Singapore: A Case for Vocational Guidance and Career Counselling Intervention



**Jenn Yeong Leong**

**Abstract** Students who are at high risk of dropping out of high school have often encountered serious difficulties and challenges in life. These negative experiences tend to accumulate, and they can create serious pessimism in a student's mind concerning their future. Career educators and counsellors can play an important role in helping these students reflect upon their lives and then shape a more positive and hopeful narrative for their future. This chapter suggests a working model of how career educators and counsellors can work with students to create these narratives. Based on the Selection, Optimisation and Compensation Model (SOC) developed by Baltes et al. (2006), career educators and counsellors can help an at-risk student create three interdependent narratives. These narratives are:

- A selection narrative—where the career counsellor or educator assists the student to explore and decide upon life-goal options and crystallise a positive view of the future.
- An optimisation narrative—where the career counsellor and educator can help the student evaluate their existing skill sets and abilities that could be used most effectively to enable fulfilment of their selection narrative.
- A compensation narrative—where students can be helped to develop a narrative that encourages them to attain skills and abilities that currently they do not have in order to fulfil their selection narrative and bypass obstacles.

It is hoped that the creation of these narratives will help students equip themselves with skills and resilience necessary to succeed in life and to manage transitions from school to work and later between jobs. The writer also shares details of experiences and challenges using this narrative approach with at-risk students in Singapore.

**Keywords** Narrative approach · Selection, Optimisation and Compensation Model · Singapore · Transition

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## Introduction

At-risk students often face many problems in schools and within the family, which push them to consider dropping out of the education system. Given the challenging environment in which they exist, at-risk students are also likely to face more instability than their normal peers over their lifespan (Shulman and Nurmi 2010; Tan 1999). For example, in my school, I had a boy who woke up one day to find that his mother had been arrested for a drug-related offence. As a result, in just one night he had to learn to cope with the absence of his mother. It is extremely difficult for such individuals to maintain an optimistic and hopeful attitude towards their future. Any intervention provided in school for these students should aim to strengthen their hopes and optimism for what life has in store for them.

In the context of gaining and retaining employment, these students have also been found to have a lower career planning maturity level than their peers, and they have major obstacles confronting them when they enter the world of work (Legum and Hoare 2004). However, it is reported that at-risk students who participate in career guidance activities in schools are more likely to experience academic success and are better able to develop an action plan for their future (Robitschek 1996). School counsellors and educators are uniquely positioned to help these students achieve such a goal; and they can do this in part by helping them create a positive, hopeful and intentional narrative for their future.

This chapter details how educators and school counsellors can utilise the Selection, Optimisation and Compensation Model (SOC) developed by Baltes et al. (2006) to create positive narratives that support at-risk students in an educational setting. Usually, SOC is associated with the study of how ageing in the adult population brings with it the need for many adjustments in lifestyle and behaviour. However, SOC is adapted for application in school. The chapter also provides a premise for further research using SOC as a frame of reference for educational and learning purposes.

## The Selection, Optimisation and Compensation Model Explained

The Selection, Optimisation and Compensation Model (SOC) (Baltes et al. 2006) was developed to help understand the human process of intentional self-regulation and goal setting across the lifespan. ‘Selection’ refers here to committing to specific personal goals and domains of endeavour from the wide range of other options available in life. The internal and external resources an individual can draw upon tend either to increase or to limit the number and nature of the goals and domains that are viable; so normally a subset is selected on which to focus one’s resources. ‘Optimisation’ refers to the way in which the individual deliberately capitalises on his or her strengths when working towards selected goals, while ‘compensation’ is



an individual's ability to maintain positive functioning by finding alternative ways of working towards a selected goal and bypassing any obstacles. Compensation involves an adaptive response to any decline in competence or to an unexpected negative event (e.g. loss of relevant resources). Adaptation through complementary optimisation and compensation is seen as key to maintaining optimism and progress throughout life. It is believed that across the lifespan, selection, optimisation and compensation strategies, used together, are key to maintaining personal well-being (Baltes et al. 2006).

The SOC model is premised on the belief that human development is ever-changing across the lifespan, and that development is multidimensional and multidirectional in nature. The multidimensional aspect of human development occurs because development is influenced by a gamut of diverse personal and contextual factors. The complex interplay among these factors helps determine the characteristics of each individual's developmental path. The multidirectional nature of human development is evident, for example, in the nonlinear manner in which growth and adjustment evolve. The process is consistently redirecting itself, depending on age-related shifts of focus, interests and needs in the individual, the contextual environment in which the individual resides, and in response to the changes in competencies that the individual may experience throughout his or her developmental journey.

The goal determination process is always complex and requires an individual to consider the different factors affecting his or her development and how they may be modified or (if negative) avoided. It also requires the individual to consider how these factors actually affect him or her, before goal setting can take place. The individual needs to assess carefully the existing situation and the available personal, social and material resources that allow the use of deliberate optimising and compensating strategies.

The goal determination process inevitably involves intentional selection of optimising and compensatory strategies to ensure effective functioning that leads to better well-being for the individual. These optimisation and compensation strategies are shaped by experience. The strategies vary across life stages and tend to be most effective and coordinated in adulthood. During adolescence the processes involved are still at a developmental and refinement stage, and hence, provision of guidance and counselling in schools is necessary to ensure students' healthy mental and emotional development (Lerner et al. 2001; Gestsdottir et al. 2010).

For students exhibiting at risk behaviours, guidance and counselling take on even more significance, because the complex and challenging social environment in which they reside, plus possible impairment of physical, intellectual, or biological development, may lead to poor selection of life goals and weak optimisation/compensation strategies (Gestsdottir and Lerner 2008; Gestsdottir et al. 2010; Zimmerman et al. 2007). The SOC model provides a useful frame of reference for understanding youth development and a basis for working with at-risk students.

To foster better development in students, it is essential that counsellors and educators help at-risk students identify healthy goals and co-construct useful strategies to navigate their pathways forward. Educators and school counsellors can help at-risk students crystallise their thinking about future goals by taking into consideration

the personal, social and environmental factors that are influencing them, and the resources they have available.

In relation to career planning, at-risk students tend to have lower confidence and lower levels of optimism compared to their age peers, and they tend to limit their choices of career path (Carroll et al. 2012; O'Brien et al. 1999). For these students, goal setting should focus on developing a positive *vocational identity*, and on achieving higher levels of career-related functioning (Pedrotti et al. 2008). School counsellors can help facilitate development of strategies that help students acquire skills that contribute to positive vocational identity, while eliminating negative and undesirable habits and behaviours (Gestsdottir and Lerner 2008).

Adolescents may also experience the unfortunate 'blocking' of optimistic goals—for example, failure to meet entry requirements into a desired course (Gestsdottir and Lerner 2008). At-risk students are especially susceptible to these blocks, and they tend to develop negative strategies to deal with a situation (Lerner et al. 2001; Gestsdottir et al. 2009). Career counsellors and educators have a duty to help students deal with obstacles along the way by showing them how to modify their goals, or by proving to them that developing compensatory strategies can help them navigate around the obstacles. The exploration of compensation strategies is vitally important in working with this special student population.

In relation to career path development, supporting at-risk students by applying the SOC frame of reference is important in helping them understand themselves and their strengths, weaknesses and aspirations. This is best achieved in part by considering and evaluating their past narratives (Habermas and Paha 2001; Schnorr and Ware 2001). Narrative approaches using SOC can provide a viable approach to helping at-risk students. A narrative approach involves listening to and telling or retelling stories about self, or about empowered people, and how challenges and problems in life have been tackled. Analysing the stories can help students identify the values, skills and knowledge they possess so they can effectively confront any problems they face.

## Use of Narratives Within the SOC Frame of Reference

Narrative approaches in guidance and counselling are not a new phenomenon, and over time they have developed the following characteristics. First, unlike traditional positivist engagements (which often involves an 'expert' directly counselling and advising a client), a narrative approach emphasises collaboration in working with the client (or student) to facilitate a better understanding of 'self' within the context in which they exist (McIlveen and Patton 2007). The premise of the collaborative process is based on the assumption that client is actually the 'expert' in terms of knowing their own lives, and therefore, they have the power to create and make sense of their personal narratives (Savickas 2005).

Second, the collaboration process requires the client to interact with experiences of the past and present in their real-life environment and engages not only the cognitive

domain but also the affective and moral domains. This provides opportunity for holistic self-assessment and provides a connection between future narrative and past and present experiences (Brott 2001, 2004; McIlveen and Patton 2007; Tappan and Brown 1989).

Third, narratives involve storytelling, and the telling and retelling of these stories allow for a process of reflection and self-reflection. This process facilitates the understanding of oneself and in the process empowers a person to take action towards fulfilment of their goals (McIlveen and Patton 2007; McMahan and Patton 2006; Savickas 2011; Tappan and Brown 1989).

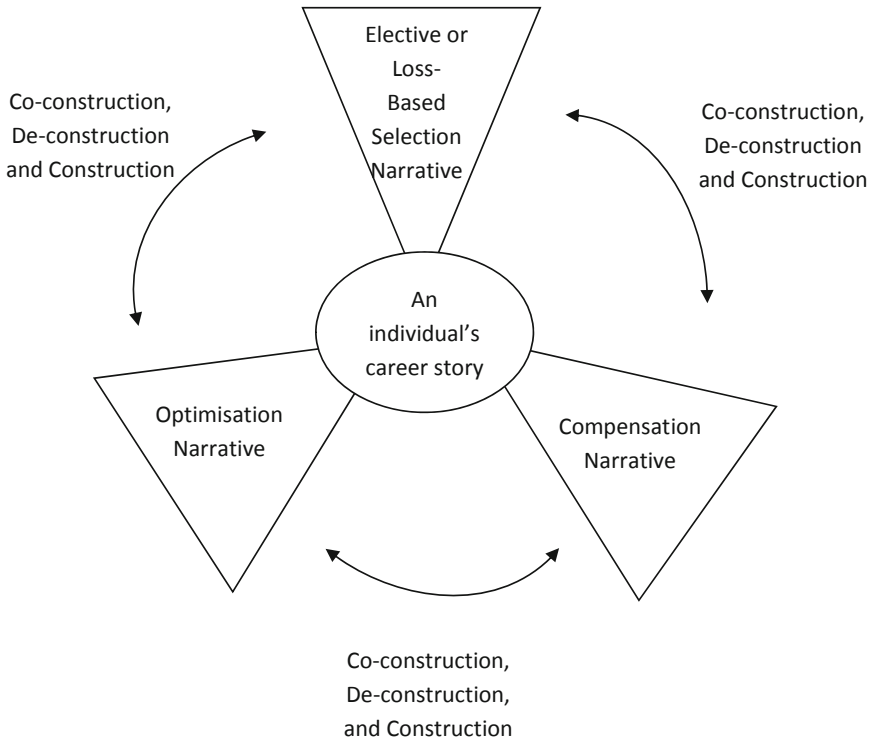
Fourth, in a world where change is the only constant, narratives can provide a firm foundation for discussions concerning the best selection of strategies that will meet an individual's need to work towards productive goals in life (McIlveen and Patton 2007; Savickas 2011). The role of career educators and counsellors is to help students make sense of their many stories and 'life scripts'.

For at-risk students, the use of narratives and storytelling is especially useful. It invites ownership and empowerment, leading to a boost in self-confidence, self-efficacy and ownership of their future. To achieve this within the SOC frame of reference, the processes of selection, optimisation and compensation are guided by past experiences, personalised to the individual and to his or her future aspirations. In this process, the counsellor can help the student unpack their stories by identifying themes and patterns across the narratives and co-constructing a future scenario. The counsellor assists students to construct their narratives with the aim of understanding the relevant experiences residing within them. Brott's 'Storyed Approach' (2001) can be used as a counselling process to help a student navigate through their narratives. It provides a systematic process for helping the student elicit personal constructs and find connections within each narrative.

Figure 10.1 provides a framework of how career counsellors and educators can help students using the narrative approach and the SOC frame of reference.

Figure 10.1 makes explicit the key narratives that are to be created, relevant for the individual's career life script and asserts that the individual's career story can comprise of selection, optimisation and compensation narratives. Within these narratives, educators and career counsellors need to utilise the processes of co-construction, deconstruction and construction to help the students understand themselves and create future chapters in their life journey.

While Fig. 10.1 provides a useful frame of reference for helping at-risk students think about their career narratives, it must be noted that these career narratives are dynamic in nature and will change across the lifespan (Baltes et al. 2006; Brandtstädter 2006). Helping all students manage these transitions is crucial; and in the case of at-risk students, it is absolutely necessary because there is a high tendency for them to adopt negative strategies when faced with any obstacles that block their path (Carroll et al. 2012; Gestsdottir and Lerner 2008; McWhirter et al. 2007). To address this situation, school counsellors and educators need to support transitions by scaffolding the narratives with a review and reflection process. These review mechanism needs to be framed in a lifespan perspective.



**Fig. 10.1** Framework for creating an individual's career stories

Given the interconnectedness of the stories, the review and reflection process can take the following form:

- an evaluation of the past story development as benchmarked against the desired story to determine the future narrative;
- an exploration and examination of optimisation and compensation narratives to move to the desired story (Baltes et al. 2006; Brandtstädter 2006).

The counsellor can further scaffold and enrich narratives by helping the individual consider optimisation (by using personal strengths) and compensation narratives (for any personal weaknesses) to frame an action plan for fulfilment of their goals (Brandtstädter 2006).

## Use of SOC Frame of Reference for Working with At-Risk Students in an Educational Setting in Singapore

Like their Western counterparts, Singapore students who are considered at risk also face multiple challenges within their social environment. Many of these students come from complex families with low socio-economic status and facing many challenges (Tan 1999). As a result, many students lack proper home support and are also often subjected to negative peer influences (Tan 1999). They may exhibit maladaptive behaviours, and in the context of careers, many tend to have more blocked goals, have an unrealistic view of their future and tend to limit their choices in their educational development. The building of hope and optimism thus becomes crucial in helping them think about their career development. It is argued here that educators and counsellors can help at-risk students develop narratives that contain hope and optimism, using the SOC frame of reference.

My school in Singapore is a specialised vocational school catering mainly to at-risk students. About 60% of the students come from the lower socio-economic group. Many also come from a dysfunctional family. Within this setting, we have made deliberate use of the SOC frame of reference to work with at-risk students, within the curriculum and during counselling sessions. Educators and counsellors work very closely with the students and aim to help them in the following respects:

- *hope restoration* through the deconstruction of the past narratives;
- *hope creation* through the co-construction of their future narratives;
- *construction of optimisation and compensation strategies* to support their future narratives;
- *hope sustenance* through a process of review and self-reflection.

### Hope Restoration

At the school level, stories of achievements and resilience are shared at the school assembly platform to help build a hope restorative climate. Specifically, alumni and staff stories are shared during the assembly to help students realise there this hope for them, despite having experienced multiple failures. In addition, the school also engages parents actively to build a hope restoration climate within the family. For example, stories of the students' dreams and hopes are shared with parents, and during the parent and teacher meeting, the parents are invited to discuss with teachers how they can help support their child's hopes and aspirations. Teachers are also encouraged to use 'strength-based language' (highlighting the positive traits of the student) to connect with the parents and students during these meetings.

In the classrooms, students are encouraged to share their personal hope stories to encourage and affirm one another. Although school level sharing and the classroom sessions do not provide much space for the deconstruction process, they can create

hope restorative climate and this provides a foundation for building hope narratives for the future.

In school counselling settings, the counsellor can invite the student to tell past stories using a timeline and other tools as suggested by Brott (2004). The stories are then retold for the purpose of unpacking and deconstructing the relevant details. Themes and patterns associated with interests, skill usage and values are identified as positive traits and highlighted for the student with the intention of strengthening self-esteem and building a positive future narrative. Through this process, students gain an insight into their strengths and an understanding of a 'positive self' as opposed to the negative self-concept which they may have developed due to influences in the environment. The deconstruction of narratives also provides the basis for a therapeutic relationship between student and counsellor, and this in turn increases the likelihood of establishing hope and optimism for the future.

One activity that we used quite often is the timeline. In this activity, students are taken through a story creation process where they are asked to narrate the story of their past lives. In this activity, they are asked to share significant events of their lives. These could be achievements or events that may have either positively or negatively impacted them. The counsellor can use the questions in Fig. 10.2 to understand the student better and to help him or her process their thoughts.

A student who was generally perceived to be something of a leader in his peer group was recently referred to me for his negative relationship with his peers. At the corridor, he would often shout and provoke others when his wishes were ignored or thwarted. During our conversation, I sensed that he was quite agitated and actually had low self-opinion. Using the template in Fig. 10.2, I decided to ask him to narrate both positive and negative events which were significant to him. From the session, the student came to realise that often he was using his strength of leading in a wrong manner, and he could really do this more tactfully to win more positive affirmation. We decided to work through this in subsequent sessions and plan how he could better manage situations like this in future. The student went away feeling more positive about himself and realising that he could apply his strength in a more meaningful manner.

As seen in Fig. 10.2, the template can provide the counsellor with a clear picture of the student. This situation can lead to a therapeutic conversation that will help the student better understand himself or herself and set personal goals. The process can affirm personal worth and build confidence in future.

## Hope Creation

At the school level, opportunities are intentionally created for students to experience more success and to create hope and optimism for themselves. For example, the school has Values in Action Day where an older group of students use their learned vocational skills to serve a marginalised community group, like the elderly. The school also has a Work Attachment Scheme where students are placed with a few

**Story/Narrative Deconstruction Template**

Time Line

Time Line			
Possible Questions for Assessment by the counsellor	Age: 10	Age: 12	Age: 15
Tell me a few stories in your life where you actually did something you feel proud of, or a story where you managed to overcome a problem.	At the beginning of the year, I was asked to be the class monitor. In that year, I carried books for my teacher, kept the class quiet. It was not an easy job but my teacher praised and affirmed me for doing it well. My teacher say I did my job well.	My father ran away. I was devastated. However, it gave me the opportunity to take care of my sibling because my mother asked me to.	I was appointed Student Coordinator by my friends to be a scout patrol leader. That year, I was selected to march at the National Day Parade. The contingent leader say I am very reliable and dependable and punctual. I was asked to take care of a group of juniors in the team.
What are some themes and patterns that are common throughout these stories or narratives? (Question for counsellor to listen and decipher)	<u>Possible Themes that surfaced:</u> Values: Caring Inherent qualities or strength: Reliable and dependable. Leading people in life or guiding them towards a desired goal.		
What selection narratives does the student have from these stories? How does he/she choose the goals?	<u>Possible Future Narrative</u> To consider possible career exploration in the social service sector or encourage him to continue to look for jobs that allow him to exhibit reliability and dependability.		

**Fig. 10.2** Process to promote self-awareness and hope restoration

Possible Questions for Assessment by the counsellor	Age: 10	Age: 12	Age: 15
What kind of optimisation or compensation strategies does the student use normally?  Why does he/she use these strategies and how does he/she use these strategies?	<u>Possible Optimisation Strategy:</u> Commanding and obeying teachers' instructions.	<u>Possible Compensation Strategy:</u> Stepping up to help mother deal with the loss of the dad.	<u>Possible Optimisation Strategy:</u> Leading others and role modelling.
What were some of the feelings the students express as they tell these stories? What was the energy level like?	He draws a lot of strength from affirmation.	There was pride in narrating this significant moment. Family was important for him and he would do anything to ensure that the family is intact.	There was pride in narrating this significant moment. He draws strength from affirmation just like it was in age 10.
What other insights can you gather from this story that will help them develop a hope-based future narrative?	Based on the three events, there is a sense that he derives a lot of strength from being affirmed. Discussions during counselling sessions could be about what motivates him intrinsically, how he can use his strengths to achieve his future goals or endeavours.		

**Fig. 10.2** (continued)

companies and can see for themselves that skills they have learnt can be applied in a real-world context. They see the relevance of what they are learning and can create hope and optimism narratives for their future. The school also has a Residential Programme that teaches students everyday responsibilities and living skills through daily routines.

In a classroom setting, role models of 'bad boys and girls made good' are shared with the students during lessons. Students are asked to think about how these boys and girls created hope and better goals for themselves and to identify the factors that helped them formulate their goals towards success. As a follow-up to the session, students are asked to create positive stories of the future, and this is later shared during their one-to-one interview sessions with the teachers. The teachers in turn affirm these stories and then interpret how each story can be used to develop optimisation and compensation narratives.



In a school counselling setting, students are invited to tell stories of the future. Like many Asian students, they are often reticent in sharing their inner thoughts (Leong 1993). Hence, a great deal of scaffolding is needed to allow for the creation of career narratives. In my school, pictures, images and metaphors are used in the sessions to help students develop hope and optimism narratives. The counsellors make use of these stories to further understand the students and help them link their future narrative with the past stories. Given their at-risk status, it is also good to scaffold this process further by ensuring that their narratives are challenging but realistic enough for them to be attained (Pedrotti et al. 2008).

Figure 10.3 provides a facilitation plan for how this can be accomplished and how this can be created.

**A Future Hope Narrative Creation Session**

**Objective of this session**

Students are required to create a positive future story that they want to be true for them.

**Materials:**

- Stationaries: Pen, colour pencils or crayons
- Used magazines or newspaper
- Optimisation/compensation story creation template

**Procedures**

1. Thank the student for coming for this session.
2. Use the materials to create a story of what the student wants for the future.
3. After the student has created the collage or written the story, look for possible connections to previous stories. Affirm the student.
4. Take some time to understand the student's story and ask him/her some of these questions to expand the story.
  - Are there any stories in the past that help you developed the goal that you have today?
  - What do you think are things in your life that influence these pictures or goal?
  - How did they influence you?
  - There are several stories in your collage or picture. Which do you think is most important for you? Why do you think this is most important?
  - How could you go about making this story a reality?

**Fig. 10.3** Facilitation plan of a hope creation session

## Hope Construction Using Optimisation and Compensation Strategies

In the classroom, students are made aware of various optimisation and compensation strategies that could make the most of their strengths and interests while compensating for any weaknesses. This includes making them aware of various course options available to them and the entry requirements, and then thinking about how to work to meet these requirements. In addition, coping strategies to deal with emotions are also taught as part of the asset-building plan to increase their self-efficacy for the future. Given that most of these at-risk students enter the workforce immediately, the school also teaches them how to work with their colleagues and bosses. Instruction would include workers' rights education as part of the package, with the aim of expanding their range of strategies for coping with the transition from school to employment.

In a school counselling setting, students are invited to think about ways of making their narrative for the future into reality. Students are encouraged to examine their current assets (knowledge, skills, attitudes and positive traits) that either support their plans or hamper them from making their narrative a reality. They must understand how to maximise these assets for fulfilment of their goals. If any of their goals are blocked, the students are encouraged to create a new narrative for the future, or to explore compensatory strategies to deal with the obstruction. For example, if the student is not able to get into the popular Asian culinary course, the counsellor can encourage them instead to take up a baking course or other similar option. A compensation narrative can then be constructed expressing what the student must do to maintain the desired employment pathway.

I had an opportunity to work with one student who told me that he wanted to become a baker in a hotel. As he has worked in the hotel before, he showed me some feedback that had been given to him. I asked him to explain what he hoped his future direction would be, and he informed me that he likes working in the hotel but would need to be punctual, be able to listen to instructions, and manage his anger. To help him build this story, I used the framework depicted in Fig. 10.4 to help him understand the various compensation and optimisation strategies he would need to use to fulfil his desired goal. These strategies are actually co-created by the students and me. This is to help him understand that in order for him to move forward, he would need to create a future narrative which must include managing his anger, asking questions in a nice manner and picking up new skills. Doing this not only provide him with the necessary direction to fulfil his dream but also allows him to concretise actions he needs to bring his plan to fruition.

## Hope Sustenance

To provide for hope sustenance, counsellors may need to go one step further by helping students equip themselves with the attitudes and self-regulation that will maintain

<p><b>Desired Story:</b></p> <p><u>What do you think is needed to make your story into reality?</u></p> <p>I would like to be a baker in the hotel. In this hotel that I wish to go to I want to be able to make croissants, muffins and cakes that would make customers in the hotel happy. To do so, my boss in the work attachment hotel informed me that I need to work on my punctuality and my anger. He also told me that I need to work better with my assistant baker in terms of following instructions.</p>			
<p>Frame for thinking about optimisation/compensation strategies</p>	<p>Situation</p> <p>I get angry very easily as my work attachment has shown me that I can easily pick a quarrel with my boss and colleagues.</p>	<p>Situation</p> <p>Although I have worked in the baking kitchen, I still need to know how to decide the exact amount of flour to add in to get the correct texture to make my bread.</p>	<p>Situation</p> <p>I need to learn how to follow instructions.</p>
<p>Type of narrative: Is it optimisation or compensation?</p>	<p>Compensation Strategy</p>	<p>Optimisation Strategy</p>	<p>Compensation Strategy</p>
<p>What knowledge, skills and attitudes are needed for the strategy to work?</p> <p>What are some habits or attitudes you need to give up because they are not helpful to achieving your goals?</p>	<p>I need to know about how to manage my anger.</p>	<p>I need to have knowledge of the amounts of flour to use, as well as possessing the required skills for measurement.</p>	<p>I need to listen carefully to instructions. If I am not sure, I need to ask him questions in a nice manner.</p>
<p>Do you have these attributes at the moment? Put + for "yes" and - for "no"</p>	<p>-</p>	<p>+</p>	<p>+/-</p>

**Fig. 10.4** Optimisation/compensation narrative creation

What do you need to do to attain these attributes?	I need to know what causes me to be angry. I may need to find a counsellor to learn anger management skills.	I need more practice in measuring quantities. I will need to work with baking teacher and also ask my maths teacher how to measure things like flour accurately.	Practice with a job coach on the right questions to ask in a nice manner.
If you already have these attributes, what do you need now to maximise them?			
If you need to give up certain habits, how will you do this?			
How do you minimise the occurrence of bad thoughts or actions?			

**Fig. 10.4** (continued)

optimism and aspirations, even in the face of changing circumstances (Brandtstädter 2006). At-risk students often exhibit an external locus of control, and they tend to attribute their problems or difficulties to circumstances outside their control. They then resort to negative ways of dealing with an issue, not really expecting to be successful (Sapp 2006). Educators can use the SOC frame of reference as a means of intervening for these students, employing activities and advice (strength-based counselling) that will give students a different attitude and perspective that is more optimistic and hopeful, to fortify their resilience and adaptive capacity (Brandtstädter 2006; Sapp 2006). One way to help them develop this is getting them to think of concrete actions that they can take and to get them to re-evaluate their goals in terms of assimilative and accommodative actions. A brief description of how this may be implemented by a counsellor in a group setting is shown in Fig. 10.5.

## Conclusion

This chapter has described the SOC model as an additional approach for school educators and counsellors to use to support career intervention programmes, with a particular reference to at-risk students within an educational setting. SOC adds to the various narrative approaches used by counsellors to assist the ‘whole-person’ development of students, as described in the literature. It is seen as a way to empower at-risk students for future success through the construction of more optimistic narratives that support learning.

Although this chapter makes an explicit connection of SOC to narrative approaches in counselling, there has been no known previous research in this area.

**Incorporating Assimilative and Accommodating Actions into optimisation and compensation narratives**

**Objective of this session**  
Students are able to distinguish between assimilative and accommodating actions and incorporate these actions into optimisation and compensation narratives.

**Materials**  
Nil

**Instructional Procedures**

1. Explain the meaning of assimilative and accommodating actions. These are actions that you can take in response to a blocked path or career goal.  
**Assimilative actions** – task or plans taken to ensure the goal of present functioning is still maintained (e.g. if you cannot gain entry to a music course but intend to still pursue your dream of being a musician, you may want to attach yourself to a musician to build your music experience.)  
**Accommodating actions** – task or plans taken to modify your selection narrative to get around the blocked goal (e.g. if you cannot do a music course you may need to rethink your music career, but you can still think about being an audio engineer.)
2. Ask the student to review their selection, optimisation and compensation narrative.
3. Ask which narrative they would like to alter.
4. Ask what actions they would take. List them.
5. Ask the student to look again at the Optimisation/Compensation Narrative Creation template.
6. Ask the student how they would change their strategies incorporating assimilative and accommodating actions.
7. Give the students an opportunity to refine their story.

**Fig. 10.5** Guidance session on re-evaluation of plans

The chapter therefore provides a topic for researchers to consider as a possible area for investigation. Future research could include exploring the relevance of SOC for shaping the moral and vocational identity of at-risk youth, or the use of SOC to structure career planning interventions for at-risk students. The use of SOC to develop self-efficacy and social-emotional development is also worthy of investigation. For researchers, this chapter offers the possibility of exploring SOC narratives as a platform for understanding more about human development.

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# Chapter 11

## Views of Parents on a Career and Life Planning Program for Junior Secondary Students with Special Educational Needs: A Qualitative Study in Hong Kong



Yiu Bun Chung and Mantak Yuen

**Abstract** Career and life planning is extremely important for *all* adolescents in order to enhance transition outcomes, but to date, little attention has been paid to its role in education for students with special educational needs (SENs). There is no specific model in Hong Kong for supporting career and life planning for SEN students, nor has there been any research on the topic. As a result, their needs are easily overlooked and they have had fewer opportunities to explore and develop their vocational interests. To address this problem, a charitable organization in Hong Kong initiated in 2016 a two-year program for junior secondary students with SEN. The program aimed to develop a service model for supporting career and life planning for these students in Grades 7–9. Evaluation of the program included obtaining views from different stakeholders, including parents of the SEN students. In this chapter, we discuss findings from the evaluation study using a qualitative approach with data from parent interviews.

**Keywords** Career and life planning · Parents' views · Students with special educational needs

### Introduction

The notion of “career and life planning” encapsulates the process by which individuals take account of who they are (their own personality, strengths, interests), where they are heading in life, what they hope to become (goals and aspirations), and how best to get to where they want to be. This planning process can ultimately facilitate their successful transition from school to further education or entry to employment

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(Drier 2000). The planning involves setting personal goals, identifying the steps and actions needed to achieve those goals, and an awareness of potential opportunities and challenges that may be met along the way. In Hong Kong, “career and life planning” has become more popular in schools since 2014, with more resources allocated to its implementation and encouragement (Kao 2015).

To align with the United Nation Convention on the Rights of Persons with Disabilities, life planning education and career guidance for secondary students in Hong Kong must now include those with special educational needs or disabilities (Education Bureau 2014). Although it has been recognized that career and life planning is extremely important for *all* adolescents, to date, little attention has been paid to its specific role for students with special educational needs (SENs). Unlike the services provided in the USA (Bakken and Obiakor 2008), Hong Kong has no specific transition model for supporting career and life planning processes for these students. Equally lacking is any related research on the topic, particularly targeting special needs students in junior secondary schools.

Under the current policy of inclusive schooling in Hong Kong, most students with special needs are fully integrated with others in mainstream classes. In this situation, the unique needs of SEN students are easily overlooked, thus limiting their opportunities to explore their vocational interests (Cheung 2017). This is a matter of concern; because if these students have no clear life plan, they may drop out of school at the earliest opportunity. Post-school outcomes for students with disabilities are reported to be generally less successful than for their peers without disabilities (Blackorby and Wagner 1996), and it has been reported that unemployment and poverty tend to be correlated with both disability and early leaving (Xu et al. 2014).

## **A Life Planning Program for Students with SEN**

In very recent years, educators in Hong Kong have gradually started to pay more attention to the potential importance of transition education and services for the students with special needs. This is reflected, for example, in the actions of a charitable organization in Hong Kong (The Tung Wah Group of Hospitals School Social Work Service). This body initiated a program in 2016 called the “*SUN Life*” *Navigation Project*, for junior secondary students with SEN. The program aimed to develop a model for supporting life planning for these students in Grades 7–9. Initially, 33 SEN students from five secondary schools in Hong Kong were invited to participate in this two-year program. The special needs identified among these students were mainly in areas of literacy and numeracy difficulties, attention deficits, and social emotional difficulties but did not include severe or complex disabilities.

All components in the program (Table 11.1) are recognized as aspects that contribute to any effective support model for life planning (Drier 2000). In particular, involving students’ parents in certain ways is valuable, because of their vital supportive role in influencing students’ career development (Rizzo and Varrin 1997).

**Table 11.1** Components of the program

Components	No. of session	Brief content
Individual advice and counseling	12 30 min per session	Individual life planning, goal setting, advisement
Group activities	12 1 h per session	Personal competency, self-assessment, self-understanding, possible elective, and career choices
Career day camp	5 1 h per session	Adventure activities, social skills development, self-confidence training, team building
Interest workshops	16 1 h per session	Life skills training, interest exploration
Workplace visits and work experiences	8 3.5 h per session	Career exploration, placement, knowing the world of works, advisement, appraisal
Workshop for parents	3 3 h per session	Effective communication with children, enhancement of child's self-awareness/goal setting/motivation, and career planning
Parent interview	1 1 h per session	Feedback collection

The two-year program consists of coordinated activities based on a knowledge of individual children's needs, taking into account their strengths, preferences, and interests. This design fits the principle of transition services proposed by the Individuals with Disabilities Education Improvement Act (IDEIA 2004) and Halpern (1993). According to the life transition model proposed by Halpern (1993), there are three critical elements in intervention programs of this type, represented by "school-based activities," "family-centered activities," and "self-initiated activities." In this program, "school-based activities" are those compulsory events organized and conducted by the program worker. These include individual advice sessions and personal counseling, career day camp, and adventure activities. The "self-initiated activities" represent one of the highlights in this program because they enable students to pursue personal interests and build upon their strengths. Students can choose to participate in certain workshops and workplace visits and gain new interests. For the "family-centered activities," the program organizes workshops for parents in which they gain a better understanding of how to support their child's career and life planning process. They also engage later in parent interviews. The topics of key workshops are "How to communicate effectively with your children," and "How to enhance your child's self-awareness, goal setting, motivation and career planning." Once the program was implemented, it became clear that at first, the parents did not spontaneously participate and contribute in an active way, expecting instead to be "lectured to" by the

program worker. It needed time to develop a relaxed environment and a culture that encouraged parents' closer collaboration and sharing of ideas.

The program was evaluated using two different approaches, quantitative and qualitative. The qualitative study reported here obtained views from parents. The purpose of the evaluation was to assess the parents' perceptions of the program and any benefits their children had derived from it (Yuen 2018). In this chapter, we discuss the findings on the effectiveness of the program.

## **Rationale for Program Design**

In designing and implementing this program in schools, it was important to embody family involvement and a collaborative team approach.

### ***Family Involvement***

Any family exerts a powerful influence on the development of a student's career path and attitude to life—and this is particularly the case with students who have special needs (Rizzo and Varrin 1997). Life planning programs should therefore include family involvement, and the essential roles of family members should be made explicit.

It was revealed in a previous study in China that parents' insufficient awareness of options and strategies for supporting their child is one of the barriers to a school-to-work transition program for students with disabilities (Xu et al. 2014). The same study also revealed that family involvement in an intervention program is one feature of best practices in effective transition programs. The parents in that study agreed that they should closely collaborate with schools (Xu et al. 2014).

### ***Collaborative Team Approach to Life Planning***

The family unit is always an important influence on students' career and life planning, and the family needs to be included in a program that sets out to improve career and life planning for students with SEN. Any family possesses its own cultural values and aspirations that will make an impact on the career and life decisions that are made by students (Bakken and Obiakor 2008; Sanchez and Van Gelder 1997). Cultural values in a family may, of course, vary across different generations (e.g., grandparents vs. parents vs. children), and family members may place different values on such things as personal achievement, family status, the most desirable forms of work, and the potential of a child with a disability. These differences in values and aspirations can at times be the source of conflict and tension in any planning process. For this

reason, a program to help SEN students engage in career and life planning must use a collaborative approach by integrating family into the program.

In reality, this is not always easy due, for example, to different expectations, breakdowns in communication between the program worker and the family members, and also between family members and the child. In order to minimize some of these problems, an intervention program needs to investigate and take into account all stakeholders' views on life planning and the goals students that should set themselves. In particular, parents need to have better awareness of what is involved for students when they go through the processes of career and life planning.

## **Parents' Views on the Life Planning Program**

This study is part of a larger evaluation designed to assess students' and parents' experiences with the program. Previously, pretest–posttest results from 192 students with SEN from 19 secondary schools indicated that following the program students reported higher levels of peer connectedness, a stronger understanding of meaning in life, and better career exploration self-efficacy than similar students who had not experienced the program (Yuen et al. 2019). Specifically, this section of the study focused on assessing the perceived utility and importance of the program from the perspective of the students' parents.

Three basic questions were to be answered in this evaluation process.

1. What did the parents feel about the aims, content, and processes of the program?
2. What beneficial learning outcomes for their children did the parents perceive, during and after the program?
3. What overall comments did the parents have on the program?

These questions provided the underpinning framework for the interview protocol that appears in the Appendix to this chapter.

## **Participants**

Ethics approval to interview parents was obtained from the Human Research Ethics Committee of the University of Hong Kong. Brief information about the purpose of the face-to-face interviews was provided to the parents via telephone contact, and their consent was obtained.

In the interviews, it was surprising to find that out of 17 parents, three seemed unaware that the school regarded their child as having a “special need”—not realizing perhaps that difficulties with reading, writing and math, or attention problems, are classified as “special needs.” The other 14 parents knew that their children had either ADHD or dyslexia, a physical or sensory disability, or a combination of these problems.

**Table 11.2** Parents or guardians interviewed

Interview date	Parents/Guardian	Relationship with the student	Son/Daughter/Other	School year
13 June 2018	AA	Father	Son	9
	AB	Mother	Son	8
	AC	Uncle	Nephew	9
	AD	Father	Daughter	9
	AE	Father	Son	8
	AG	Mother	Daughter	8
20 June 2018	B1	Mother	Son	9
	B2	Mother	Son	College yr 1
	B3	Father	Daughter	9
27 June 2018	C1	Mother	Son	8
	C2	Father and Mother	Daughter	8
	C3	Mother	Daughter	9
	C4	Mother	Son	8
	C5	Mother	Son	9
	C6	Father	Daughter	9
	C7	Father	Daughter	9

*Note* The parent code letters in the table above appear later in the detailed report of the interviews

The interviews were conducted in the schools on three separate days. Only the interviewer, a helper for audio recording, and the parent or guardian were present at the interview (Table 11.2).

### ***Instruments and Protocol***

A semi-structured interview protocol was prepared by the researchers to collect parents' perceptions of the life planning program for the students with SEN (see Appendix). The interview questions were divided into three categories covering (1) process evaluation, (2) product evaluation, and (3) other comments.

All contacted parents were invited to attend the face-to-face interviews, and seventeen parents (representing sixteen families) were interviewed. Interviews were audio-taped and later transcribed for thematic analysis to reveal views under the three categories (process, product, and general comments). It was intended that this feedback would not only evaluate the program but also suggest ways to improve it when next implemented.

## Plan for Analysis

All interview data were transcribed verbatim in Chinese. The process of analysis was based on qualitative research strategies suggested by Merriam (1998). According to the classification by Merriam (1998), this research adopted the method of “Generic Qualitative Study,” which aims to reveal and understand a phenomenon, a process, or the perspectives and views of the people involved. Before reading the transcripts, tentative coding labels were developed to cover issues that the parents might raise, linked to the three original categories in the interview protocol. During analysis, recurring patterns are identified. Building on the protocol of the study, categories are newly formed and adjusted.

The transcripts were then read several times, and the original codes modified or added to as new categories emerged from the scripts. In fact, the analysis underwent three stages of coding to reach the final version. Themes were identified by referring to their frequency in the conversations and the significance that parents attached to that theme during the interviews (Maxwell 2010).

## Emerging Themes

The final analysis of the interview data yielded the five main themes as described below. Sample quotes from the parents (translated into English) are included to illustrate the types of comments and feedback they provided.

***Theme 1 The program is helpful in terms of goal setting, career prospects, new interests, self-confidence, decision making, and self-understanding.***

All parents reported that the program benefited their child in a number of ways. These are discussed in more detail below.

### ***Goal Setting***

Parents perceived that after the program, their child had started to talk about and think about their own goals, long-term and short-term. A father (AE) thought it was not easy to request his “lazy” boy to have a goal in life, but after the program his son had a positive change. AE stated: “In terms of goal setting, planning and preparation, the effect [of the program] on a boy who is lazy like him, is large.”

A mother (B1) reported, “He did not mention studying in university before, but this year it is very strange ...he often mentions that word ‘university’ [as a possible destination].”

Another mother (AB) observed that her son did appear now to have goals. “I noticed when he came home after talking with the worker, he did jot down goals.”

### ***Career Prospects***

For students who are studying at the junior secondary level, future career prospects are seldom their major concern. However, some parents told the interviewer that their children started to talk more about careers after the program. Parent (AG) said: "She told me that apart from being a dessert maker, she wants to be in sound media." One parent reported that his son has chosen vocational training after his secondary education, because the subject he chose is more relevant to his future career. "He has transferred to Vocational Training this school year because the plan he developed [during the program] gave him a clue and he is now interested in engineering."

Some parents reported that although their children have not clearly expressed what career they would choose for future, they had started to collect more information and do planning for the potential careers. Parent (B2) stated: "He knows that he can look for relevant information and start to find his own interests. In this respect I can see a transformation." A father (AD) talked about his daughter: "[After the program] she understood her own affairs and knew better about planning for future than before."

### ***Self-confidence***

In response to the question: "In which aspects and to what extent does the program contribute to promoting your son or daughter's self-confidence or ability in facing the future?", ten parents agreed that after the program, their children have either higher self-confidence or increased independence to make decisions. A father (AD) responded: "Although the process was complicated, her self-confidence is enhanced. I noticed she is more confident than before when she speaks."

A mother (AB) remarked: "He felt inferior before. Now he has become better. His ability to deal with stress has improved."

Another mother (AG) explained that there might be a reason for improvement in self-confidence because: "As she [daughter] was not forced to write anything during the activities [writing is her main weakness] and could do some handy tasks like making desserts, her self-confidence has been reinforced through success in the program."

### ***Self-decision Making***

It was observed by the parents that their children had become better and confident in making decisions by themselves. A parent (AB) admitted: "He used to follow other people before, but he makes his own choices now. His commitment is also greater."

Students could choose the interest workshops by themselves, and the uncle (AC) of a student raised this as an example: "Yes, I will let him decide [on workshop

choice]. I will ask if he wants to join or likes it or not. If he said he likes it, I will sign and let him participate.”

Another parent (C3) agreed that workshop choices and activities had improved decision making. “She told me her decision after making her choice.” One father (AE) commented of his son that: “If he did not participate [in the program] his maturity would not have developed so fast. His judgment is progressing.”

### ***Self-understanding***

Parents generally agreed that their children had more self-understanding after the program. A parent (AG) responded: “In fact, she is becoming very clear about her strengths and weaknesses. She knows that writing is not her strength. She is looking for other directions.”

Self-understanding involves not only knowing one’s strengths, weaknesses, and potential, but also identifying and building upon one’s interests. It would be an advantage if a student understands his or her own interest, and the parents appreciated that the school could provide opportunity to support student’s interests. A parent (C4) revealed: “He discovered his main interest after attending the activities and classes.” Another (B1) said: “Because his school gives him the opportunity to participate in 3D printer operation, he now has some interest and understanding of this. The school is willing to cultivate his ability in this area so he is interested in 3D design.”

### ***Theme 2 Improvement in learning, new interests, and better social development.***

The parents all agreed that there are other benefits for their children in terms of improvement in learning, new interests, and better social development.

### ***Improvement in Learning***

Parents observed a big improvement in learning in their children. Parent C3 remarked that: “This year, the results are better. The worker also said that her progress has been great.” Some parents were astonished by their child’s attitude change toward engaging in learning. A father (AA) never expected that his child would ever be motivated to move away from the computer, which was a constant distraction from studies. However, the activities in the program had increased the child’s interests and motivation, and this appeared to generalize to other learning contexts. AA said: “He is now nervous about the school subject examination and really didn’t turn on the computer.”

Similarly, a father and mother who attended the interview together (C2) reported that they never believed their daughter would try hard on an examination paper— “She used to submit a blank examination paper before” they said. But the program



activities seemed to improve her motivation and confidence. “She said herself that her performance was becoming a little better. She told me that she was willing to write some words on the examination paper.” (C2).

Sleeping in lessons is very common among low achievers in large classes in Hong Kong schools. A mother (C1) expressed her excitement and said, “I think he sleeps less than before in the class.”

### ***New Interests***

Several parents considered that the program had helped to give their child a new range of interests. A father (AD) explained this with reference to his daughter: “For example, learning cake making, taekwondo, right! She chose to learn Korean. They [Tung Wah Group of Hospitals (TWGHs)] will assist our children in attending these courses and providing financial assistance. TWGHs helps the students at the grassroots level.”

Another parent (B2) expressed: “Because of the table tennis plan, my boy has played for two semesters. ... after I have talked with the program worker and requested that the program be extended one more semester.”

### ***Better Social Development***

Some students with SEN are usually timid when interacting with other people. However, the program activities that involve cooperation, collaboration, and mutual support all provide them with a good chance to make friends with others. An uncle (AC) observed that his nephew has become more sociable. “He really became bold and went out to meet friends.”

A mother (AB) attributed her child’s improvement in social confidence to the program. “He is very happy to participate in this program and he has met many new friends.” A parent (C5) agreed with her and said of her son: “(He) learns to get along with others and knows the importance of cooperation. He is less emotional.” Parent (C1) had also witnessed that her son had become more emotionally stable, and this helps him work with other people.

### ***Theme 3 The social worker in charge (program worker) played a significant role throughout the program.***

Sixteen out of seventeen parents expressed explicitly that the social worker in charge in each school played a significant role throughout the program and could help their children improve in various ways.

According to the responses from the parents, it was clear that the worker had liaised closely with families and discussed life goals with their children. The worker provided career-related or transition-related information to the parents and students.

Parent AE remarked that “The follow-up work done by the school social worker and the program worker made me very satisfied. That person helped me manage the child and future planning more successfully.” The worker offered this counseling to individual parents, leading parent C4 to say: “Yes, the program worker helps a lot ... at last she taught me how to communicate with my son.” The worker also offered individual counseling to the children. Parent B1 said, “The program worker also talked with my son. When I tried to talk with my son he said, ‘Mom, you can’t help.’”

The worker also provided extra resources for their children and more opportunities. Individual counseling was available to the parents and/or their children. Parent C5 reported, “Every time there is a problem, the worker will talk with me and my boy. She will also give explanation to both of us separately. The school resources are abundant.”

Similarly, AG explained that the program worker facilitated provision of resources for the parents: “I have just talked with the program worker and she said that the fund has not been used up. My girl can use the fund for one more semester to subsidize her learning.”

***Theme 4 Parents generally agreed that the program gave their children new opportunities.***

When the interviewer asked parents about their expectations, impressions, and opinions of the program, the most common response was “increased opportunities.” A father (AD) said that the government support for students with SEN is insufficient. He said: “I feel that the government is not doing enough in this regard, and is not very helpful to the disadvantaged.”

Another parent (AE) appreciated that the program could give SEN students what they really need. “I am very fortunate that my boy has this opportunity, and I feel that this opportunity is very rare. This is knowledge that cannot be learned elsewhere. This is very good for him in the future. I am very fortunate and very grateful for this. They give my son a chance. It has helped him grow up.”

These comments all suggest that the opportunities provided in the program did help to equip these students with increased confidence, new interests and skills, and fresh motivation that will ultimately assist their later career development.

***Theme 5 Students did not always talk with their parents about what was happening in the school program.***

Although good communication between parents, children, and school staff should always be an essential feature of any team approach, thirteen parents said that they only knew their child was participating in the program, but not the details. Parent (C1) remarked, “He occasionally talked about the name of the program and said that he will join the program that day. But he has never shared about the process and content of the program.”

Most parents knew some details of the program content because of the parent workshops and through discussions with the program worker. Only six parents

reported that their child had informed them of the program activities, and only three could describe the program details. This finding may indicate that communication and connectedness between students and their parents is still somewhat lacking and needs to be considered as an aspect to improve in future implementations of the program.

## Discussion

The purpose of this study was to assess parents' perceptions regarding the value of their SEN child's participation in a career development program designed to prepare them for transition from school into postsecondary education and/or the world of work. Interviews with parents indicated that overall they perceived that the program offers a valuable opportunity for their children's development. They felt the program helped their children identify their strengths (talents) and gave them a better sense of direction. "Opportunity" is one of the five important factors for talent development because it allows a student's potential to be discovered (Gagné 2004). Once a student with an unsuccessful academic history can find success in some area, their confidence will be enhanced and learned helplessness will diminish.

The parent evaluation was part of a larger study that also evaluated a range of students' outcomes resulting from their program participation. Consistent with the student survey results, parents perceived the program as having an impact on their children's self-confidence, motivation, and goal setting. However, parents were less certain about whether the program helped their children gain meaning in life. Parents also agreed that their children improved in social development and the areas of self-control and self-confidence.

Feedback from parents confirmed that the program would not have been implemented successfully without the contribution of the program worker. This person has to be extremely competent with organization as well as capable of designing group activities, counseling sessions, and assessing students' strengths and interests. He or she must be able to build very good relationships with the students and their parents. Indeed, the commitment of the worker in this program was vital to the entire process. The previous research confirms that the support from the program worker (usually a career counselor) is the critical ingredient of intervention in the career domain (Whiston et al. 2017). One area of concern for future consideration is parents' interest in learning more about their children's experiences in the program.

## Conclusion

Parent interviews confirm earlier evaluation results from students that "SUN Life" Navigation Project shows promise in helping students with special needs or disabilities gain the confidence and insights necessary for planning a career path. The

research team recommends implementation of the project in other junior secondary schools in Hong Kong and elsewhere (Yuen et al. 2019).

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## Appendix

### Parent Interviews: Semi-structured Interview Guide

#### 1. *Process Evaluation:*

- General Impression of the program
  - What is your overall impression of the program (students' activities and involvement and parents' workshop)?
  - Which of the topics and activities do you consider most beneficial to SEN students? Why?
- Comments on the parents' workshop content
  - What are your views on the content (topics and activities) in the workshop?
- Comments on the parents' workshop implementation
  - How have other parents responded to the parents' workshop?

#### 2. *Product Evaluation:*

- Evaluation of the general effectiveness of the program
  - In which aspects, and to what extent, do you think the program is beneficial to the life planning of your son/daughter?
  - After your son/daughter participated in the program, did he/she exhibit any changes in attitudes, skills or behaviors? If yes, please specify.
  - What has your son/daughter gained from this program?
- Evaluation of the specific effectiveness of the program, the impact on your son/daughter
  - In which aspects and to what extent does the program contribute to promoting your son/daughter's self-confidence or ability in facing the future?

- How does the program improve your son/daughter’s awareness in:
  - connectedness with parents, school, teachers, and peers?
  - meaning and purpose in life?
  - self-awareness?
  - career planning, exploration, and goal setting?
- Did your son/daughter ever discuss you at home any of the topics or issues raised within the program? If yes, what were the topics/issues?

### 3. *Other comments*

- Do you have any other comments, good or bad, on the program?

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# Chapter 12

## Career Guidance for Gifted Students in Hong Kong



Joe Y. C. Tsui and Mantak Yuen

**Abstract** In this chapter, the authors use a policy and program perspective to explore the specific career development needs of gifted learners in Hong Kong. They first examine recent developments in gifted education and career education policies in Hong Kong, then draw on relevant literature to highlight salient career development needs of gifted learners. Next, consideration is given to possible priority content for career guidance programs for these students, and some existing programs are reviewed. The chapter ends with a summary of the implications for educators, counselors, researchers and policy-makers.

**Keywords** Career education · Gifted education · Gifted students · Hong Kong

### Background

Rapid economic development and globalization have resulted in all nations needing to focus on ways of developing human resources and social capital to maintain competitiveness (Chan 2018). In this respect, gifted individuals represent a valuable human resource that needs to be nurtured. These individuals have the potential to contribute greatly to society and to the economy, so it is essential that effective programs and personal support and guidance are provided for them.

Large-scale international assessments of students' achievement, such as *Trends in International Mathematics and Science Study* (TIMSS) and *Progress in International Reading Literacy Study* (PIRLS), have indicated that students in Hong Kong perform remarkably well, and this situation has drawn attention to how Hong Kong educates and prepares its young generation. In this context, the past two decades have seen heightened interest in the practice of gifted education in the territory.

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## ***Gifted Education Policy in Hong Kong***

A policy titled *The Development of Gifted Education in Hong Kong* (Education Department 2000) set the foundation for increasing and enhancing provisions for gifted learners. This policy document provided the rationale for gifted education and included basic principles for implementation. These principles included:

- a broad definition of giftedness should be adopted, based on the theory of multiple intelligences;
- nurturing multiple intelligences should be the mission of all schools;
- gifted education should be seen as an integral part of quality education, with the needs of gifted students to be met in their own school;
- some special or additional provision may also be necessary for exceptionally gifted students whose learning needs cannot be entirely met in the school;
- gifted students with emotional, behavioral or learning difficulties will need special support;
- teachers should identify students at the upper end of the ability range who may benefit from extension and enrichment activities, but the label ‘gifted’ should not be used to define those taking part; and
- resources should be drawn together to support schools in catering effectively for gifted students.

This gifted education policy represented an important step toward strengthening provision for students of high ability and with talents in Hong Kong, but its implementation in schools was not compulsory. As Tommis and Phillipson (2013) later pointed out, when implementation of policy is voluntary, it is not known whether schools have strictly followed the guidelines. To date, very little has been done to evaluate the effectiveness of the policy in terms of action at school level (Chan 2018; Chan et al. 2009; Phillipson et al. 2011; Tommis 2013). It is known, however, that current special provisions for gifted students have focused almost entirely on subject-specific academic domains (e.g. through extension and enrichment activities) or on generic intellectual development (e.g. teaching critical thinking). Relatively little has been done to enhance students’ personal-social or affective development, or to address the career development needs of this group of learners (Peterson 2015).

## ***Career Education Policy in Hong Kong***

Career education has a longer history than gifted education in Hong Kong, with its roots dating back to 1959. However, it was not until the government’s blueprint for Education Reform in 2000 that career education gained major attention (Education Commission 2000). Even with this increased attention, development of career education did not go smoothly. It was found that career guidance services were fragmented and often superficial, with heavy reliance on one-off programs such as career talks to



large groups and worksite visits, but little attention was being given to individualized support for planning a career path (Leung 2002). There was perceived to be a lack of central policy from the government to exemplify what effective practice should be included, and what standards of career guidance should be expected in secondary schools (Ho 2014).

Career education did not really take centre stage on the agenda of education in Hong Kong until 2014, in response to challenges such as youth unemployment and the need to match training with the actual skills required in a rapidly changing world (Steering Committee on Population Policy 2013). In 2014, the Hong Kong government announced its determination to provide young people with ‘diversified learning, training and development opportunities that match their abilities, aspirations and education levels’ (Hong Kong SAR Government 2014, p. 30). This was followed by clear guidelines issued to all secondary schools (Education Bureau 2014). ‘Life planning education and career guidance’ then became the official terminology for this domain (Ho and Leung 2016). The guidelines advocated for a shift in career education away from the traditional information-giving and job-finding role to a more educational and developmental one that addresses individual student needs, interests and abilities, to be integrated within the school curriculum in a whole-school approach.

The issuing of the guidelines was accompanied by a recurrent Career and Life Planning Grant to schools to help accelerate the shift to a new model of provision (Wong 2018). Each secondary school with classes at the senior secondary level received a recurrent cash grant (about USD\$64,000 per year) to strengthen the organization and capacity of their career guidance teams (Education Bureau 2014). As the new policy involves extra provision of public money, schools need to be held accountable by being required to submit a plan and later a report indicating how the grant is used. This has meant that career education has now become one of the key areas that inspection teams from the Education Bureau examine in school reviews. In other words, from being a fragmented and poorly delivered domain, career education has gained top priority in policy discourse and actual school practice. It now remains for schools to consider how it may be necessary to differentiate career education and guidance activities according to the specific needs and characteristics of individual students.

The intention of the new policy is that schools now have additional resources and enhanced career guidance teams to provide better services to meet the needs of all students, including those with special educational needs. Unfortunately, the document does not explain how career guidance services should better cater for students with special educational needs whether they are disabled or gifted (Education Bureau 2014). It is not difficult to find that career development for gifted students has not been given due attention so far in Hong Kong, even though career counselling has long been regarded as the most urgently requested service for gifted learners and their parents (Chen and Wong 2013; Yoo and Moon 2006).

## **Career Development Needs of the Gifted**

A review of the literature in this field indicates a paucity of international and local research that has studied career development needs of gifted students. This situation may be partly because people assume that gifted individuals are independent enough not to require guidance services related to their career planning and exploration (Greene 2006; Maxwell 2007). However, research is beginning to point to a complicated interplay between students' high abilities, occupational interests and their need for intellectual stimulation which needs to be considered when helping this student cohort plan a career path (Wood et al. 2018). The section below provides a summary of some of the unique characteristics of gifted students that may require special consideration.

### ***Multipotentiality***

A known characteristic of many gifted students is that they are exceptionally competent and interested in many different areas of performance (Maxwell 2007). Colangelo and Assouline (2000) have suggested that this can make their career development path more complicated, which results in these students experiencing difficulty when making decisions about a career. In practice, it is not uncommon to see gifted individuals delaying career decision-making or changing a course of study more often than the average students (Sampson and Chason 2008). Gifted students often need more individualized counselling that helps them to select and prioritize their goals.

### ***Early Emergence and Foreclosure***

In contrast to those students who delay making a career choice, there are others who exhibit very early career intentions. A gifted student's passion for a certain subject or topic may help him or her get more opportunities to develop and excel in the area at an early stage; but on the other hand, early emergence may lead to early foreclosure which ultimately narrows their career possibilities (Greene 2006). Career guidance must seek to address this tendency so that students will keep their options open.

### ***Perfectionism***

Gifted individuals tend to have high expectations of themselves and to set high standards. Their desire to be perfect may cause them always to strive for excellence in their academic or career pursuits, which may in return bring them positive outcomes.

However, obsession with being perfect may lead to procrastination or indecision regarding their career path, which makes their career development journey much more complicated (Greene 2006; Jung 2019). Career counsellors need to be aware of any students who exhibit unrealistic levels of perfectionism and provide them with advice that helps them reflect upon more reasonable expectations.

### *A Need for Intellectual Challenge and Stimulation*

In addition to traits like multipotentiality and perfectionism, a more recent characteristic that has been noted is the ongoing need for intellectual challenge and stimulation (Jung 2019). Given their high ability and strong interests, some gifted individuals who too readily enter employment may ultimately find their jobs repetitive, tedious and lacking in novelty (Rimm et al. 2018). It is important that teachers and counsellors in schools make gifted students aware of this potential problem and help them look sensibly for occupations that will provide stimulation long term and give them a sense of satisfaction and fulfilment.

When assisting gifted learners to explore their personal interests, abilities and psychological needs, it is imperative first to help them understand what it means to be gifted and help them develop a positive self-concept. Researchers have even suggested that a low self-concept is not uncommon among gifted students (Maxwell 2007) and this makes career planning more difficult for them. They may not fully recognize what they could achieve in their adult life, and they may select a career that is a long way beneath their potential.

### **Possible Priority Content for Career Guidance Programs for Gifted Students**

It is noted that career guidance programs in Hong Kong have long been characterized by 'heavy reliance on mass talks to students' before key transition periods and less emphasis on deliberate counselling for individual needs (Ho 2014; Ho and Leung 2016). This approach is quite contrary to the advocacy or benchmarks recommended worldwide (OECD 2004; The Gatsby Charitable Foundation 2014). In designing career guidance program content for gifted students, it is imperative to make reference to these significant international benchmarks and standards.

Given the characteristics of many gifted students, it is important to consider what topics and strategies should be given attention in their career development activities. Some of these topics are equally important for all students, while some may need to be tailored to the strengths and interests of gifted students.

## ***Career Exploration***

One of the essential processes of effective career guidance in school is to help students explore (and even experience at first hand) various career options before undertaking any final career planning (Gysbers et al. 2014; Niles and Harris-Bowlsbey 2017). For gifted students, career exploration should take them beyond their main area of talent in order to expose them to a wide range of options and avoid the effect of early foreclosure on career paths. Career exploration should not be confined to traditional elitist career options (e.g. law, medicine, banking, commerce) but also provide learning experiences in authentic workplaces and in non-conventional careers.

## ***Career Decision-Making Skills***

It is important to include decision-making skills in the provision of services to help gifted students make informed decisions among their multiple options (Sampson and Chason 2008). One important decision-making skill for high school students is to make lists of advantages and disadvantages (Amundson et al. 2014). By comparing career options and their considerations, students can visualize the possible pros and cons of each option and weigh them to reach an 'intuitive and rational' decision. Besides, the ability to bear uncertainty and unpredictability of their decisions and to take risks is also an important aspect of modern-day career decision making we want our young generation to be equipped with.

## ***Values Clarification and Meaning in Life***

Consistent with what the general public thinks about gifted persons, many gifted individuals do tend to set high standards for their careers and prefer to take on a job that has an impact on society. Sampson and Chason (2008) contend that as well as providing work experience programs, it is necessary to have students assess and clarify their own values to help them prioritize their career choices. This process of assessing and clarifying is particularly important when gifted individuals face dilemmas, which are created when parental expectations or societal norms regarding a chosen career path conflict with their own thoughts.

It is imperative to help gifted students to recognize and develop their talents and potential while facilitating their inner exploration of meaning in life, especially in the Chinese communities (Yuen and Tsui 2016; Yuen and Yau 2015). Since a career means more than just choosing a job for gifted students, career and life planning for them is literally preparing themselves for different roles in society and lifestyles in a long-term manner. Therefore, gifted students need various exploratory activities to

help them understand themselves, the world of work and its values and the meaning in life before committing themselves to a certain career option.

### ***Career-Focused Mentoring***

The presence of a significant adult has been found to be indispensable for helping gifted individuals make career decisions (Wood 2010). Gifted students are reported to value meeting with and shadowing an adult who is working in their field of interest or talent and who can act as a mentor. It is therefore desirable to include career-focused mentoring in any career interventions for gifted students.

### ***Individual Education Plans***

Individualized education plans (IEPs) are usually associated with students with learning difficulties, but an IEP is also appropriate and necessary for gifted students to help teachers and counsellors personalize their approach. It is believed that students who have an education plan with clear goals and strategies have more confidence in exploring career options, acquiring positive work habits and developing life skills (Yuen et al. 2005, 2010).

Individualized support for career counselling or educational planning is still found to be the most urgently requested service in schools in Hong Kong, despite the many efforts to increase career guidance in recent years (Ho and Leung 2016). Given the special career development needs of gifted students, it is important to have trained professionals to devise individual education plans addressing their salient needs.

## **Existing Career Programs for High-Ability Students**

At this point, it is useful to review successful career programs offered for high-ability students in three secondary schools in Hong Kong. All schools share some common general background features and have existed for at least 50 years. They are classed as 'Band 1' which indicates that they admit over 90% of top academic achievers, and they have strong alumni networks and support. In terms of the career guidance and counselling programs, these three schools are committed to a whole-school approach to career guidance by involving different subject panels and functional teams. They create various opportunities for students to extend learning beyond the classrooms in different academic and non-academic areas. They deliberately provide success experiences to develop their students' self-concept and potential. All schools have developed a mentorship program utilizing their alumni networks to provide career support to their students.

One school, a traditional elitist boys' school, integrated the mentorship program into their subject teaching of English language. In this area, the students in Year 11 are all required to conduct a self-directed career research project before meeting their alumni mentors in small groups (Tsang and Yuen 2015). In this 'mentorship for all' program, students are assigned an alumnus based on their preferred career clusters, and on the day of meeting their mentors, the students are required to conduct a formal interview with the mentors based on the research project. After the interview, students write personal reflections on the strengths, weaknesses, goal setting and adjustment for their desired profession and their coping strategies. This activity is followed by a final writing up of a CV with a personal statement addressing their knowledge, values, attitudes and career aspirations.

The school also arranges online discussion, gathering, recreational activities, workplace visits with the alumni and these are followed up by debriefing for students. The program is particularly effective in helping their students explore different careers and actively preparing for one. This is an exemplary practice of effective curriculum leadership in integrating subject learning (English language) into career guidance for high-ability students with the strong support from alumni as mentors.

The second school, which is co-educational, has a similarly strong alumni mentor network and takes on a different approach to provide ample and varied experiences for their high-ability students. Their school careers team and co-curricular activity team join hands for maximizing exposure for students, while their academic affairs team, careers team and alumni affairs team collaborate on the provision of a 'mentorship program for an elite group'. Instead of adopting a 'career-focused only' mentorship approach, the school extends the scope of mentorship to character building, personality development and learning a positive attitude towards work and study. This school selects top 20 students from Year 10 and Year 11 as mentees, based on school assessment results. Alumni mentors from this school are required to have informal meetings with the group of high-flyers regularly to talk about issues related to careers, aspirations, exposure and many others. At the same time, this group of high-flyers is introduced to different learning opportunities beyond classrooms. These opportunities are provided by the school to help students build a positive self-concept, explore various academic and career options and be a 'better person'. The whole-school and whole-person approach taken by this school are well regarded by both students and alumni.

The third school, also co-educational, uses a growing alumni network. It tries to develop a sense of autonomy in high-ability students by introducing student-led conferences. Under this scheme, students are asked to conduct a conference involving students themselves, their parents and teachers on Parents' Day. The conferences serve as an occasion for students to report their progress over the year against their own set goals. The school has also prepared a list of goals for students to choose from. Some examples of pre-set goals by the school include 'to explore two university programs online', 'to join more than one further study-related activity' and 'to develop one work skill related to the job you are interested in.' These all involve decision making about what to choose to best suit their own needs and goals. Together with the mandatory write-up of the student self-account, this school successfully shifts

the ownership of learning and goal setting to students. Teachers are just facilitators in their process of career exploration and planning.

The flagship career programs of these three schools have had profound impact on both the academic achievements and career development of their high-ability students. They all have the featured components of involving a significant other in the form of mentoring, or even ‘shadowing’, to facilitate their exploration, and of using individual planning as a counselling element in their career education programs. The essence of successful programs lies in the adoption of a whole-school approach that not only requires interdepartmental collaboration, but also capitalizes on community resources such as alumni mentors. It also relies on a strong belief that career development is a pivotal component of whole-person development for students.

## Conclusion

Given the great importance now placed on both gifted education and career education, it is critical that more attention is given to program provisions that address the specific career development needs of the gifted population. Schools must not assume that this group of learners, by nature of their high ability, can manage their own career development without support. To help them transition from school to work, it is important to understand that in many respects, they are not different from the average students in that they all need guidance on self-understanding, career exploration and career path planning. However, because many of these students have multiple talents and interests, they often need more personalized career exploration to help them identify their enduring interests, values and priorities. The presence of a significant adult who can be a role model or mentor can help them understand the career options available to them. Finally, in designing career programs for gifted students, the goal should be to help them choose a career path that will ultimately be both rewarding and fulfilling for them.

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# Chapter 13

## Career Guidance for High School Students with Specific Learning Difficulties: Hong Kong Perspective



Flora S. Y. Yau and Mantak Yuen

**Abstract** Career guidance has long been regarded as an integral part of secondary education. This form of guidance is particularly important for students with specific learning difficulties because they face many unique challenges in their career development. For these students, career guidance programs need to be carefully planned to address their special needs and to smooth their transition from school to post-secondary education or employment. It is surprising to find that relatively few research studies, especially in Asian societies, have investigated the career preparation needs of high school students with specific learning difficulties. This chapter first draws on pertinent literature to review the situation faced by these students and to highlight their priority needs. Consideration is then given to existing government policies and school programs in Hong Kong, and suggestions are made for how current provisions can be strengthened.

**Keywords** Career guidance · Hong Kong · Special educational needs · Specific learning difficulties

### Introduction

According to Ho and Leung (2016), the increased attention now being given to career guidance in schools is a reflection of the challenges currently posed by high youth unemployment and the need to improve the preparation of all students to enter the workforce. Career guidance for students in high schools has now become an integral part of secondary school curriculum in many Western and Asian countries. It is

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regarded as one of the most important influences for students' successful transition from school to tertiary education or work.

Career guidance is particularly important for students with a disability or other special educational need. It is evident from the literature that, in many respects, these students face similar career issues to those without disabilities, but with additional challenges (Fabian and Pebdani 2013; Hitchings et al. 2001; Ho 2014). The 'special' needs of these students can significantly influence their aspirations and career path development and can determine the types of additional guidance they require. This is as true for those with good intellectual potential but weak academic achievement as it is for those with more obvious physical, intellectual or sensory impairments.

Students with specific learning difficulties (SpLD) are of normal intelligence and potential, but their weakness in reading and writing affects their learning across the curriculum (Westwood 2017). Their prolonged failure in schoolwork, due, for example, to dyslexia or dysgraphia, ultimately affects their academic test results, and this in turn creates a major obstacle later to admission to tertiary education. For this reason, many individuals with SpLD face a much more difficult pathway to achieve their academic and vocational potential. At times, this situation seems to be worse in Asia, where students' future career tends to be judged almost entirely on their academic standard achieved in school. The unique needs of capable students with a learning disability tend not to be properly recognized in many schools or fully addressed when career guidance services or programmes are provided. In the Asian context, research on career guidance for students with SpLD is currently inadequate.

The previous period of advocacy for 'equal opportunities for all' and 'education for all' in the 1980s and 1990s led to the Salamanca Statement of 1994. In that statement, there is a recommendation for inclusive education—with 'special educational needs' (SEN) students to be integrated into regular classrooms rather than into special schools. However, in Asian countries the particular needs of SEN students in this respect have been relatively poorly understood and frequently overlooked, despite numerous studies overseas indicating the benefits of helping all people with disabilities gain employment (Fabian and Pebdani 2013; Hershenson 2005; Szymanski and Parker 2010). Fabian and Pebdani (2013) commented that even though vocational rehabilitation programs specifically designed to assist with job finding have existed for about a century, career counselling and career development in school are actually relatively new concepts in the field of disability. There have been too few efforts so far in Asia to develop theoretically based and empirically supported career planning interventions for youth and young adults with SEN.

This chapter reviews the provision of career guidance services for students with SpLD in Hong Kong—an Asian society with Western influences. Pertinent literature is reviewed to identify the challenges faced by these students and to highlight their priority needs. Consideration is then given to existing government policies and school programs in Hong Kong, with suggestions made for how current provisions can be strengthened.

## Characteristics of Students with SpLD

In Hong Kong, the term ‘special learning difficulties’ refers to one of the nine categories of special educational needs identified in schools (Audit Commission, HKSAR Government 2018). Within this classification, the term ‘specific learning difficulties’ (SpLD) identifies a person who despite having normal intelligence experiences chronic difficulties in learning to read, write and spell fluently (HK Education Bureau 2014). This disability is usually believed to be neurologically based and inherited. According to the British Dyslexia Association (2019) SpLD affects the way people process information and learn, and it is a general term covering a range of difficulties that include dyslexia, dyspraxia, attention-deficit/hyperactivity disorder, dyscalculia and dysgraphia. In the USA and Canada, the common term in usage is ‘learning disability’ and its acronym, LD (National Dissemination Center for Children with Disabilities 2019; Learning Disabilities Association of Ontario 2019). In the UK, severe difficulties in literacy are referred to as dyslexia (British Dyslexia Association 2019).

The most obvious characteristic of students with SpLD is poor academic achievement. Poor academic performance usually affects the competitiveness of these students in further study and in work opportunities after high school. Since the advent of inclusive education, students with special educational needs or disabilities in many countries are generally supported within the mainstream schools. Ideally, this is done through early identification and early intervention with a focus on teaching the students the skills they need and developing the compensatory strategies to help them cope with their disability. The approaches that are recommended for Hong Kong schools include curriculum adjustment (differentiation), inclusive teaching strategies, modifications and accommodations during examinations, and providing emotional and behavioural support. Unfortunately, it is all too common that students with SpLD are not easily identified, because over the time they have developed many strategies for keeping their difficulties hidden (Westwood 2017). In this context, their unique needs for career guidance and transition support are often neglected.

## Career Preparation Needs of High School Students

According to the *Life-span, Life-space Theory of Career Development* (Super 1990, 1994), high school students at the age 15+ are at the stage of ‘exploration’, during which they gain self-awareness (acknowledging their strengths, interests, personality) and also gain information about occupations. Many students begin to develop insights into the world of work through part-time employment, extracurricular experiences and other activities, and they will ultimately select a future occupation that matches their strengths and interests (Hartung 2013). Social cognitive career theory (Lent and Brown 2006, 2008) proposes that ‘home, educational and community

environments expose children and adolescents to an array of activities which form the substrate for later career or leisure options' (Lent 2013, p. 120).

Career guidance and counselling programmes in schools naturally provide information on occupations and careers, but students need to be interested and motivated to explore options. According to Super (1994), attitudinal and cognitive readiness are the two main elements required to achieve career maturity. Attitudinal readiness refers to willingness to engage in planning and exploring occupational options, while cognitive readiness means possessing awareness of the skills and knowledge required in various occupations and how to make good career decisions (Hartung 2013).

## Challenges Faced by Students with a Learning Difficulty

Chen and Chan (2014) reviewed the specific problems and obstacles that high school students with learning difficulties in Canada face in their career development. They identified four critical issues—poor academic skills, low self-awareness and career awareness, underdeveloped social skills, and lack of self-determination. Previously, Hitchings and Retish (2000) had also identified the main challenges these students face, beyond their poor academic results. These included the extra time they need to spend in learning compensatory strategies and in engaging in remedial programmes at the expenses of time needed for career exploration; and less self-determination over major decision-making because parents and teachers take the lead. Westwood (2017) and Kerka (2002) point out that due to frequent failure, many SpLD students have developed poor self-esteem, learned helplessness and an external locus of control.

Students with SpLD certainly have problems beyond those associated with reading and writing which affect their performance and progress. These include, for example, difficulties with organizational skills, self-management, social awareness and social interaction—all of which can affect their career planning and acceptance into the workforce. In addition, McLoughlin (2015) points out that external factors such as misconceptions that the general public have regarding the limited capability of people with SpLD can be an obstacle. These misconceptions lead them to hold low expectations for the disabled person's future success, thus affecting their goal setting and career path, and may cause early foreclosure on some potential career paths.

On the positive side, a study by Goldberg et al. (2003) on common attributes found in successful adults with SpLD identified the importance of strong self-awareness, perseverance, goal setting, strategy development and supportive relationships. Furthermore, the factor of 'being able to take control' (self-determination and self-management) has been found to be far more important than other factors (McLoughlin 2015).

## Support and Intervention

As indicated already, all high school students, including those with SpLD, are at the stage of ‘exploration’ in planning their future employment path. What they need most are more opportunities to achieve ‘career readiness’ and to make informed choices for successful transition from school to work or to further studies. In the case of students with SpLD, their learning difficulty has greatly affected their learning, adjustment and academic performance, and this fact needs to be considered when providing personalized support and guidance in schools. The students’ frequent failures and poor grades have tended to generate weak self-efficacy, lack of confidence, poor self-esteem and low expectations for success. Any form of support provided for them needs to address these affective aspects, alongside specific guidance on career path and achieving work readiness.

## The Asian Context

Leung et al. (2008) comment that in more than 100 years of history, career guidance in the Western world (most notably the USA) has developed comprehensive theories regarding career development and has devised many practical intervention strategies. Career guidance within the Asian context has a shorter history. Gong et al. (2013) suggest that Korea, Japan and Taiwan have only some 50 years of research history and practice in career guidance and counselling; and the same is true of Hong Kong. For example, the professional association in Hong Kong that provides support to teachers and career practitioners was not established until the 1960s. Leung (2002) reports that career guidance services in secondary schools expanded steadily in 1970s and 1980s but remained fragmented and often superficial, relying too much on large-scale programs with one-off career talks and visits. It is therefore not surprising that provision of career guidance in secondary schools has been criticized due to the fact that there is no single coordinating body to formulate professional training standards or to centralize and circulate information on career guidance best practices. As Ho and Leung (2016) suggest, the quality of career education and guidance in Hong Kong depended largely on individual commitment and professionalism of career guidance teachers. Career guidance has really only become an integral part in curriculum in Hong Kong since the education reform of 2000, and to date almost no consideration has been given to how guidance strategies need to be differentiated for students with SpLD.

Developments in career guidance in some East Asian societies such as Korea, Japan, Taiwan and Hong Kong have simply translated Western career development models, with some minor adaptations to cater for cultural differences. It is true that a few research studies with a focus on career guidance and intervention strategies have been conducted in Asia, and assessment tools have been developed to suit the local

cultures—but in Asian societies, the pace of career guidance service development has been slow, especially career services for students with all forms of SEN.

In most Asian countries, it was not until very recently that due attention has been given to preparing students for transition to life beyond school. A comparative study of career guidance in Shanghai, Edinburgh and Hong Kong (Zhang 1998) revealed that Hong Kong lagged behind the other two cities and lacked a comprehensive government policy on career guidance. This is in stark contrast with the USA, where transition support for students with disabilities has a much longer history since 2004, and support is now mandated for SEN students in the *Individuals with Disabilities Education Improvement Act* [IDEA]. This transition support in the USA involves guiding the individual to formulate a career plan that includes post-secondary goals, taking account of the individual's strengths and weaknesses in academic and other areas, daily-living skills, personal interests and future aspirations. It is expected that support for students with special educational needs will involve a collective effort by school teachers, career counsellor, parents, social workers and other professionals (Hamlet et al. 2014; Kochhar-Bryant and Greene 2009).

Unlike the USA, most East Asian societies, except Taiwan and Korea, have no legislation requiring transition support for students with SEN. Even in Korea, although they have legislation, the effectiveness of career guidance services for students with disabilities is heavily influenced by their traditional stereotypic negative perceptions of the potential for persons with disabilities, and also the low level of professional development for personnel who provide transition support (Chun et al. 2016).

## Government Policies on Career Guidance

It is natural that special services and programmes in schools require the impetus of an official government policy and implementation guidelines. As Gysbers (2008) points out, government policies often decide where priorities in career guidance and counselling service are placed administratively, who provides the services involved, what activities are used, and what resources are provided. For many years, Hong Kong lacked a clearly articulated policy in this domain. Yuen et al. (2018) attributed the slow development of career guidance services prior to 2000 to this lack of an overarching career education policy and the absence of any practical guidelines from the Government. Similarly, Ho (2014) has opined that the absence of a clear framework on guidance or intervention for teachers resulted in career guidance services in Hong Kong being marginalized. This situation might be related to a common perception of administrators that helping students plan a career path is not an 'academic' subject so has no place in the curriculum. Leung (1999) also commented that the inadequacies in career guidance services included using a narrow approach that focused only on information dissemination, with no formal guidance curriculum and related materials, too little time devoted to career activities, insufficient training for career guidance teachers, and a heavy additional subject teaching workload of career teachers.

Government policy changes in Hong Kong led to the New Senior Secondary (NSS) Curriculum Reform in 2000. According to Yuen et al. (2018), this policy change led to unprecedented opportunities for accelerating the development of career education in Hong Kong. The fundamental changes in the education system, the public examination system and an increase in post-secondary pathways for high school graduates rapidly influenced career guidance and career education strategies in secondary schools. The objectives of the curriculum reform emphasized that students should have a *balanced* and comprehensive education that included not only academic subjects and the humanities and arts, but also *vocational* considerations to prepare them for employment, and ‘learning for life’ (Education Commission 2000). The following statement in the Education Commission document guides schools to include vocational education in the curriculum.

Compared with basic education, senior secondary education should provide students with more *work-related experiences*, enhance their *knowledge about working life*, help them develop a positive *attitude towards work*, and help them explore their own aptitudes and abilities to *prepare them for future employment* (Education Commission 2000, p. 100. [emphasis added]).

The provision of career guidance and education in senior secondary schools, particularly the roles and responsibilities of personnel—what to do, and how to deliver career guidance—is explained in other documents such as *The New Academic Structure for Senior Secondary Education and Higher Education—Action Plan for Investing in the Future of Hong Kong* (Education Bureau 2005) and *Action for the Future—Career-oriented Studies and the New Senior Secondary Academic Structure for Special Schools* (Education Bureau 2006). In 2014, an additional recurrent grant from the government was made to all secondary schools for what was named career and life planning Education (CLP). The grant could be used to hire a full-time teacher, and schools could freely deploy this human resource to support the development of career guidance in a manner that addressed the unique context of each school.

According to the *progress report on the new academic structure review* (Curriculum Development Council 2013), it appears that career guidance development in secondary school has made a great leap forward in the decade since the introduction of NSS. It is reported in particular that the practices embodied in career education do foster students’ understanding of their own career aspirations. However, the needs of students with SEN or SpLD are still not being recognized.

## **Inclusive Policy in Hong Kong**

Since the introduction of the *Rehabilitation Programme Plan* in 1995 and the *Disability Discrimination Ordinance* (DDO) in 1996, Hong Kong Government has adopted a dual-track mode of placement for students with any of the nine categories of special need or disability. Since 1997, students with severe or multiple disabilities are still referred to special schools for intensive support, while others with milder SEN can



opt for study in mainstream schools. Students with SpLD affecting their acquisition of literacy and numeracy skills are generally educated in mainstream schools. Under the HK Government inclusive policy, mainstream schools are expected to provide appropriate support to these students by using a whole-school approach (WSA) that requires collaboration among all personnel in the school. In order to facilitate WSA, a Student Support Team (SST) is set up in the school to formulate inclusive education policy and arrange support services for students with special educational needs. Schools can also receive an additional grant, 'Learning Support Grant' (LSG) for each confirmed case of persistent learning difficulties and can utilize resources flexibly.

Even with the inclusive policy and funding support, it does not mean that students with SpLD in mainstream schools can necessarily be assured of successful preparation for transition from high school to post-school options (Ho 2014). The quality and effectiveness of career guidance for SEN students vary considerably across schools, depending on the amount of funding received, the school policy on career support, teachers' expertise and their capacity to provide individual career guidance for these students.

This variation in quality of support was very evident in a local study in Hong Kong conducted by the first named author (Yau 2016). This involved phone interviews with career counsellors to collect data from six high schools situated in different districts of Hong Kong. The schools reported their numbers of identified students with special educational needs (mainly general or specific learning difficulties) and the career support provided. School A and School B catered mainly for academic high achievers. These schools in Hong Kong are generally referred to as Band 1 schools, within a three-band system. Data indicates that there were far fewer SEN students in these two schools than in the other four (lower banded) schools. There was no SEN student in School A. In School B, even though there were at least 20 SEN students, there were no special services or support arrangements for career guidance for them. School C, with more than 80 SEN students, also had no special provision made for career guidance. In the other three schools, there were between 80+ and 100+ SEN students, representing approximately 8–10% of all students in these schools. Most of the schools spent their grant money (based on number of identified SEN students) on resources for facilitating students' learning (e.g. modified textbooks, DVDs, computer software, assistive technology, remedial materials) and for training students in strategies for coping with their difficulties. They also implemented some examination accommodations such as allowing extra time for SEN students or using an adult scribe. Money was also spent sometimes on hiring teaching assistants and buying-in services from non-government organizations for student development programmes.

Schools D, E and F indicated that they had made special arrangements for career guidance for students with SEN. In School D, the career mistress mentioned that she worked collaboratively with the Student Support Team (SST) and the school social worker in providing a different SEN programme. They spent most of their grant on hiring a teacher assistant to support the work of the SST and buying-in services for a general work readiness programme for students with SEN. This programme included arrangements for SEN students to visit workplaces and undertake workplace

attachments. There were also career lessons provided for all students including those with SEN. School E required SST members to meet each student at least once to discuss their career planning in their final year of senior secondary. In School F, the role of SST was more extensive and involved providing two courses covering learning and personal growth for SEN students. Starting from the junior forms, these students received career and life planning lessons and later engaged in workplace visits and work-experiences placements. The grant was mainly spent on buying-in services, hiring a teacher assistant and a part-time social worker.

Given this marked variation across schools in the amount of career guidance provided—despite the existing policy of the Education Bureau and the funding available to schools—evaluation studies are clearly needed to see what improvements could be made. The initiative should be taken to involve career counsellors and other relevant personnel in preparing more detailed guidelines and programmes for schools that target the career development of students with disabilities and with general and specific learning difficulties. In order to increase teachers' expertise in career guidance, good practices already used should be identified, reported and shared across schools. This can be achieved in part through in-service seminars, workshops and conferences; and more could be done to raise trainee teachers' awareness of the issues involved in using a whole-school approach to career guidance.

Below are three exemplars of good practice. Though there is still no single programme or format which has been proven successful in supporting the transition of students with SpLD, the examples suggest at least three important points related to the provision of career guidance for these students. First, secondary schools must create opportunities for students with a disability or leaning difficulty to obtain additional and tailored experiences that help them better understand their own strengths, aptitudes and interests, and to recognize their own potential. This can be facilitated when the career guidance programme is always delivered by committed and professionally competent career guidance teachers (Ho and Leung 2016). Second, learning experiences outside school (workplace experiences) are particularly valuable for SpLD students, who often learn best through active participation and observation rather than from book learning. They are then able to understand the required skills, routines and attitudes necessary in the workplace and consider possibilities for a future career. Third, collaboration between schools and non-government agencies can greatly enhance the development of effective career guidance programmes for all students.

### **Exemplar 1: Conceptual Framework Sharing from a Mainstream School**

At a mini-conference organized by Hong Kong Professional Teachers' Union in 2016, a school principal (Ho 2016) shared views on provision of career guidance for SEN students based on her experiences. The theme was 'Life Planning Education

and Career Guidance for SEN—A Whole-School Approach’. The framework for this approach is summarized in a three-tier model. Under a whole-school approach, a three-tier model is implemented involving all teachers and parents.

At Tier 1, all schools are expected to create a supportive environment for students’ career development, and all teachers are involved to some extent in career education. This is achieved through a combination of formal curriculum (career education conducted in career lessons and also infusion into different subjects) and school-wide career guidance activities. New students in junior secondary take part in a bridging programme in the summer before they start secondary school. When they enter school later, they engage in a series of activities to nurture their sense of responsibility, feelings of belonging to the school (connectedness) and to foster an appropriate learning attitude. Progressively, students engage with the programme with different objectives associated with life education and career development. In the second year, some of the sessions are designed to strengthen students’ confidence, motivation, self-respect and self-management. In the third year, the focus is on understanding multiple pathways to the future and making career choices. Through creating an environment which facilitates students engaging in different activities, they are helped to identify and develop their potential, and are provided with opportunities to explore possible vocational interests.

At Tier 2, additional group-based training is provided to offer new opportunities for SEN students to engage with others who have similar interest or aspirations. Activities include organizing workplace experiences and mentorship programmes. In Ho’s school, a programme called ‘Girls-Go-Tech’ was initiated by the Women’s Foundation in Hong Kong to provide junior secondary girls the opportunity to explore possible STEM careers. This involved activities such as science and technology competitions, intelligent plant workshop, technology company visits and hands-on programming. Evaluation of the programme indicated that the students who took part had gained self-confidence particularly in engaging with science subjects, which are often thought traditionally difficult for girls.

At Tier 3, students receive more individualized and intensive support, such as having career aptitude assessments, career guidance interventions to strengthen their self-determination and self-advocacy, and individual counselling with a focus on life roles, life goals, values and leisure activities.

## **Exemplar 2: A Workplace Programme Designed by Heep Hong Society**

Heep Hong Society is a non-government organization committed to helping children and youth with diverse needs. The Society introduced a workplace programme especially designed for students with SEN in 2018, funded by the Hong Kong Jockey Club Charities Trust. The programme includes a core module, elective modules,

workplace experience and job matching. In the core module, programme participants (students with SEN) are given career information, taught job interview skills and explore possible jobs. In the electives, they could choose to study some soft skills such as communication and self-management. After the taught modules, participants are assigned a job placement and a mentor. The programme was considered successful, with participants later sharing their good experiences and continuing their employment after the job placement. Schools in Hong Kong can buy such services from NGOs, such as Heep Hong Society.

### **Exemplar 3: Resource Kit for Providing Career-Related Experience for Students with SpLD (Hong Kong Sheng Kung Hui Welfares Council)**

Commissioned by the Education Bureau, Hong Kong Sheng Kung Hui Welfares Council introduced a pilot project in 2015 which focused on SpLD students with the aim of developing a programme and a resource pack for schools. This three-year project (2015–2018) successfully recruited 45 secondary schools (15 schools each year) and involved 450 students with SpLD. The three-stage programme included career development interventions delivered via small group activities, workplace visits, internships and individual counselling. In the first stage, participants took part in workshops and visits to build a positive relationship with the instructor and to foster self-understanding and career exploration. In the second stage, the career exploration activities from the first stage were used to teach the participants decision-making skills based on their experiences and reflection on workplace attachments. In the third stage, internships were arranged according to the participants' interests, strengths and aspirations. The project was concluded with sessions for participants to share ideas and insights, and a resource kit was developed for schools. This resource can be retrieved from the Web site of Hong Kong Education City ([https://careerguidance.edb.hkedcity.net/edb/opencms/lifeplanning/resources-corner/support-sen/?\\_\\_locale=en](https://careerguidance.edb.hkedcity.net/edb/opencms/lifeplanning/resources-corner/support-sen/?__locale=en)).

### **Concluding Remark**

Although inclusive education has been the established policy in Hong Kong for more than two decades, there is still much more that needs to be done to meet the needs of students with SpLD. This is particularly evident in relation to career guidance, where the typical one-size-fits-all approach to career planning in many schools fails to address the unique characteristics of these students. There is an urgent need now to gain evidence of what works best—and this means that identifying the most effective

career guidance strategies for students with a special need should be very high on the research agenda, in Hong Kong and elsewhere in Asia.

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# Chapter 14

## Career Guidance for Students with Special Educational Needs in New Zealand



David Mitchell and Colin Gladstone

**Abstract** This chapter describes career planning and transition for students with disabilities in New Zealand. It begins by describing the policy contexts in which current practices have developed, and then traces the way that thinking has changed concerning the purposes of education, the nature of work, and the expectations for people with disability. These changes have shaped policies and practices in career planning and guidance. The chapter goes on to outline guiding principles or standards for good transition and career planning for these students. These are followed by a description of how the transition is positioned in New Zealand education and schools, with particular reference to a secondary school transition service in one major city.

**Keywords** Career guidance · Disabilities · New Zealand · Transition

### Introduction

Numerous countries fail to effectively manage school-to-post-school transition for students with disabilities (UNESCO Institute for Education 1997). The common underlying reasons for this are society's socio-economic exclusion of them due to lack of awareness, lack of understanding of their situation, lack of knowledge on how to include them, discrimination, and over-protection. Even where there is legislative support for the employment of people with disabilities, they continue to face considerable stigmatisation and discrimination (Shiera et al. 2008).

As noted by Mitchell (2015), provisions of school-to-post-school transition programmes for people with disabilities need to be strengthened. Students with disabilities need to be equipped with adequate vocational skills and life skills at school to

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prepare them for the world of work and/or further education. Adequate vocational education and training would empower people with disabilities to be more competitively employed, become economically active, lead meaningful lives that are as full and independent as possible, and enhance the social and economic welfare of their families and communities. Equally important, communities need to be prepared to accept their responsibilities towards people with disabilities.

While there is still much to be done to meet these criteria in New Zealand, progress is being made. This chapter will outline the New Zealand context and some of the key policies and practices in career planning and guidance for students with disabilities. It will briefly describe internationally referenced guiding principles or standards for good transition and career planning for these students. Finally, it will describe how the transition is positioned in New Zealand education and schools, with particular reference to a secondary school transition service in one major city.

## **New Zealand—The Country and Its Education System**

New Zealand is a small social democracy (population 4.4 million) situated in the South Pacific. It has a unicameral parliamentary government and a common law system based on the English model. It is a multicultural country with 71.2% European, 14.1% Maori, 11.3% Asian, 7.6% Pacifica, 2.7% other (and 5.4% not stated). Those professing to be Christians account for 45.6%, Hindu 2.1%, Buddhist 1.4%, Muslim 1.1%, other 1.4%, and no religion 38.5% (the total exceeds 100% as people could identify with more than one of the categories).

Education is compulsory for all children in New Zealand aged 6–16 although most children start when they turn five. Their schooling begins at the primary level. If it is a ‘full’ primary school, they stay there from five to 12 years old. If it is a ‘contributing’ primary school they will move to an ‘intermediate’ school for their last two primary school years, from age 11–12 to 12–13 years. Secondary school extends from age 13 to 18.

In recent years, the New Zealand education system has undergone extensive reforms, with the result that it is one of the most devolved systems in the world. The Ministry of Education (MoE) is responsible for determining overall policies and the design of the national curriculum. Every three years the independent Education Review Office (ERO) undertakes a review of the quality of education provided in all 2532 schools and early childhood centres. ERO also publishes national reports on specific education topics using evidence from its reviews. All state and state-integrated schools have boards of trustees (BoTs), responsible for the governance of the school. BoTs are the employers of all staff in a school, are responsible for setting the school’s strategic direction, and for ensuring that schools provide safe environments and quality education for all students. They are also responsible for overseeing the management of personnel, curriculum, property, finance, and administration. Trustees are elected by the parent community, staff members and, in the

case of schools with students above Year 9, the students. The principal is also a member of the board.

As in most countries, educational provisions for children with special educational needs in New Zealand are quite complex. In brief, at the primary and secondary school levels there are two main provisions, based on the degree of need children have for extra support to manage the New Zealand Curriculum. Those with the highest level of need comprise 3% of the school population receiving support under four programmes: (1) Ongoing and Renewable Resourcing Scheme (ORRS), (2) Behaviour Initiative, (3) Communication Initiative, and (4) School High Health Needs. Students with moderate to high-level needs are supported by six programmes, including (1) Resource Teachers: Learning and Behaviour (RTLBs), (2) Special Education Grants, and (3) Moderate Physical, Hearing and Vision Support (Ministry of Education 2010).

## The Policy Context

Four events of significance for people with disabilities in New Zealand have taken place in recent years. The first of these was the 1999 appointment of the first Minister for Disability Issues, with an Office for Disability Issues located in the Ministry for Social Development. The second was the development in 2001 of the *New Zealand Disability Strategy*. The third event was the 2008 ratification of the 2006 United Nations Convention on the Rights of Persons with Disabilities (CRPD), which was followed in 2016 by the ratification of the Optional Protocol of that Convention that allows individuals to lodge complaints in their own right if they believe that their rights under the Convention have been denied. For the purposes of this chapter, Article 27 of the CRPD is particularly relevant:

States Parties recognize the right of persons with disabilities to work, on an equal basis with others; this includes the right to the opportunity to gain a living by work freely chosen or accepted in a labour market and work environment that is open, inclusive and accessible to persons with disabilities...

The fourth and most recent event was the 2016 promulgation of the *New Zealand Disability Strategy 2016–2026*. According to this document, the vision of this *Strategy* is stated as: ‘New Zealand is a non-disabling society—a place where disabled people have an equal opportunity to achieve their goals and aspirations, and all of New Zealand works together to make this happen’. To implement this vision, three sets of principles and two approaches are described. The three principles are: (1) the CRPD, (2) ensuring disabled people are involved in decision-making that impacts them, and (3) the Treaty of Waitangi (focusing on the rights of the indigenous people, the Māori). The two approaches are: ‘a whole-of-life and long-term approach to social investment’, and ‘specific and mainstream supports and services—a twin-track approach’. The *Strategy* also identifies eight interconnected outcomes, including education, employment and economic security, health and well-being, rights protection

and justice, and choice and control. Each of the outcomes will include targets and relevant measures to implement them. These were being developed in 2017.

In terms of education outcomes (and writing from the perspective of disabled persons) the *Strategy* includes the following statements:

Our learning pathway supports us to develop friendships and social skills, as well as resilience, determination and confidence. It gives us a sense of belonging, builds our identity and language skills and prepares us for life beyond compulsory education.

All local schools and education services ... are welcoming and provide a great inclusive education for us. We have trained teachers and educators who support and believe in our progress and achievement, and value our contribution to the learning environment.

Education is provided in a way that supports our personal, academic and social development, both in and out of the formal schooling system. ... Information will be made available at the right time to those who support us, both when we are young or for those of us who need on-going support. This will help us succeed – whatever our individual education pathway may look like....

As we move on to tertiary and life-long learning, the transition periods are smooth, with the right information and supports available at the right time – particularly when our needs or situations change. (p. 24)

In a similar vein, the employment and economic security outcomes include the following:

... We are proportionately represented at all levels of employment, we are self-employed, we own businesses, and we are employers, managers and employees. Career progression is an important part of our working life.

Employers are confident and willing to employ us in meaningful jobs that utilise our strengths and make the best use of what we have to offer. They also have access to ongoing support, guidance and tools to help support them in their role as a fair and equitable employer. When we apply for jobs, we do not face any barriers in the application process.

We are treated with respect and dignity by our non-disabled peers and we feel that the work we do is meaningful, valued and real.

Those of us who need specialised supports and services have ready access to them to secure and sustain employment. Reasonable accommodation is understood and provided by our employers. We will have the same opportunities to progress our careers as our non-disabled peers. The additional costs of disability are met, so that we are able to enjoy the same standard of living as other workers.

We have an adequate standard of living that enables us to fully participate in society, where necessary through the provision of income support which takes into account the additional cost of disability. This applies to everyone, including those of us who are not able to work, are retired, are unable to work full-time, or work full-time yet are still unable to afford and maintain an adequate standard of living.

Although the *Strategy* should go a long way towards coordinating the work of various agencies, it must be recognised that, as noted by Stace (2015), disability policy in New Zealand is complex, involving numerous government agencies and providers, various contractual arrangements, and assorted eligibility requirements. Thus, both the Ministry of Education and the Ministry for Social Development deal with the transition from school to further education or training for people with disabilities. The Ministry of Work and Income manages two main relevant benefits: Jobseeker

Support (for those deemed capable of paid work for more than 15 h a week) and Supported Living for those who are not, as well as a Child Disability Allowance (for parents of disabled children under 16) and a Disability Allowance (for disabled adults over 16). Stace also pointed out that in contrast to New Zealand disability policy being nominally based on the ‘social model’, disability support and services from the state are often dependent on a variety of narrow and sometime contradictory eligibility requirements based on a medical model.

## Guiding Principles for Good Transition and Career Guidance for Students with Disabilities

To begin this section, two definitions need to be taken into account.

First, the transition may be defined as follows:

...a process of social orientation that implies status change and role (e.g., from student to trainees, from trainee to worker and from dependence to independence) and is central to integration into society ...Transition requires a change in relationships, routines and self-image. In order to guarantee a smoother transition from school to the workplace, young people with disabilities need to develop goals and identify the role they want to play in society. (International Labour Office 1998, pp. 5–6)

Second, career guidance may be defined as providing:

...individualised interactions to help students move from a general understanding of life and work to a specific understanding of the life, learning and work options that are open to them. It helps individuals or small groups to better understand themselves and their needs, confront challenges, resolve conflicts, develop new perspectives and make progress. (Ministry of Education 2009, p. 6).

In 2011, the first author developed a set of standards and associated guidelines and quality indicators for transition and career guidance for the Jakarta office of UNESCO. These were intended for the use of governments, ministries, agencies, and individuals involved in planning and implementing comprehensive transition systems for students with disabilities from school to post-school settings, especially work. They were developed from international best practices, legislation, policies and research literature, as well as comments from participants in two workshops in South East Asia (see Mitchell 2015). The standards serve as a conceptual framework for the remainder of this chapter. They are arranged under the follows headings:

- *Raising awareness on the right to education and the right to employment.* For example, steps are taken to (i) raise awareness in the community on the unemployment and underemployment of people with disabilities, (ii) advocate for a common culture that embraces diversity in general, and that cares for people with disabilities, and (iii) provide social and legal protection mechanisms based on a rights-based framework for people with disabilities to ensure they have equal opportunities in education and in the world of work.

- *Strengthening policies on transition for students with disabilities.* For example, policies are put in place through legislation and regulations to ensure equal opportunities for students with disabilities to access quality school-to-post-school education and/or work transition programmes, including vocational training.
- *Strengthening personnel involved in transition.* For example, (i) school principals and school governing bodies receive training to take on leadership roles in conducting school-to-post-school transition programmes for students with disabilities, and (ii) teachers receive training in requisite knowledge, skills, and attitudes to meet the instructional needs for the school-to-post-school transition of students with disabilities.
- *Strengthening educational services for students with disabilities.* For example, (i) the government has a clear policy of inclusive education that is reflected in its legislation and regulations, and educational administrators at all levels of the education system understand and articulate a vision of inclusive education, and (ii) students with disabilities have the opportunity to participate and progress in the general curriculum, with appropriate modifications to its content and to the modes of delivery.
- *Strengthening cooperation among stakeholders.* For example, (i) a Joint Committee consisting of representatives of key Ministries is established to collaboratively manage school to post-school transition for students with disabilities, (ii) schools cooperate with relevant government and non-government agencies, in addition to Ministries, to prepare students with disabilities for the world of work, locally, regionally, and nationally, and (iii) national and local governments promote the establishment of school-to-work transition programmes, such as supported employment and workplace learning, in business and industry sectors.
- *Strengthening monitoring, evaluation and accountability.* For example, (i) indicators and benchmarks to monitor and evaluate the implementation of school-to-post-school transition programmes are put in place, and (ii) a system of school accreditation is established for schools providing school-to-post-school transition programmes that meet the standards outlined here.

As alluded to in earlier sections, the importance of the terms ‘transition’ and ‘career’ is central to understanding the historical, political and social contexts of the school to post-school transition process for students with disabilities. In further defining the term ‘transition’, one must recognise it as a process of change and not an event. Importantly, when planning this process for students with disabilities, it requires that the term ‘career’ be used alongside ‘transition’; this has not always been the case, but it provides a critical driver for inclusive and collaborative outcomes (Gladstone 2014). On a conceptual level, the use of career and transition simultaneously encourages policymakers and all other stakeholders involved to create the conditions where students with disabilities can develop career pathways like any other young person through, for example, the standards outlined previously. On a practical level, it encourages a whole-of-school planning where students and their families are at the centre of the process.

What is clear about transition for any young person from recent literature is that as a construct in contemporary Western societies, it is no longer a linear process where one moves from one stage to another in a predictable manner (Dee 2006; Higgins and Nairn 2006). In the New Zealand context, Nairn et al. (2012) suggest that the duality between transitions—as a construct for change on the one hand, and as a steady progression through predictable changes from child to youth to adult on the other—is problematic. It is problematic for any young person ... and is no longer appropriate in twenty-first-century Western societies.

## **Positioning Transition in New Zealand Education and Schools**

Previously, ‘transition’ as a term in New Zealand education has been associated with vocational rather than academic post-school routes (Vaughn 2003). Students not achieving academically undertook transition classes, which usually meant leaving school earlier to take up semi-skilled or unskilled work. However, in recent years, vocational and academic choices have been reinterpreted through the term ‘pathways’. Career and transition pathways imply complexity and therefore a range of possible options and directions, with multiple pathways perceived as valid. Modern apprenticeships are increasing in number, and well-established school transition programmes like Gateway and the Secondary Tertiary Alignment Resource (STAR) are increasingly popular with students, schools, and tertiary institutions in New Zealand (Ministry of Education 2012). Current New Zealand education policy directions promote the view that everyone should be on a pathway to somewhere. In recent years, this form of deregulation in transition has encouraged closer relationships between schools as well as between schools and tertiary institutions through a plethora of courses, credits, options, and choices. Making good choices in this environment, and therefore receiving effective guidance and support in order to navigate through this complex landscape, becomes crucial.

Historically in New Zealand, special education and social welfare systems, services and their professionals have been mostly responsible for managing the transition process for students with disabilities (Gladstone 2014). In promoting such guidance, education policymakers and school leaders must view students with disabilities as capable and competent members of schools who must experience the ‘common condition of education’. This then requires a whole-school approach where everyone has a career pathway into further education, training and/or paid employment that is embedded in holistic planning for students with disabilities. This should be known as ‘career and transition planning’ and no longer simply transition planning supported only by learning support professionals or social welfare service staff, as has previously been the case. A whole-school approach to transition, for example, is about career specialists working with all students. This requires a close working relationship between career staff and learning support professionals.

Recent policy work has been related to better equipping and preparing young people who are at the margins of the education system. There has been a particular emphasis on career-and-transition-related education through the Youth Guarantee (<http://youthguarantee.net.nz/start-your-journey>), Career Education Benchmarks (<http://www.careers.govt.nz/educators-practitioners/planning/career-education-benchmarks>), and the Education Review Office and their inspection work on how well schools are preparing students for further education, training, and employment. The Ministry of Education positions transition within the new Career, Information and Guidance Education (CIAGE) framework. It is this new integrated careers and transition education approach that is responsible for providing the appropriate knowledge, advice and guidance for students in how to support and achieve their post-school goals. Careers New Zealand and the Career and Transition Education Association (CATE) are the key government-funded organisations that drive and promote effective careers and transition practice for all students in schools.

## A Case Study

An example of how the standards outlined earlier in the chapter can be translated into good practice through a collaborative, grassroots approach is the development of the Lead School Transition Service in the city of Christchurch. Transition for secondary school-aged students with disabilities from school had been identified for some time as an area of concern and often lacking a consistent and coordinated approach by Youth Services in the city. The Wayne Francis Charitable Trust, a philanthropic organisation, commissioned a research project that undertook a literature review and a comprehensive consultation process. This produced a report that identified systemic issues in the transition of students with disabilities. The report recommended a Ten-Point Best Practice framework to underpin future work that the Ministry of Education and other local government offices acknowledged as the basis for a service response. The ten points comprised the following:

1. Transition starts to occur no later than the age of 14 years and is part of a specific transition planning process that aims to develop academic potential as well as functional transition skills.
2. The process is driven by the student/*whanau* (family), and the student is actively engaged in determining/implementing their future goals.
3. Partnerships between the school and community supports are developed at least two years before the young person leaves school.
4. The transition programme is integrated within the structure of general education rather than as a separate and parallel programme.
5. The process identifies and overcomes barriers to the student with disabilities' learning and support.
6. The students/*whanau* are offered information and support that opens the door to a wider range of inclusive community-based options.

7. A clear distinction is made between the career and transition needs of the young person and those of their family.
8. Functional transition skills are in the curriculum and reinforced at home.
9. Those at school after 18 years old receive services in adult settings.
10. The outcomes of the transition planning process are regularly evaluated.

Taking these best practice guidelines into account, a multi-agency working party developed a vision of what effective careers and transition service for students with disabilities would look like, what its key activities would be, how it would meet the needs of students, *whanau*, and schools, and how it could be funded. The working party also considered how such a service could deliver better outcomes for secondary school-aged students with disabilities, as well as how to encourage the local community to place greater value on disability. Following these discussions, the working party determined that a new approach to the provision of careers and transition services locally was required.

Further consultation and collaboration with parents, agencies, stakeholders, and students resulted in the development of the Lead School Transition Service (LSTS) model, underpinned by the Ten-Point Best Practice guidelines. The service was premised on building the capacity and capability of how schools can work more effectively in the careers and transition of students with disabilities. The model allowed for the delivery of a dedicated, collaborative and coordinated service across participating schools, which maximised access to a range of employment, tertiary, and community-based options after secondary schooling.

Importantly, the service was developed without the requirement for additional funding in order to be self-sustaining. The participating schools contributed financially to the project through a small re-alignment of their learning support funding streams, while the Wayne Francis Charitable Trust made a one-off donation and the Ministry of Education assisted with a contribution to establishment costs. From the second year, the service was self-financing from usual funding streams.

The LSTS provided a range of wraparound services founded on its key transition toolkit resource with a comprehensive programme of professional development that went alongside to ensure key concepts were embedded in school policy and practice. Services offered included career and transition policies, planning and templates, critical intervention, advice, guidance, and support for developing partnerships across schools and associated community and government agencies. Other resources included an Exploring Futures booklet that contained detailed information regarding all services in the careers and transition planning for students and their families. It encouraged the active involvement of students and parents and worked in a collaborative way to inform, link, educate, develop, and share. It established a number of networks for young people, parents, principals, teachers, and supporting agency professionals locally with regular meetings, seminars/workshops and newsletters. Overseeing the operational side of the LSTS was a steering group comprised of key stakeholders. The service scope is outlined below.

*Operational Aims:*



- To build schools' capacity to provide a flexible, coherent and planned pathway for students from school to post-school life based on the Ten-Point Best Practice Guidelines.
- To develop a transition service that maximises students' opportunity and access to a range of employment, tertiary, and community-based option post-schooling.
- To develop strong relationships across schools and with stakeholder groups involved in the career and transition of disabled students.
- To utilise learning from service delivery and practice to inform local and national policy.

*Operational Principles:*

- A career and transition service grounded on evidence-based practice and measurable, outcomes-based evaluation.
- A consortium approach that maximises opportunities across schools
- A student- and family-centred approach to service delivery.
- A transparent, collaborative approach that builds partnerships between schools and stakeholder groups.

*Service Delivery—Key Elements:*

- The provision of a targeted, accessible information service to students, parents/*whanau*, schools, and associated stakeholders.
- The provision of a service that responds to parents'/caregivers' or schools' critical enquiries of students' career and transition requirements.
- The development of Career and Transition Portfolios for all students with a lead professional coordinating.
- The provision of targeted training and professional development for schools, local government agencies, and associated service providers.
- Support for student-centred transition planning and documentation processes for schools and associated services.
- The development of links within the tertiary sector that builds on existing provision and creates flexible pathways through the sector and into employment and community-based options.
- The building of links with local business and commerce that promotes a better understanding of student capability and the attributes and skills that students with disabilities offer employers.
- The development of operational partnerships with key funding stakeholders in the transition process.

The LSTS achieved recognition in Christchurch and nationally in supporting schools to adopt a more holistic, focused, planned, and personalised approach to the career and transition of students with disabilities. The cross-government department officials group adopted the LSTS as their 'learning in action' project in drawing practical solutions from the service's work with schools and government agencies and services. The recent Ministry of Education response to the review of special

education, *Success for All—Every School, Every Child* (2010), referred to the LSTS as a model of best practice.

In providing some statistics to illuminate the impact of the service, we can make tentative judgments regarding its capacity and capability to improve pathways for students with disabilities while beginning to change attitudes and raise expectations. Across the original cluster of five secondary and three special schools involved, there was a total roll of 5649 students from Year 9 (aged 13/14) onwards, of which 376 were identified as having disabilities (approximately 15%) requiring targeted career and transition support. The initial criteria for being identified were based on a student being formally assessed as requiring additional individual funding to access the curriculum. Of the 376 students, 252 were ORRS funded with 126 non-ORRS who comprised of students under specialist services such as RTLB, behaviour, hearing, and vision.

The key successes of the LSTS were founded on establishing effective relationships at every level. The underlying importance of effective relationships contributes to a whole-school culture that values the capability and potential of all students. The numerous networks set-up became a conduit for widening the social circle of students with disabilities while encouraging parents, teachers, principals, and other professionals to share their understandings and provide support to each other. Across school student groups met on a regular basis offsite at a local youth centre undertaking talks, discussions, team building activities as well as electing their own committee and producing termly newsletters. Importantly, the student groups who met were comprised of students with and without disabilities. Encouraging students without disabilities had a significant impact on all present. Events attracted initially between 30 and 40 students but eventually grew to over 100 and had to be limited due to their popularity. Between 25 and 40 parents met on a regular basis, focusing on topics as broad as person-centred planning, to setting up micro-enterprises for their young person.

The Principal Network encouraged a group of school leaders to regularly meet across schools to discuss a group of students they would not ordinarily focus on. The staff network encouraged both learning support and career staff and others to plan and work together across the cluster of LSTS schools more effectively and also to identify the lead professional for each student. An important resource developed was the student career and transition portfolio. The key document developed across many media was the student/family-centred career and transition plan. The multi-agency team used this single planning document, allowing professionals to work collaboratively on behalf of the young person and family. The cross-agency professional network allowed for better shared data on school leavers as well as enabled planning more effectively for supporting them. This encouraged collaboration rather than competition for students as was the case previously.

In developing links with the tertiary sector, a number of courses were set-up from students across the LSTS schools based on their goals, as far as possible. The advantage being that with a number of schools working together they were able to better meet student goals identified from their individual plans. This meant, for example, that there were enough students to establish courses at the local polytechnic,

whereas a school working in isolation would not. Similarly, schools working together were able to offer a far wider range of work experiences, while students were at school. This combination of undertaking tertiary courses with accreditation and work experiences in adult settings in the community, beginning often two to three years before leaving school, encouraged greater student agency and better prepared them for their post-school pathways.

## Conclusion

For many countries, affecting a successful transition programme from school to post-school life for students with disabilities is an ongoing challenge. New Zealand is no exception, although considerable progress has been made in recent years and there is more being planned.

Transition programmes for students with disabilities require attending to many features. First, the purposes of such programmes are many: (a) to provide students with the academic and social skills to enable them to become competitively employed and/or to continue their participation in education, (b) to enhance their economic and social welfare, and (c) to enjoy an enhanced quality of life through becoming as independent as possible. Second, to achieve these goals, transition programmes should be the shared responsibility of many agencies and organisations: education, labour, welfare, health, NGOs, and, of course, governments at various levels within country systems. Third, transition programmes should be life-long, ranging from elementary school right through to and including adulthood. Fourth, transition programmes should involve active participation, including decision-making by students with disabilities, as well as their families.

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# Chapter 15

## Improving Transition-Focused Education for Students with Special Educational Needs: An Australian Approach



Wendi Beamish, Denis Meadows, Mike Davies, and Annalise Taylor

**Abstract** In Australia, transitioning from secondary school to the “real world” remains an ongoing challenge for students with special educational needs (SEN) and their families, despite federal and state government attempts to address the issue through guiding documents and initiatives. This chapter describes a two-year collaborative partnership between a university and a non-government education authority in Queensland, Australia, to illustrate how Kohler’s *Taxonomy for Transition Programming* (1996) can be used within a context of providing staff development to build effective transition-focused education for SEN students. The taxonomy and the associated process are put forward as a blueprint for schools and education systems worldwide to help strengthen program development and evaluation of transition-focused education for this population.

**Keywords** Career and vocational development · Disabilities · Program development · Taxonomy · Transition

### Background and Context

Career development is a lifelong process that becomes an important part of the secondary school curriculum for all students. Transition-focused education (TFE) is an allied educational framework that embraces “academic, career, and extracurricular instruction and activities, delivered through a variety of instructional and transition

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approaches and services, depending on the local context and students' learning and support needs" (Kohler and Field 2003, p. 176). TFE can be viewed as particularly important for preparing students with SEN to live and work in their community.

In Australia, the majority of policies and specialist service provisions are directed toward students with formally identified disabilities, but it is increasingly recognized that many other students with additional educational needs are not receiving the specialist services they require (Davies et al. 2015). It follows that much of the data reported in this chapter reflects the "disability-emphasis" in our country. However, the innovative project described herein (Beamish et al. 2016) focused on building staff capacity in senior colleges in order to strengthen TFE programs for students with SEN (i.e., with disabilities, disorders, and learning difficulties). It shows how Kohler's *Taxonomy for Transition Programming* (1996) has been applied in action research design and educational practice in Queensland, Australia.

### ***Post-school Outcomes***

Australia has a poor record in relation to people with disabilities and work participation. For example, the Human Rights and Equal Opportunity Commission (2005) reported that only 53% of people with disabilities (aged 15–64 years) were employed. In 2015, this figure remained the same for those with disabilities, compared to 83% for people without disabilities (Australian Bureau of Statistics [ABS] 2015). When cross-national comparisons are made, this low employment rate is of even greater concern. Appraisals made among 16 countries found that Australia had the lowest rate of employment of people on a disability-related benefit (Organization for Economic Cooperation and Development [OECD] 2007). When compared to the USA, for example, poor employment outcomes for those with special needs in Australia can be attributed to several factors. The pathway to adulthood is impacted by a disconnection between federal and state legislation, policy, and practice; geographic and demographic factors; and a general lack of funding at federal and state levels. First, in terms of governance, the federal government has responsibilities for employment programs for adults with disabilities, but education for this group is a responsibility for the individual states and territories. Compared to the USA, there is no overarching legislation such as the Individuals with Disabilities Education Act (IDEA), or federal agencies such as the Office of Special Education and Rehabilitative Services (OSERS) to drive consistent systemic processes and practices. Second, Australia is the sixth largest nation in the world by total area (7.7 million square kilometers), yet it ranks 53 in terms of total population (approximately 25 million). Moreover, the population and services in Australia are concentrated mostly along the eastern coastal fringe, and services are much more difficult to access in rural and remote areas. Third, Australian funding for disability-related research, education, and specialized supports is limited. Compared to the USA, there is no funding for longitudinal studies such as the National Longitudinal Transition Study (NLTS) and the follow-up NLTS-2, or for professional development and support through bodies such as the

National Technical Assistance Center for Transition (NTACT). The combined influence of these factors has resulted in post-school employment outcomes for people with disabilities and additional needs being not well understood or researched.

Only two relatively large-scale Australian studies have offered any information in regard to this issue. The first study was by Riches et al. (1996) in the state of New South Wales (NSW) who found that approximately 50% of school leavers with a wide range of disabilities were engaged in some form of employment; however, it was typically part-time, casual, volunteer, sheltered, and unpaid. This study also reported that these students tended to rely quite heavily upon parents and family for living arrangements as well as for access to social activities.

The second study by Meadows et al. (2006) in the state of Queensland looked specifically at the post-school experiences of students identified with autism spectrum disorder (ASD), intellectual disability (ID), or the dual diagnosis of ASD/ID who had left the school system within the previous 5 years. Similar to results reported a decade earlier in NSW, only 25% of those students had been involved in community-based open employment, 13% in supported (sheltered) employment, with the majority participating in non-paid structured activity programs. Additionally, parents reported that these young adults typically lived at home and experienced limited community engagement, and as a consequence, families had to make considerable adjustments to their daily lives (Davies and Beamish 2009). In summary, these research findings complement the employment data from ABS and OECD and paint a bleak picture for this vulnerable and disadvantaged group.

### ***Australian Guiding Documents and Initiatives***

Since the 2008 enactment of the *Convention on the Rights of Persons with Disabilities* (CRPD 2006), the Australian federal and state governments have attempted to address issues related to the poor post-school outcomes for students with disabilities and other additional needs through the development of guiding documents and an array of initiatives. For example, the *Melbourne Declaration* (Ministerial Council on Education, Employment, Training, and Youth Affairs [MCEETYA] 2008) provides a policy framework for the Australian curriculum and articulates the overarching educational goals held by governments for all young Australians. These goals are that “(1) Australian schooling promotes equity and excellence, and (2) all young Australians become successful learners, confident and creative individuals, and active and informed citizens” (MCEETYA 2008, p. 7). The second goal impacts upon TFE because it implies that all learners should be on a pathway to work and further education and have acquired skills necessary to make positive life choices while at school. The learning area of Work Studies within the Australian curriculum, together with state-based career development syllabi such as the Career Development short course (Queensland Studies Authority 2010) and the Work Studies course (NSW Board of Studies 2012), are some of the ways in which state governments are enacting the Melbourne Declaration. All syllabi are informed by the *Blueprint for Career*

*Development* (Ministerial Council for Education, Early Childhood Development, and Youth Affairs [MCEECDYA] 2010a), which is the prime way in which this commitment to transition is being implemented.

The *Blueprint* is the key framework for the design, implementation, and evaluation of career development programs that comprise a “nationally consistent set of career management competencies” (MCEECDYA 2010a, p. 9). This framework comprises eleven competencies, each with four developmental phases, in the areas of *personal management, learning and work exploration, and career building*. It also outlines the stages (planning, development, and implementation) and steps required to develop a comprehensive career development program. Planning Stage (Step 2) is of particular interest as it focuses on assessing individual learner needs. For students with SEN, this step is crucial, as student-focused planning is a key component of effective transition programming (Kohler et al. 2016). “The individualised approach to learning that the *Blueprint* encourages [is] seen to mirror ‘best practice’ when working with students with particular learning requirements” (MCEECDYA 2010b, p. 66).

The *Preparing Secondary Students for Work: A Framework for Vocational Learning and VET* (Education Services Australia [ESA] 2014) complements the *Blueprint* by establishing the vision that all students in secondary schools should have access to high-quality courses and learning experiences through Vocational Education and Training (VET). Moreover, ESA argues that the interconnected components needed to make this vision a reality for all students are “(1) clarity of terminology, purpose and expected outcomes; (2) collaboration to meet the needs of students, schools, and employers; (3) confidence in the quality, value and long-term benefit of vocational learning and VET; and, (4) core systems that are efficient, streamlined and support the best interests of students and employers” (p. 4). These components align with practices in the interagency collaboration area within the *Taxonomy for Transition Programming* (Kohler et al. 2016) as described later.

The *Ticket to Work* initiative by the Australian National Disability Services is a leading example of collaboration among employers, schools, and service providers. This initiative aims to improve the post-school transitions for students with disabilities. *Ticket to Work* is built on the premise that high-quality TFE for students with disabilities should begin in Year 9 (i.e., age 14), and incorporates the key elements of *career development and workplace preparation, work experience, vocational training, Australian School-based Apprenticeship and Traineeship, and part-time work*. A pilot study of the initiative used a treatment and comparison group design to reveal that students with disabilities in the treatment group had higher levels of employment, social participation, and quality of life compared to those in the control group (ARTD Consultants 2016; Wakeford and Waugh 2014).

Taken together, these guiding documents and initiatives show an increasing government commitment to strengthen the pathways to work, further education, and living in the community for all students, including those with SEN. The current challenge for our education systems and schools is how best to use these documents and schemes to improve post-school transitions and employment outcomes for vulnerable students. The 2018 inquiry into school-to-work transitions for secondary students

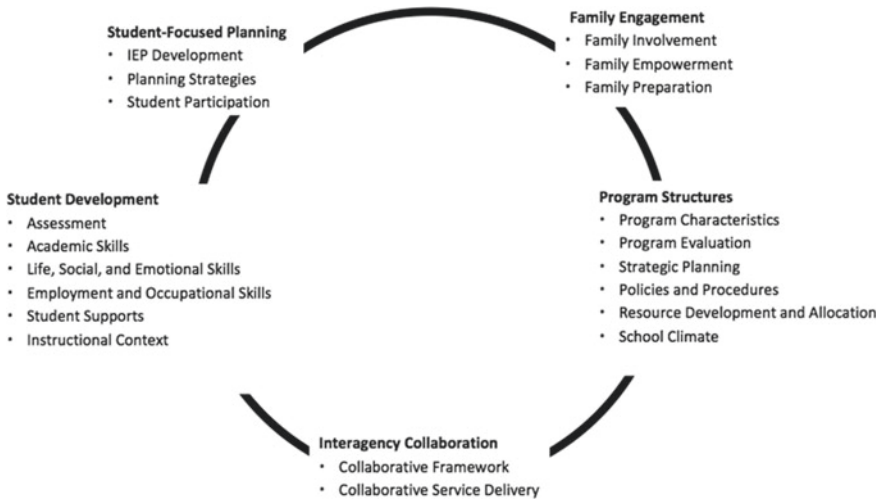


by the federal government has recommended that students with SEN should be provided with access to a “person-centered post-school transition process, beginning as early as Year 9 and including: (1) work experience opportunities and the facilitation of part-time work..., (2) foundational skills to be addressed, (3) career development planning to take place, and (4) follow up with young people post-school” (House of Representatives Standing Committee on Employment, Education and Training 2018, p. 92). Kohler’s *Taxonomy* (2016), with its five practice areas, is a validated model that can address these areas and can be applied to supporting TFE for students with SEN in Australian schools.

## Kohler’s Taxonomy

For over two decades, Kohler’s (1996) *Taxonomy for Transition Programming* has been recognized internationally as a model for improving student post-school outcomes. The *Taxonomy* identifies five factors or practice areas associated with quality transition programs, namely student-focused planning, student development, interagency collaboration, family engagement, and program structures. To date, this *Taxonomy* is the only research-based transition model in the literature (Test et al. 2006). In the USA, the *Taxonomy* has provided foundational content for the well-known *Transition Specialist Competencies* generated by the Division on Career Development and Transition (2000) and the prominent *Standards for the Preparation of Transition Specialists* published by Council for Exceptional Children (2001). *Taxonomy* content has also been embedded in international research. In Australia, 46 practices drawn from the *Taxonomy* have been used to benchmark teacher practice in transition programs for students with intellectual disability and autism (Beamish et al. 2012). In China, the *Taxonomy* has been modified, with 108 practices being validated for use with students with intellectual disability (Xu et al. 2016).

In its original form, the *Taxonomy* comprised 133 empirically supported practices from the US transition literature, with practices being socially validated by experts in the field. More recently, the *Taxonomy* has been updated to reflect new-found predictors of post-school success for this student population (Kohler et al. 2016). In this latest version (Fig. 15.1), a total of 156 practices are distributed across the five practice areas described below, accompanied by survey practice data from two Queensland studies. The first study (Beamish et al. 2012) involved gathering data from transition teachers ( $n = 104$ ) at government and non-government schools throughout the state, while the second study (Beamish et al. 2016) involved gathering data from school staff ( $n = 110$ ), including administrators, from Catholic education colleges throughout a region. In both studies, the traditional international benchmark of 50% level of practice use was viewed as satisfactory (see Beamish et al. 2012).



**Fig. 15.1** Taxonomy for transition programming (Kohler et al. 2016). Available at [http://www.transitionta.org/sites/default/files/Tax\\_Trans\\_Prog\\_0.pdf](http://www.transitionta.org/sites/default/files/Tax_Trans_Prog_0.pdf)

## ***Student-Focused Planning***

This practice area is concerned with promoting self-determined behavior in students. The classic definition for self-determination was put forward by Field et al. (1998). For them, “self-determination is a combination of skills, knowledge, and beliefs that enable a person to engage in goal directed, self-regulated, autonomous behaviour” (p. 2). Self-determination, therefore, enables individuals to take purposeful actions in their lives, rather than being acted upon by others. Self-determined behavior includes choice making, problem solving, self-awareness and self-knowledge, decision making, goal setting and attainment, self-management, self-advocacy, and internal (as opposed to external) locus of control (Shogren 2013). In student-focused planning, students are taught to develop a sense of self-awareness, participate in curriculum planning, set short- and long-term goals, and evaluate their progress toward meeting these goals. Taxonomy practices are organized according to IEP Development (e.g., specific goals and objectives result from student choices), planning strategies (e.g., planning process is student-centered), and student participation (e.g., students are prepared to actively participate in the IEP process and meetings (or equivalent)).

The *Melbourne Declaration on the Educational Goals for Young Australians* (MCEETYA 2008) emphasizes the importance of students being actively involved in goal planning and attainment. When Beamish et al. (2012, 2016) investigated the usage of seven practices in this area, high levels of variability were evident across practices. For example, in the Queensland state-wide study, level of use for practices that encourage *students taking active role in planning* and *students taught to take active role* reported by teachers was 68% and 51%, respectively. In the regional study, school staff from Catholic education colleges reported lower levels of practice

use (50% and 41%, respectively). These findings suggest that transition programs for Australian students with SEN need to focus more on teaching self-determination skills to this cohort and providing students with opportunity to use these skills at their individual transition planning meetings.

### ***Student Development***

Student development involves the assessment of skills required by students to achieve the goals set for post-school life in the previous practice area, together with the teaching of and supports for building skills across academic, social-emotional, and employment domains. Taxonomy practices are organized according to assessment (e.g., career interest and aptitude assessments are used to inform curricula and instructional decisions), academic skills (e.g., courses and curricula prepare students for college and careers), life, social, and emotional skills (e.g., interpersonal skills development), employment and occupational skills (e.g., employment skill development is provided in authentic settings), student supports (e.g., functional communication systems), and instructional context (e.g., community-based instruction).

The *Blueprint for Career Development* (MCEECDYA 2010a) provides strong support for student assessment and skills-building in this area. Yet, an uneven pattern of usage also was reported by Beamish et al. (2012, 2016) across the nine practices in this area. For example, levels of use for *life skills training in social skills* and *work experience across different jobs* were 91% and 77% for the state-wide study and 48% and 42% for the regional study, respectively. These findings suggest that TFE programs in Australia need to place great emphasis on the teaching and learning of life and employment skills at school and in the community. As work experience is a predictor for post-school employment (Test et al. 2009), there is pressure on secondary schools to reorganize their curriculum offerings for this particular student cohort.

### ***Interagency Collaboration***

This practice area is focused on collaborations and communication among important stakeholders in the post-school transition process (i.e., school staff, community service providers, employers, and post-secondary education and training institutions). Partnering of this kind has long been recognized as crucial to achieving successful transitions to adult life for students with SEN and their families. Practice organizers in the *Taxonomy* are collaborative framework (e.g., roles and responsibilities are clearly defined) and collaborative service delivery (e.g., coordinated requests for information to parents).

While Australian governments routinely recommend ongoing interactions between different government and non-government sectors (see, for example, ESA

2014), systemic support and connectivity for such collaborations are often lacking, with teachers feeling that they have little control over progressing relationships and arrangements with post-school sectors (Meadows et al. 2014). Not surprisingly, practices in this area received the lowest ratings for implementation in the Queensland studies (Beamish et al. 2012, 2016). Practices such as *cross-departmental arrangements* and *meetings with post-school providers* were assigned levels of use at 21% and 48% (state-wide study) and 25% and 25% (regional study), respectively. These findings are a strong indication that interagency collaboration across sectors warrants urgent attention and cooperation by federal and state government systems for education, employment, and community services.

### ***Family Engagement***

This practice area is designed to forge strong teacher–family partnering across the transition process in order to maximize outcomes for this student cohort on leaving school. Research from the USA has revealed parent engagement to be a major factor related to improving student post-school outcomes (Test et al. 2009). In the *Taxonomy*, practices are clustered around family involvement (e.g., via planning meetings), family empowerment (e.g., via ongoing information about services and supports), and family preparation (e.g., via advocacy training).

Guiding documents for post-school transition such as the *Blueprint for Career Development* (MCEECDYA 2010a) show Australian federal and state governments continuing commitment to promoting family–school relationships. This commitment also is evident in research findings by Beamish et al. (2012, 2016), with the seven practices in family engagement collectively being the most highly valued and most frequently implemented compared to sets of practices in other areas. For practices *families presented with options* and *family members lead decision making*, reported levels of use were 92% and 87% (state-wide study) and 65% and 53% (regional study), respectively.

### ***Program Structures***

This final practice area features aspects related to the successful TFE delivery and the associated transition process. Organizers in the *Taxonomy* are program characteristics (e.g., philosophy, graduation requirements), program evaluation (data systems at various levels), strategic planning (e.g., specific documentation at system and school levels), policies and procedures (at system and school levels), resource development and allocation (e.g., staff training), and school climate (e.g., targeted attributes and expectations). It follows that many of these foundational structures provide fertile ground for action in school improvement plans.

In the main, however, the need for such structures is not clearly articulated in any Australian guiding documents on career development and transition. Research findings by Beamish et al. (2012, 2016) reflect this viewpoint, with the majority of the 13 practices in the area being assigned low levels of use. For instance, *program philosophy/policy documented* and *training available to teachers* received ratings of 65% and 30% (state-wide study) and 34% and 14% (regional study), respectively. Assuming these results are somewhat typical of structures in place throughout Australian secondary schools, TFE cannot be expected to advance in this country until government and non-government education sectors (1) position TFE within their policy and procedures frameworks for implementation and monitoring and (2) provide dedicated funding for transition-specific staff development and coaching activities at school, regional, and state levels. Direct action of this nature will not only deliver a much-needed organizational framework for school operations but also build staff capacity to deliver high-quality TFE to students with SEN.

## **Case Study on Staff Capacity Building**

This initiative involved a team of Griffith University researchers partnering with a senior regional officer within the Brisbane Catholic Education (BCE) sector to build staff understanding and capacity in TFE within its 14 senior colleges (students aged 12–18 years) throughout South East Queensland. Funding from the Australian federal government was used to conduct the two-year action research project, to provide a dedicated Education Officer-Transition to work alongside the researchers and school staff, and to support college staff engaged directly in project. The project used a validated practice tool based on the *Taxonomy* to evaluate the status of TFI for students with SEN at each college and to identify areas for program improvement through a step-by-step staff capacity building process.

### ***Capacity Building Process***

Each of the 14 participating colleges was encouraged to take control of their own process within a five-phase capacity building structure provided by the university research team. The process involved informing and initial data gathering via surveys (Phase 1); data sharing, focus group meetings, open forum, and priority setting among stakeholders (Phase 2); action planning and goal setting for capacity building by college staff and administrators (Phase 3); implementation of action plan, sharing across colleges, and coaching (Phase 4); final data gathering from college staff and administrators (Phase 5). These phases are represented in Fig. 15.2.

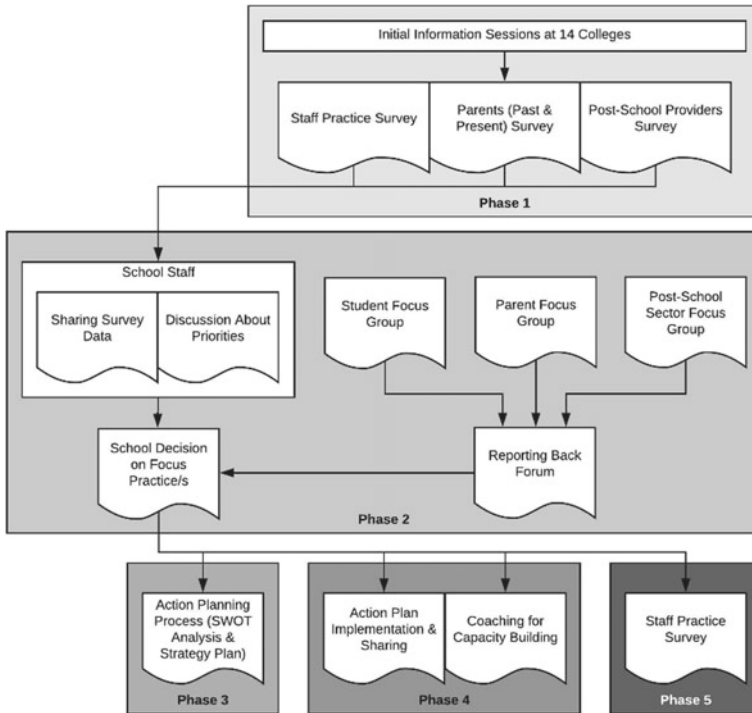


Fig. 15.2 Phases in the capacity building process

**Phase 1: Informing and Initial Data Gathering**

Initially, an information session regarding project aims and funding, Kohler’s *Taxonomy* (1996), and the proposed process model was presented to regional administrators and staff from the 14 secondary colleges. Subsequently, data gathering commenced with an online survey for college staff (administration team and relevant teachers) at each college. The Benchmarking Survey comprised questions on 46 transition practices across the five areas of Kohler’s *Taxonomy* (1996), based on that used by Beamish et al. (2012). Practices at each college were benchmarked for levels of agreement (belief) and use (implementation). Following this benchmarking, six colleges agreed to commit to and commence the project in the first year (Wave 1), with eight colleges commencing a year later (Wave 2).

Colleges in each wave gathered additional survey data from other stakeholders. Parents of both past and current students completed a parent survey (at home, by telephone, or in groups at school) that provided demographic data, information regarding student activities (e.g., work experience, employment, community access), and views about the transition process for their sons and daughters. Likewise, post-school service personnel in contact with each college completed an online survey based on practices drawn from the interagency collaboration component of the Benchmarking

Survey for staff. Information about their engagement levels with the college and their role in the transition process also was collected.

### **Phase 2: Data Sharing, Focus Group Meetings, Open Forum, and Priority Setting**

In both Wave 1 and Wave 2, Phase 2 was conducted at each college over a full day of four activities. First, the project team presented Phase 1 data to college administration and staff that included a comparison of college staff benchmark data with regional norms, parent survey summary, and responses from post-school providers. Second, staff reviewed and discussed these data in conjunction with Kohler's *Taxonomy* without intervention from the research team. At the same time, parents, students, and post-school providers participated in separate focus group meetings and reflected on their overall satisfaction with the school, and the school transition planning process. Third, after lunch, all stakeholders participated in an open forum that included a report back from each group and a response from the college principal. Finally, guided by the day's deliberation and stakeholder feedback, college administration and staff met to discuss the issues raised and to make decisions about which of the *Taxonomy*'s practice areas would initially be prioritized for capacity building at their college.

### **Phase 3: Goal Setting and Action Plan Development**

With a priority area in mind, college administration and staff spent a full day focused on goal setting and the development of an action plan. The process, facilitated by the research team, employed a modified SWOT analysis developed by Kohler (2003) that reflected on current transition practice and identified strengths, needs, opportunities, and threats. These data helped staff to identify a measurable goal in the selected practice area before developing an action plan for capacity building. Activities required to achieving the targeted goal, the assigning of responsibilities, and specified time-frames were then collaboratively decided by staff. Across this two-year project, nine colleges developed action plans for practices related to the program structures area, while eight colleges focused on the student development area. Additionally, two colleges used a job-coaching model to improve practices in the area of interagency collaboration.

### **Phase 4: Implementation, Sharing, and Coaching**

Each team implemented their unique college action plan with support from the Education Officer-Transition. Colleges focusing on similar areas and goals also met with the research team to workshop ideas and share strategies. For example, a program structure full-day workshop was conducted with five colleges to share potential

**Table 15.1** Mean levels of use across practice areas for colleges at phases 1 and 5

Practice area	Mean level of use	
	Phase 1	Phase 5
Student-focused planning	49	71
Student development	43	69
Interagency collaboration	30	69
Family engagement	64	85
Program structures	28	48

approaches and understandings. Additionally, the six Wave 1 colleges shared their achievements, issues, and outputs with representatives from the 14 colleges at a full-day conference at the university. These presentations were recorded and distributed electronically to all colleges. Similarly, the 14 colleges presented poster sessions and other outputs at a conference held at the regional office toward the completion of the project.

The Education Officer-Transition, assisted by a university researcher, also adopted a coaching role with teams at individual colleges in order to maintain momentum and to promote sustainability of practice. Workshops on relevant transition topics were also conducted across colleges to foster professional learning. For example, in response to identified common needs, workshops on interagency collaboration and job coaching were conducted. Additionally, colleges were encouraged individually and collectively to use regional facilities and staff as resources to progress capacity building and the sharing of outcomes across colleges.

### **Phase 5: Final Data Gathering**

Toward the end of the project, the online Benchmarking Survey was again completed by staff and administrators ( $n = 44$ ). These data revealed higher levels of use (implementation) across all areas of the *Taxonomy* compared with the initial Phase 1 data (see Table 15.1). Improvement was substantial, with all areas meeting the 50% criterion level, except for level of use in program structures. Refer to Beamish et al. (2016) for more details.

### ***Practical Considerations***

This project aimed to build the capacity of college staff to implement effective TFE for students with SEN. Data revealed that all colleges embraced TFE as an integral component of secondary schooling for this student cohort and proactively engaged in project activities to build capacity in at least one area of Kohler's *Taxonomy*. Reflecting on the factors that supported capacity building over the two-year project, five core practical components are identified.



First, Kohler's widely accepted research-based model for transition programming provided all stakeholders with a framework and information about TFE components. It also provided an opportunity for stakeholder measurement that allowed data to inform decision making and discussions at each college together with the sharing of perspectives and priorities across all colleges through a common language and framework.

Second, an equally important component was involving all stakeholders in data gathering and also engaging them in qualitative focus groups about the post-school transition process. At each college, staff, parents, students, and post-school service providers were engaged and provided distinct perspectives from which decisions for action were made. The sharing of perspectives at open forums was a particularly effective strategy for identifying common areas of concern, which, in turn, provided a catalyst for change.

Third, this project benefited from distributed leadership, with the partnering of regional staff and resources with principals, teachers, and other staff. The appointment of a dedicated regional Education Officer-Transition facilitated the initial engagement of colleges but more importantly provided ongoing consultation and college interconnection that maintained capacity building momentum throughout the project.

Fourth, the university research team brought applied knowledge of action research and of the international literature that supported the data-driven approach and helped maintain capacity building across the region. This role could equally be provided by experienced educational consultants.

Finally, having multiple colleges initiating TFE improvements at the same time provided a supportive peer environment that helped colleges maintain progress toward capacity building. Additionally, the development of permanent products and strategies shared across colleges online and in workshops provided extra momentum for improved capacity across all colleges.

## **Conclusion**

This project provides insight into how to sustain and advance capacity building in schools. It also provides a number of considerations for future directions at various levels. At the school level, priority needs to be given to continuing professional learning and development in TFE throughout Australia. The project provided a basic knowledge and understanding of TFE and related practice implementation for participating colleges. However, teacher engagement in workshops (internal and external to the school) and at national conferences is needed to advance TFE practice in this country. In support of these initiatives, tertiary educators also need to provide specialized courses in TFE within undergraduate and postgraduate programs.

At regional and state levels, there is a need for Australian education sectors to develop policy documents related to TFE, preferably in partnership with schools so that a shared vision is developed and practical implementation issues are built-into

policy. Such collaborative approaches will help to establish and maintain capacity building across all schools over time. Additionally, resource allocation to TFE is more likely when such policies are in place.

At national levels, the identification of successful TFE programs in secondary schools across the country needs to be undertaken as an educational priority so that good practices can be shared and duplicated. National data indicates the poor involvement of young adults with a disability or additional needs in vocational training, employment, and recreational activities on leaving school. Yet the government does little to prioritize the needs of this disadvantaged group in policy or service funding. The catalyst for change most likely will come from families who press for their son or daughter to attend a school with successful TFE programs in place.

Internationally, effective TFE can be promoted through demonstrating that research-based frameworks can have cross-national potential. As the most widely accepted model for improving student post-school outcomes, Kohler's framework has been examined recently for its level of compatibility within the country with one of the highest numbers of young people with a disability—China. As mentioned previously, Xu et al. (2016) have validated the use of Kohler's *Taxonomy* in the Chinese context and have subsequently called for all stakeholders to address the underachievement of post-secondary transition outcomes for students with intellectual disability. The Australian research by the Griffith team has disseminated a similar message for over a decade. It is incumbent on all governments to respond, legislatively and financially, to the recommended course of action put forward by inquiries such as the aforementioned projects in Australia and China. Only then can the post-school life of all students with SEN improve.

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# Chapter 16

## Support for Students with Special Educational Needs in Universities in Hong Kong: An Overview of the Issues



Beina L. F. Chan and Patcy P. S. Yeung

**Abstract** The concepts of integrated education and inclusion have been advocated since the 1970s in policy documents of the Hong Kong government. Upholding principles of equal opportunity, most students with special educational needs (SEN) generally now receive their primary and secondary education in ordinary schools, alongside their typically developing peers (Education Bureau 2010). Although local primary and secondary schools are encouraged to cater for students with diverse learning needs by taking a ‘whole school approach’, there is no particular support model recommended for addressing the needs of students with learning difficulties in the higher education sector. This chapter reports the findings from a study that explored support for students with SEN in universities in Hong Kong. Government policies, reports, research papers and practical guidelines associated with provisions of support for students with SEN were reviewed. Interviews were conducted with 26 informants, including local and overseas university students with SEN, university personnel, educators and parents of university students with SEN. The chapter identifies important issues associated with supporting students with SEN in higher education, such as resource allocation, professional development of staff, government support, collaboration among professionals and legislation. Some, if not most, of these issues are likely to be equally relevant in other higher education settings in the Asia-Pacific region.

**Keywords** Higher education · Hong Kong · Inclusive education · Policy

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## Introduction

In recent years, students with special educational needs (SEN) have increasingly been the focus of attention in Hong Kong. The three levels within the education sector, primary, secondary and tertiary have recorded an increasing number of students with SEN over the years (Education Bureau 2016; University Grants Committee 2018). Although the concept of integrated education has appeared in government documents since the 1970s (Hong Kong Government 1977), integrating students with SEN into ordinary schools only became a major initiative in education in the late 1990s, with the advent of the worldwide inclusive education movement. Public primary and secondary schools have been encouraged to adopt a ‘Whole School Approach to Integrated Education’ that involves the development of inclusive school policies, the establishment of inclusive culture and the implementation of inclusive practices to cater for students’ diverse learning needs (Education Bureau 2010).

The Education Bureau implemented various support models to facilitate the implementation of inclusive education in local primary and secondary schools (Education Bureau 2008); but as yet no policy mandates the delivery of services addressing the needs of students with learning difficulties in the higher education sector. This suggests that tertiary institutions in Hong Kong may be lagging behind schools in developing identification and support services. The establishment of a sub-system under the Joint University Programmes Admissions System (JUPAS) for the admission of students with disabilities to higher education commenced in 1997, but initiatives designed to support these students in local higher education have only recently been introduced in 2015 (JUPAS 2018). At that time, formal government funding of HK\$20 million was granted by the University Grants Committee (UGC) to eight UGC-funded local universities to enhance their support services for students with SEN (The Government HKSAR, 2015). Of the 20 degree-awarding higher education institutions in Hong Kong, eight are funded through the UGC. These eight UGC-funded universities (Education Bureau 2018) are the main focus of this study:

City University of Hong Kong (CityU)  
Hong Kong Baptist University (HKBU)  
Lingnan University (LN)  
Chinese University of Hong Kong (CUHK)  
The Education University of Hong Kong (EDU)  
Hong Kong Polytechnic University (PolyU)  
Hong Kong University of Science and Technology (HKUST)  
The University of Hong Kong (HKU)

## Previous Studies

Most research into students with SEN has focused on supporting services in primary and secondary schools. Some studies have focused on examining support services and inclusion policies for tertiary students with SEN in China, Thailand, South Korea and Japan, but few have addressed this topic in Hong Kong (Solberg et al. 2014). Of the few published studies on policy for SEN across all Hong Kong tertiary institutions, one focuses only on specific learning disabilities (e.g. dyslexia) (Hong Kong Association for Specific Learning Disabilities 2012), while another investigated the transition plan for students with SEN at the post-secondary level (Poon-McBrayer 2009).

## Current Study

The study reported here aimed to provide an overview of the situation of supporting students with SEN in the higher education sector in Hong Kong, with due reference to practices in overseas universities. The ultimate purpose of the study was (and is) to facilitate development of effective, evidence-based support models and practices through which the government, policymakers, educators and university personnel can support students with SEN in the higher education sector in Hong Kong.

The following research questions were addressed in the study.

- (1) What are the current provisions (including system and policy) for supporting students with SEN in universities in Hong Kong?
- (2) What are the service needs of students with SEN in universities in Hong Kong?
- (3) How can we further improve policies and support practices for students with SEN in universities in Hong Kong?

## Method

A qualitative methodology was used, with data triangulation technique adopted to ensure that the study is credible and trustworthy (Brantlinger et al. 2005). Government policy documents, reports, practical guidelines of local and overseas universities, government papers and circulars from the Education Bureau and Legislative Council and research papers from statutory bodies and non-governmental organizations (Equal Opportunities Commission and the Hong Kong Association for Specific Learning Disabilities) were reviewed. Interviews were conducted with 26 participants from multiple stakeholder groups, including university staff personnel, current students with SEN, graduates with SEN, parents of students with SEN and professionals in the field.

Interview invitations were sent by email in late May 2017 and included consent forms along with the set of semi-structured open-ended interview questions for the

participants' information and consideration. The same set of questions was again e-mailed to the accepted participants two days before the interview.

Six interview protocols were developed for the six stakeholder groups. During the interview, participants in each group were asked the same questions, but follow-up questions naturally varied considerably according to participants' responses and ideas. All participants were asked about their understanding of the universities' policies and mechanisms, their experience of existing practices and any challenges that students face. They were also asked for any suggestions they had for improving the support for students with SEN in Hong Kong universities. The questions designed for the groups of overseas staff personnel, the educational psychologists and the local professionals referred to their local and overseas professional experience in terms of their opinions and experience, and suggested improvements in supporting students with SEN in Hong Kong universities.

Interviews took place from late May to mid-July 2017. A total of 44 informants were invited and 26 accepted, providing a response rate of 59%. In total, 14 face-to-face and 11 phone interviews were then conducted, with one other informant completing the questions in writing. Six of the face-to-face interviews were audio-recorded with the prior consent of the interviewees. The duration of the interviews ranged from 45 min to 1.5 h.

Measures were taken to protect the privacy of all interviewees. Pseudonyms were used in the data analysis for all local participants and for the names of the universities they were serving/attending/attended. To preserve the anonymity of the local universities, information included here is deliberately limited.

Backgrounds of informants in each of the six groups were as follows:

- (1) *University students with SEN*: seven local and overseas current university students with SEN who had registered their disabilities with the university and studied for more than two years. They came from two local universities and one overseas university.
- (2) *University graduates with SEN*: four local undergraduate and postgraduate alumni with SEN who had graduated from their alma mater one to four years previously.
- (3) *University staff personnel from Hong Kong*: seven local university personnel including four non-academic staff and three teaching faculty members. All had formed professional relationships with or had an obligation to serve students with SEN at the universities for between two and eight years.
- (4) *Overseas university staff personnel*: three experienced overseas university staff involved in inclusive and special education included one from Taiwan and two from the USA. All had substantial clinical experience and had leadership roles in policy making, strategy development in special education, disability rights, or accessibility issues both university wide and nationally.
- (5) *Experienced inclusive and special education educators*: two experienced educational psychologists and a retired special school principal. They all had served in the inclusive and special education sector, ranging from primary schools to tertiary institutions, for 20 to 30 years.



- (6) *Two parents of university students with SEN.* They have cared for their son and daughter with severe disabilities and have supported their university campus life.

## **Results and Discussion**

### **Question 1**

*What are the current provisions (including system and policy) supporting students with SEN in universities in Hong Kong?*

At present, there is no legislation or declared policy for inclusive education in the higher education sector in Hong Kong. Most universities generally provide special arrangements and support services according to the individual needs of the students with SEN and the availability of resources. The policy and provision of these services vary between universities, and the publicly available information is summarized as below.

### ***Designated Office and Personnel***

Four of the eight local universities provide staff, designated offices and dedicated post(s), while half support students with SEN in ‘virtual’ offices, sharing available resources. For these, the support services are provided and coordinated by the Counsellor or Executive Officer of the Student Affairs Office. Apart from the two long-established universities (CUHK and HKU) which set up designated units for serving university students with SEN in early 2000, most of the dedicated units in other local universities were set up relatively recently . A summary of the university offices and staff personnel designated to serve students with SEN is shown in Table 1.

### ***Policy and Guidelines***

No standard practice, policies or models for supporting students with SEN currently exist in the local universities. According to university websites, they do have related policies, such as equal opportunities and non-discriminatory policies. Half of the universities publish their policies, guidelines and provision of support services on their websites. All are open to the public, but two universities only offer internal access in specific areas. In terms of the identification and registration of special educational needs, they all implement ‘self-disclose policies’ where students are expected to bring their disability to the notice of staff. Students who self-disclose their

**Table 1** Designated office and staff personnel serving students with SEN among eight local universities

Name of university	Office	Designated unit and office (year of establishment)	Designated staff personnel	Website
CityU	Student Development Services	Counselling Services	SEN Officer	<a href="http://www.cityu.edu.hk/sds/web/counsell_support_disabled.shtml">http://www.cityu.edu.hk/sds/web/counsell_support_disabled.shtml</a>
HKBU	Office of Student Affairs	Unit for Students with Special Educational Needs (2015)	Assisting Student Affairs Manager	<a href="http://sa.hkbu.edu.hk/ussen">http://sa.hkbu.edu.hk/ussen</a>
LN	Student Services Centre	Student Services Centre	Counsellor	<a href="http://www.ln.edu.hk/ssc/sen">http://www.ln.edu.hk/ssc/sen</a>
CUHK	Office of Student Affairs	Support Services for Students with Disabilities, Wellness and Counselling Centre	Disability Services Manager	<a href="https://www2.osa.cuhk.edu.hk/disability/en-GB/">https://www2.osa.cuhk.edu.hk/disability/en-GB/</a>
EDU	Student Affairs Office	Support Services for Students with Special Needs Student Services	Counsellor	<a href="https://www.eduhk.hk/sao/?p=133">https://www.eduhk.hk/sao/?p=133</a>
PolyU	Centre STARS: Student Advancement and Resources	Office of Student Resources and Residential Life	Executive Officer	<a href="http://www.polyu.edu.hk/stars/services-for-students-with-specialneeds/">http://www.polyu.edu.hk/stars/services-for-students-with-specialneeds/</a>
HKUST	Student Affairs Office	DiversAbility Team (2016)	Manager	<a href="http://sen.ust.hk/index.php">http://sen.ust.hk/index.php</a>
HKU	Centre of Development and Resources for Students	Counselling and Person Enrichment Equal Opportunities Unit	(1) SEN Support Unit (Former: Disability Services Office) (2) Equal Opportunities Officer	<a href="http://www.cedars.hku.hk/cope/sen">http://www.cedars.hku.hk/cope/sen</a> ; <a href="http://www.eounit.hku.hk/eng/index.php">http://www.eounit.hku.hk/eng/index.php</a>

special educational needs through JUPAS, non-JUPAS or direct admission systems are requested to provide relevant medical proof and diagnostic reports. Phone calls or meetings will then be arranged with registered students with SEN to assess their needs.

Four universities set up task forces or working committees for students with SEN, chaired by the Director of Student Affairs or the University Dean of Students for example. Committee members include representatives from academic and non-academic units, general students and students with SEN, who participate in the formulation of university support policies and practice for students with SEN. Four universities, CUHK, HKBU, HKUST and PolyU, post their committee memberships on their websites.

Clear policies, guidelines and special arrangement protocol for supporting students with SEN should be set out and published on the universities' websites. The institutions can improve the current situation by enacting pragmatic measures to effectively provide timely and appropriate support to students with SEN and the university staff.

### *Provision of Support Services*

Based on the universities' published website information, government papers, research and reports on supporting students with SEN in local universities, the following list summarizes under five broad categories the formalized support services, accommodations and adaptations available for university students with SEN:

- study and learning support
- accommodation and transportation support
- financial assistance
- campus accessibility
- other support services (study skills coaching, personalized management plan, academic advisory and prior services)

The service provision to students with SEN is varied. Accessible facilities, equipment and rooms for those with special needs and equipment in libraries for learners with visual impairment and physical disabilities are provided. The designated staff personnel coordinate with various offices and units on the support services for registered students with SEN. Psychological counselling services are also provided to those in need.

Four universities assign Academic Advisors or nominate Peer Advisors to registered students with SEN. Only two universities stated that they offer professional assessment services in addition to psychological consultation services, from experts such as occupational therapists, optometrists and bio-engineers, and provide subsidies to suspected cases so that proper diagnostic reports can be produced.

## ***Resource Allocation***

Government funding through the UGC is based on the ratified student numbers and dispensed triennially in block grants. The university administrators are responsible for allocating the resources. In 2013, the government provided additional funding for supporting students with SEN in the higher education sector with an injection of recurrent funding of \$12 million to the Vocational Training Council (Legislative Council 2014). In addition, two phases of one-off two-year special grants of \$20 million were offered to the eight publicly funded universities in 2015 and 2018, respectively (Government HKSAR 2015). At present, no recurrent funding from UGC is allocated specifically for support services to students with SEN in any local public universities.

## ***Professional Development of Staff***

In general, the knowledge and the provision of qualified teaching staff and resources to support university students with SEN are inadequate. The professional knowledge and skills of the administrative and teaching staff could be enhanced through staff development plans. The adoption of a more student-centred and personalized learning approach by teaching staff is important to cater for learners' unique needs. According to a study by the University of Oregon on the challenge of change (as cited in Poon-McBrayer 2009), substantial barriers were identified by teachers when adopting a student-centred learning approach. These problems included:

- lack of familiarity with student-centred learning techniques
- lack of familiarity with alternative assessment techniques
- concern with teacher evaluations and personal advancement
- students' resistance to collaborative learning techniques.

Professional training and exchange of ideas for effective practices are thus important for university members. More seminars, workshops and symposiums on inclusive education in higher education should be encouraged.

### **Question 2**

*What are the service needs of students with SEN in Hong Kong universities?*

With the increasing emphasis on internationalization in higher education in Hong Kong, universities must meet students' diverse educational needs arising from differences in attributes such as language, social class, physical and mental ability, gender, ethnicity, culture, religion, family, sexual orientation and migration status. At school level, a successful system should treat such diversity as a source of potential growth and enrichment rather than a hindrance to student achievement (OECD 2010). The existing provision of support services for students with SEN in all the universities in Hong Kong requires reviewing and updating. The following are the main types of service needs identified in the interviews.

### ***Establish and Implement Inclusive Education Policies in the Universities***

All university staff interviewed agreed that without well-established policy, guidelines and academic protocols, it is difficult for them to make justified, appropriate and specific arrangements for students with SEN in accordance with their unique and diverse needs. In addition, links and cooperation between offices will be weak if there is no well-organized structure to support the system. One faculty teacher interviewed said he encountered difficulties in accessing reasonable levels of arrangements and support for students with SEN. The special arrangements made in previous public examinations might not be adequate to cater for the ongoing study needs of university students.

### ***Enhance Knowledge and Skills of University Staff***

Local staff, students and graduates with SEN and the parents of students with SEN all agreed that there is a lack of knowledge among university personnel for addressing problems arising from the disabilities and diverse needs of some students. Lack of professional staff in the relevant areas leads to a failure to provide specific types of services to students with SEN—such as psychological assessment, occupational therapy, physiotherapy and optometry assessment.

In most local universities, students with SEN must self-disclose and register their disability at the university by providing medical proof and professional assessment reports. The self-disclosure mechanism requires students to provide the reports without financial support from the government or the universities. The two non-academic staff responsible for coordinating support for students with SEN mentioned that there were some cases in which the students could not afford to obtain professional reports, resulting in a failure of registration. As a result, they will not be eligible for SEN resources in the university under the existing policy system. One respondent stated:

*In the past 8 years of my so-far 30 years of teaching life, I have come across three students with disabilities. They were students with a hearing impairment, a specific learning disorder, and autism. I was their academic advisor. From what I know, most of the university staff do not know how to handle and support them, but the university will try hard to help them. It seems that the number of students with SEN and categories of disabilities have increased, so the university should strengthen efforts to meet this trend and enhance the knowledge and develop a supporting strategy for different kinds of disabilities. (A teaching faculty member)*

## ***Curriculum Adaptation and Accommodation***

All six interviewed local university students with SEN commented that very few adaptations were made to the curriculum or instruction to accommodate their learning needs. However, one interviewee with hearing impairment was allowed to sit in a location conducive to maximizing his hearing during the class. He also obtained an exemption from the Hong Kong Examinations and Assessment Authority (HKEAA) for the listening component of an assessment. However, no adaptations to the curriculum or instruction were provided. Local universities may also consider implementing Universal Design for Learning principles that advocate using many different pathways, resources and activities for students to enable all to achieve curriculum goals (Rose et al. 2014). This view is reflected in the comment below.

*It is important for universities internationally to recognize the needs of students with disabilities in higher education. Students with disabilities want to fulfill their educational potential as do students without disabilities. It is important that universities encourage a universal design approach to anticipate the needs of diverse learners and create a sense of belonging for all students, to enhance their learning experience. (An overseas expert in special education)*

## **Financial Aid and Supporting Services**

Many of the support measures for students with SEN cease after they graduate from secondary schools. For example, free hearing aids are only provided by EDB before students graduate from secondary Year Six; and one student with hearing impairment encountered financial difficulties when purchasing new hearing aids (as did his sister who studies at another local tertiary institution). The postgraduate with severe multiple disabilities (physical disability and speech impairment) had studied in a special school that provided intensive and wide-ranging support services from experts such as occupational therapists, speech therapists, physiotherapists, social workers and educational psychologists. Adequate accessible facilities and tailor-made assistive aids and modified furniture were also provided. Comparatively, very limited support services were available in the tertiary institution he later attended and at the university he currently attends.

Studies suggest that students with disabilities repeatedly identify assistive technology as an invaluable support for success in the higher education environment (Dowrick et al. 2005; Sharpe et al. 2005). Research also indicates that costs for students with disabilities can be high, particularly for the purchase of this assistive technology (Christ and Stodden 2005; Holloway 2001). Thus, financial support for purchase, repair of assistive aids and professional services in higher education is required. The universities must be aware of the need to arrange financial assistance, such as subsidies, grants and scholarships for students with SEN.

*The financial assistance and aid for students with SEN is inadequate. The university should introduce and set up more scholarships and grants for students with SEN, to encourage*

*them and appreciate their efforts. In my entire three years of university life, I successfully obtained only one government funded scholarship. Also, in general, the standard required to get scholarships is quite high, the competition is tough and usually students with SEN seldom successfully get them.* (SEN student)

The responses reveal that not all universities provide free sign language interpreters, note-takers or professional assessment services for students with SEN and that electronic versions of printed textbooks are not always readily available to students with visual impairment. This indicates that the support service for book and material scanning is insufficient. Less than half the universities provide a rehabilitation bus service and professional support services such as occupational therapy, physiotherapy, speech therapy and optometry testing.

*I think that the university has not provided sufficient support services. For example, being a learner with a hearing impairment, what I need is not just the hearing aids. I also need speech therapy and sign language interpreter services for my study and learning.* (Student with hearing impairment)

*When my son studied in a special school, he used to get individual aiding facilities and professional services such as occupational therapy, speech therapy, physiotherapy, an education psychologist's assessment or follow -up by social workers. But when he got into a higher education institution and even university now, he can only use very basic disabled facilities. In some campuses, even the disabled toilets are not up to standard.* (Parent of a SEN student with multiple disabilities)

Resources to improve the accessibility of campus facilities and the provision of assistive aids are lacking. Installing accessible facilities and assistive equipment and purchasing assistive aids is expensive. Generally, those expenses are not included in the annual budget of the university. Funding is needed to upgrade and equip the accessible facilities and equipment and to provide subsidies for students with SEN.

### ***Communication Channels and Information Access***

All six interviewed graduates with SEN said communication was often difficult because there was no designated unit or staff member serving students with SEN in the university during their period of study. They had to navigate through various offices and units when attempting to sort out issues arising from their disabilities. For example, to request assistive furniture, the Facilities and Estates Office must be contacted; and to request assistive aids, the library staff must be approached. Five out of six of the interviewees suggested that designated university staff could help students with SEN as the first point of communication. One interviewee, who pursued both undergraduate and postgraduate degree programs in the same university, pointed out that the consistency in serving staff can also help to ensure higher support service quality.

In terms of access to information on services for SEN, the 13 students, the graduates with SEN and the parents of students with SEN had no initial knowledge of the

universities' supporting policies or the availability of services when they joined their university. Of the 11 students/graduates who disclosed their disability upon application, nine were approached by designated SEN Coordinators after admission. The individual needs of the students were discussed through phone conversations or face-to-face consultations. Campus orienteering with guide walkers (Student Helpers or staff from the Office of Student Affairs) was arranged for students with visual impairment. Barrier-free facilities' information, such as disabled toilets and ramp access, was provided to students with physical disabilities. Nevertheless, there is a need to ensure that students with SEN have easy access to information on existing policy and support services. They need to utilize these services quickly to facilitate their study at the university. Disability registration and appropriate special arrangements should be made as early as possible.

*Although I completed both undergraduate and postgraduate studies at the same university, and they did provide special support services to students in wheelchairs like me, I am still not sure what their supporting policy, strategy and services to students with SEN are. (Graduate with SEN, local university)*

### ***The Need for Peer Support***

In addition to formalized peer support (such as assistance for note-taking, guide walking and scanning of materials), peer support for study and learning can facilitate the university life of students with SEN in various aspects. The following experiences shared by students with SEN illustrate the importance of peer support.

*SEN student with visual impairment:* in addition to attending lectures and tutorials, field trips and company visits will take place in some programs (e.g. business and social science disciplines). A student with visual impairment received support from his peer who acted as a guide walker and greatly enhanced the accessibility of such off-campus visits. Peer support in ordering daily meals, collecting trays in the canteen and attending special university events and activities are very helpful to students with visual impairment.

*Student with a specific learning disorder:* due to deficits in visual perception that cause difficulty with symbolic, graphic and spatial processing, the student encountered problems in plotting graphs, reading diagrams, recognizing symbols and formatting document layouts. A student with normal vision takes around 10 min to format layout for an 8-page assignment with line spacing, margin setting and referencing, whereas a student with impaired vision may need an hour. This student had difficulty distinguishing between double- and single-spacing and other alignment features. Her peer helped her with proofreading assignments and in location orienteering on campus. This kind of peer support not only helps the student with SEN solve academic problems but also reduces her anxiety level and unpleasant experiences.



*Although I am a sighted person, my sense of direction and recognition of signage are very poor. It is such a difficult task for me to locate new classrooms at the beginning of each semester! (Student with a specific learning disorder)*

*A student with physical disability:* automatic door access is not commonly available in local universities. Assistance offered on campus by helpful peers in opening doors of classrooms, lecture theatres, rooms in libraries and computer laboratories made her life easier. In addition, peers also assisted her in placing lunch orders with the cashier and collecting the meal at canteen. All these forms of peer assistance greatly facilitated her campus life.

### **Research Question 3**

*How can we further improve policies and support practices for students with SEN in universities in Hong Kong?*

University policies should be tailored to the needs of students with SEN in higher education settings. Professionals suggest that typical university policy for supporting students with SEN should be revised, particularly the identification, assessment and provision of support services. For assessment, universities attempt to make special arrangements for students with SEN based on previous provision offered to them by the Hong Kong Examinations and Assessment Authority. Special examination arrangements (accommodations) of this type are actually quite limited in Hong Kong (HKEAA 2016); and in many cases, they are not applicable to the internal examinations taken by university students.

*The university's current practice is to provide special arrangements to their students with SEN by following the previous provision offered by the HKEAA during public examinations. In reality, that is not wholly applicable to their university learning environment and requirements. (Local Educational Psychologist)*

Universities play a vital role in promoting social equity and building an inclusive society. This role can be carried out more effectively if it is more explicitly articulated in universities' stated missions and policies. Existing mission statements and policies in universities should be revisited and updated to reflect current inclusive education goals in higher education. The data collected in this study demonstrates that the concept of inclusive education is not clearly defined at the university level. Establishing a clear mission and setting up a support team with different stakeholders from the institution should be a top priority. Much can be learned with reference to practices in other countries such as Taiwan, the USA, the UK, Australia and Canada.

*Each student with a disability receives a placement opportunity according to our special needs. The universities in Taiwan support students with disabilities and provide the least restrictive learning environment. (Taiwan university student with physical disability)*

The government's role should also be well-defined and active in advancing inclusive higher education. The government needs to play a leading role in monitoring and facilitating tertiary institutions in their support for students with SEN. The following are specific suggestions.

- Set up and coordinate a joint-institutional group to establish policies, formulate strategies, review practices, evaluate effectiveness and share experiences in supporting students with SEN.
- Enhance communication between students with SEN, parents and the university. Meetings and discussions can increase mutual understanding of needs and how they can be met.
- Extra funding is needed, in addition to the block grant funding, for supporting university students with SEN. Instead of sporadic project-based funding, a recurrent budget for inclusive education in universities is essential. Such a budget can support the purchase of assistive and technological tools and furniture, strengthen training of academic and administrative staff, promote and encourage awareness of inclusion. There is a need for some students with SEN to receive counselling and personal development training and also to have internship opportunities.
- Act as a leading employer mode by providing job opportunities on campus for graduates with SEN. Plan the type of placement to match the talents and educational background of university graduates with SEN.
- The available statistics on students with SEN in Hong Kong provide information such as types of disabilities admitted in primary and secondary schools and the number of students with SEN who attended public examinations. The government can oversee this data and proactively plan effective policies to facilitate the transition of students with SEN into higher education.

### ***Collaboration Among Stakeholders***

Although there is currently no law governing higher education provision in Hong Kong, the local tertiary institutions can collaborate with professionals and non-governmental organizations to study and adopt good practices from both local and overseas tertiary institutions. The Special Education Centre of the National Taiwan Normal University (國立臺灣師範大學) was established in 1974, 10 years before the government enacted the Special Education Act (NTNU 2018). It implemented an inclusive policy in the university and collaborated with professionals in inclusive and special education both locally and overseas. Collaboration of this type among multiple stakeholders is highly beneficial when devising educationally, culturally and socially responsive systems for inclusiveness.

### ***Legislation on the Inclusion in Higher Education***

No clear policy or legal framework in inclusive education is available in Hong Kong to guide tertiary institutions, and thus, the necessary incentive to promote integrated education is lacking. The situation is different in many other countries. For example:

*Taiwan and the United States have set out a comprehensive legal framework for the education of students with SEN. In particular, those countries emphasize elimination of discrimination, early intervention and appropriate education for students with SEN at all levels. Their relevant legislation even imposes statutory requirements governing the qualifications of special education teachers and funding arrangement for special education* (Legislative Council 2014, p. 2).

The Taiwan and Western models using legal mandates may or may not be suitable for Hong Kong. However, drawing on their experience provides grounds for discourse among university personnel, educators, researchers and policymakers. In the long term, the government should assess the feasibility of enacting laws and regulations on implementing inclusive practices in higher education. At the moment, individual tertiary institutions in Hong Kong must use their discretion in the scope and delivery of services for tertiary students with SEN, and this leads to fragmented and often inadequate provision.

Finally, inclusive education is about ALL students. It could be argued that *all students* have special needs of one type or another and universities should be more responsive to diversity in ability, interests, culture and aptitudes (Gidley et al. 2010). The case of one female student from the Chinese University of Hong Kong has demonstrated that good support and appropriate accommodation from a university substantially contributed to the success of this 24-year-old student with visual and hearing impairments. The student achieved top examination results by reading Braille with her lips. In 2017, she received a scholarship for a Master's degree at a top university in the UK (Wong 2017).

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# Chapter 17

## School-to-Work Transition: Support for Students with Moderate-to-Severe Special Educational Needs in Singapore



Meng Ee Wong, Suet Ling Chong, and Herk Low Ng

**Abstract** Students approaching the end of their postsecondary schooling are confronted with important transition choices. One major consideration is employment. Preparation for transition is particularly critical for students with disabilities, given the current competitive labour market in Singapore. This chapter describes a collaboration between MOE and SG Enable, an agency dedicated to empowering persons with disabilities, on a school-to-work pilot programme. The programme embodies an ‘individual transition planning process’ (ITP), a ‘student vocational profiling tool’ (SVP) and a ‘group internship model’. The authors describe the collaboration needed between school, teachers and employers in implementing the programme. The chapter concludes with an evaluation of this school-to-work pilot programme to consider the value that it brought to different stakeholders—parents, students, teachers and employers. Suggestions are then made for refining and extending the programme in Singapore.

**Keywords** Individual planning · Internship · Singapore · Students with disabilities · Transition

### Introduction

Employment is recognised as a critical aspect of being an adult, and it contributes to various dimensions of quality of life (Rogan et al. 2002). In particular, work features as a component of an individuals’ self-identity and self-worth (Blustein 2006). Transition from school to employment is therefore an important stage in the

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life of every young person, including those with disabilities. In their case, it is of vital importance that teachers, support agencies and family all contribute to the student's career preparation, to ensure successful transition to employment or further education and to independent living.

The research literature on transition for students with disabilities always stresses the importance of proactive career preparation; but practical guidelines for effective transition strategies are fairly scarce (Carter et al. 2010). As a result, in many countries students with disabilities experience unemployment or underemployment, and they are often subject to frequent job changes. This has a negative effect on their quality of life, as compared to their non-disabled peers (Newman et al. 2011; Wagner et al. 2005).

This chapter describes the transition support provided for students with special needs in Singapore. The focus is on a government-supported school-to-work pilot programme led by the Ministry of Education and SG Enable. In particular, the chapter discusses the 'individual transition planning process' (ITP), the 'student vocational profiling tool' (SVP) and the 'group internship model'.

## Literature Review

Transition from high school to adulthood represents a critical phase in any person's life, and it is accompanied by many new challenges arising from attending tertiary education, or receiving vocational training, or being employed for the first time (Gillan and Coughlan 2010). This results in more responsibilities to be taken on by a youth when he or she becomes an adult, and a balance has to be achieved between dependence on support from others and the independence expected of adults (McGinty and Fish 1992).

When considering how best to pave the way to smooth school-to-work transition for individuals with disabilities, the US Office of Special Education and Rehabilitation Services (OSERS) emphasises a need for 'an outcome-oriented process encompassing a broad array of services and experiences that lead to employment' (Will 1984, p. 1). The transition process for school leavers with disabilities usually has many components, and thus, transition services need to be comprehensive (King et al. 2005; Winn and Hay 2009). Evaluations of existing transition practices indicate that they can be effective when they target school leavers' real and immediate needs (Alwell and Cobb 2009; Test et al. 2009).

Key components of intervention that are commonly cited in the literature on transition from school to work include: individual transition planning, vocational training, social skills training, parent involvement, interagency collaboration and on-site work experience (Kohler 1993). According to Carter et al. (2010), work experience has been identified as a most important predictor for gaining future employment. In addition, Landmark et al. (2010) report that family involvement, social skills training, daily living skills training and self-determination are important aspects to include in any transition programme. Other studies have suggested that instruction in decision

making and self-evaluation are important for achieving positive post-transition outcomes (Wehmeyer and Palmer 2000). Young adults also need time to set their own goals and to identify their personal aspirations as future working adults (Webb et al. 2014).

Depending on the nature of an individual's disability, some of the components above may be more important than others. For example, Black and Langone (1997) have emphasised that social skills training is critical for preparing young people with intellectual disabilities for employment—because otherwise they may have problems relating easily to workmates or supervisors. Young people with an intellectual disability are reported to benefit from training in daily living skills, and engaging in activities that encourage decision making (Landmark et al. 2010). According to Heal et al. (1990) family involvement in transition services is one of the most significant elements in predicting success in moving from school to adulthood. They found that individuals with intellectual disability who remain employed for at least six months all had a high level of family involvement during their transition from high school. They also emphasised the importance of life skills training for these students, along with promotion of social skills. In Australia, family-school relationships and student-focused planning were found to be critical for transition of youth with intellectual disabilities and autism (Beamish et al. 2012).

Bauer (2003) has argued for a comprehensiveness approach to transition planning, with due attention given to helping students develop their personalities and attributes such as confidence, independence and self-direction. He also linked success in employment after high school to the students' own characteristics, parent support and professional personnel working together to design and implement effective transition plans.

Effective career preparation and transition for individuals with a disability is a topic gradually attracting more attention in different countries. For example, the Canadian Center on Disability Studies (2004) suggests seven factors that enhance successful employment prospects for persons with disabilities. These factors were identified as: (1) the individual has postsecondary education; (2) he or she possesses personal qualities such as self-determination, perseverance and motivation; (3) there is flexibility in working conditions; (4) the individual has had previous work experience; (5) he or she is living independently; (6) possession of strong social skills; and (7) good support from family and disability organisations.

At the systems level, supportive policies are as important as on-site practices. In the US (Florida), key variables identified in successful transitions included supportive systems and policies, stakeholder involvement, effective communication and collaboration (Lubbers, Repetto and McGorray 2008). Similarly, in the UK, several features of effective transition programmes have been identified (Beresford 2004). First, a programme must be concerned with helping individuals progress to an independent stage of life, rather than shifting them from one support service to another. Second, effective transition service requires collaboration among services, rather than being a single agency responsibility. Third, individuals need to have transition plans that are long term but flexible. Fourth, all available services, facilities and opportunities need to be responsive to individual needs. The National Secondary

Transition Technical Assistance Center (NSTTAC), now National Technical Assistance Center on Transition (NTACT), has listed several evidenced-based practices that are important, including student-focused planning (linking career preparation to the IEP process), student development through ongoing skill assessment and instruction, interagency collaboration, family involvement, and program structure (policies, philosophies, resources) (NTACT 2016).

## The Context of Singapore

In 2015, Singapore celebrated 50 years of nation building and marked the coming of age of a society where support for persons with disabilities reached a higher standard (Wong et al. 2015). In 2004, Lee Hsien Loong's vision of an inclusive society was declared during his inaugural speech when taking the office of prime minister. In the absence of formal legislation for the disabled, this watershed declaration led to greater provisions of support to follow in ensuing years. One major outcome is the Enabling Masterplan, introduced first in 2007 and now in its third edition. The Third Enabling Masterplan guides the direction and strategies for persons with disabilities for the period 2017–2021. One objective is to foster a caring and inclusive society where persons with disabilities are empowered to achieve their fullest potential and participate in society. Collectively, the masterplan covers major lifespan issues for improvement of quality of life (Ministry of Social and Family Development 2017). The Enabling Masterplan was the antecedent effort which culminated in the 2013 ratification of the United Nations Convention on the Rights of Persons with Disabilities (CRPD) (Wong, Low, and Applehans 2017a). These initiatives contribute towards the rights of people with disabilities in Singapore (Wong, Ng, Lor, and Wong 2017b). Article 27 on Work and Employment spells out the rights, includes promotion and protection of a right to employment, equal access to work and training opportunities, removal of discrimination, provision of reasonable accommodation, opportunities for career advancement and vocational rehabilitation (United Nations 2006, Article 27).

With the Enabling Masterplan and commitment to CRPD in place, the employability of persons with a disability remains an ongoing issue for the government as it seeks to improve the situation. Several initiatives have already been put in place. These include the provision of incentives (Special Employment Credit of up to 16 per cent of wages paid) to support employers where persons with disabilities are hired (SEC 2018). Another incentive is the Open Door Programme where grants and services are given to employers providing training and workplace modification to better support individuals with disabilities (SG Enable 2016a , b). Beyond direct incentives known as 'communities of practice' (e.g. the Inclusive Business Forum) have been established. This is a platform organised to share best practices among employers to train and hire persons with disabilities.

Deputy Prime Minister Tharman Shanmugaratnam reiterated the importance of employment as a key priority in building an inclusive society. He elaborated



that employment allows persons with disabilities to be contributing citizens, to be integrated in the community, and to earn an income and be independent (Shanmugaratnam 2016). It is with this recognition that efforts are being put in place to begin vocational transition preparation for students while still in special school.

## Special Schools in Singapore

The education of students with disabilities in Singapore, especially those with high support needs, is provided in special education schools operated by voluntary welfare organisations (VWOs). Special education schools customise their curriculum and programmes to cater to the diverse range of abilities and learning needs of their students.

Every year, around 400 students graduate from these schools. Those with mild intellectual disability are able to receive additional vocational training that leads to certification through programmes offered in special schools. A small number may progress to mainstream educational institutions, such as the Institute of Technical Education where they are able to obtain a certificate as recognition of their training. With the additional training and certification many of these students are able to secure open employment with minimal additional support.

For students with moderate-severe intellectual disability or with other complex disabilities, there is a need to facilitate transition with more intensive and structured support. In the past, many of these students faced great difficulty in securing employment and accessing services, and they ended up unemployed and staying at home. In that situation, lack of social interaction and meaningful activity resulted in further deterioration of their work readiness and their motivation to work. The need for better support for these students in transition was identified and became a key area of focus for intervention. From the government's perspective, if more students with special needs could be sustained in long-term employment after leaving school, this would reduce the heavy demand on provision of other adult services such as sheltered workshops.

The pilot school-to-work transition programme (S2W) was conceptualised in 2014 by the Ministry of Education (MOE) in partnership with the Ministry of Social and Family and SG Enable. Its purpose is to explore more customised pathways for training and work placement options that can help these students in their transition. The programme is designed to provide a 'bridge' from school to employment for students and thus support begins in the final year of special school where students who are assessed to be work capable are referred by their schools to SG Enable. These students are matched to post-school employment pathways before they leave school, and they then undergo job training (with support) for up to 1 year post-school. The hope is that this will lead ultimately to a permanent job placement.

Five special schools with students with mild-moderate-severe intellectual disabilities with and without autism were selected to implement the pilot project over a

two-year period (2014–2015). It is relevant here to describe the S2W programme in more detail and to review the feedback received from parents, teachers and employers.

## The School-to-Work Transition Programme

In planning for a school-to-work transition programme, a natural partner with regard to employment related support is SG Enable given its initial focus was directly in the scope of supporting persons with disabilities with employment needs. In recent years, SG Enable has broadened its foci and is now dedicated to empowering persons with disabilities in Singapore. The agency's key functions can be described to include:

- enhancing information and referral services for child and adult disability schemes;
- administering grants and support to persons with disabilities and their caregivers;
- improving transition management across different life stages;
- enhancing employability and employment options for persons with disabilities;
- rallying stakeholder support in enabling persons with disabilities.

SG Enable approaches the employment of persons with disabilities through what is termed the 'Ready Employees! Ready Employers! Ready Environment!' framework.

- *Ready Employees:* The aim is to support persons with disabilities to become ready for employment. SG Enable staff work closely with training partners to customise and provide a variety of pre-vocational and vocational training opportunities. Funding is provided to help jobseekers attend these courses. SG Enable works closely with its Job Placement and Job Support (JPJS) partners, namely Autism Resource Center, Movement for the Intellectually Disabled of Singapore (MINDS) and SPD (formerly Society for Physically Disabled) to provide job matching and job support services.
- *Ready Employers:* The aim is to enable more companies to become employers who are willing to hire persons with disabilities. SG Enable has initiated a series of education efforts such as High Impact Retention & Employment (HIRE) Workshops and sharing of online resources such as HRM (human resource manual) Toolkits. Events such as the Inclusive Business Forum 2016 are organised, and SG Enable administers the 'Open Door Programme' (ODP) with a funding grant provided by government to encourage employers to hire and train persons with disabilities.
- *Ready Environment:* SG Enable recognises that the quality and sustainability of each job placement for a person with a disability is also dependent on the work environment. To build the capacity of employers and supervisors to adapt workplaces when necessary and to ensure positive attitudes among co-workers, SG Enable has created initiatives such as a Community of Practice for job coaches, and (with the Social Service Institute) has introduced an Advanced Certificate in Supported Employment, and a Skills Future Award for Disability Employment Professionals to encourage continuous training. SG Enable also operates a

Tech Able facility to provide advice and funding to potential employers for any necessary assistive technology for persons with disabilities.

Several key components were created in this programme to facilitate bridging from school to work. Some of these operate while a student is still in school, others are implemented after the student graduates. The components include Individual Transition Planning, Student Vocational Profiling, Group Internship, Regular Assessment and Feedback and Further Training and Customised Employment. Each of these components is explained below.

### ***Individual Transition Planning***

This person-centered process starts when the student is aged 13 and involves a multi-disciplinary school team working with the student and their families to plan and prepare for the student's post-school transition. An Individual Transition Plan (ITP) is developed for every student, outlining transition goals in living, learning and working (based on assessed interests, preferences and strengths), and supports required to help that student fulfil their aspirations.

### ***Student Vocational Profiling***

Students with the potential to go into employment are assessed through evidence of workplace abilities demonstrated through authentic work experience opportunities offered within the school curriculum. The 'Student Vocational Profile' (SVP) is a tool developed jointly by MOE and SG Enable to help schools document rich information about the student's profile, their educational background, vocational experiences, interests and strengths, as well as recommended areas for job training. The SVP further highlights any necessary supports and accommodations needed to facilitate integration into the workforce.

The ITP and the SVP create an opportunity for a multi-disciplinary school team to collate needed information that is gleaned from different perspectives to form a holistic and accurate picture of a student's capabilities and training needs. Input comes from those who know the student well and who have had the opportunity to observe him or her perform in a variety of activities in school, work experience and in community settings. Teams typically include the class teacher, other subject teachers, allied professionals such as therapists, vocational trainers and school-based job coaches. Views and aspirations of students and their families are incorporated throughout this process. The information provided in ITP and SVP will then be used by SG Enable to match students to suitable post-school pathways, and to offer them necessary training and employment opportunities.

In the last year of school, students who are shortlisted as potential entrants for the S2W programme undergo a three-day ‘Get to Know You’ non-residential camp where they are assessed for their work readiness in greater depth by SG Enable job coaches.

Parents and caregivers play a key role in helping students with a disability undertake their vocational learning programme, and inculcating in them positive habits and attitudes necessary for work (e.g. reliability, punctuality, perseverance, cooperation). SG Enable engages with parents and caregivers to assess their readiness to support their family member in this way as they move into training, and later into employment.

### ***Group Internship***

Upon leaving school, students take up their planned training pathway, with most going into the ‘Group Internship’ pathway. This programme starts with a two-month orientation where trainees go through a variety of preparatory sessions, including ‘work hardening’ to build up physical stamina for a working day, vocational skills training and a customised social enrichment programme to teach them workplace safety, punctuality, self-discipline and workplace etiquette.

After the orientation period, trainees are deployed to work sites where they will go through the work-and-learn group internship programme for nine months. The group internship model enables employers to mentor and train a group of students together, supports trainees in learning from one another and allows a more efficient deployment of job coaches to support them. Typically, each work site has between four to six trainees.

The other characteristic of S2W is the work-learn format which means trainees perform their work tasks in the morning and spend afternoons in a social enrichment programme or other topics depending on their needs. This arrangement gives trainees time to adjust to working conditions, and it also accommodates students’ inability at first to sustain attention for prolonged periods of time. Some may lack work stamina if the tasks are physically demanding, but gradually over the nine months their work schedules progressively shift towards longer durations. The on-site training allows trainees to receive on-the-job experience and to learn their tasks faster compared to classroom learning.

### ***Regular Assessments and Feedback***

Over the course of nine months, trainees’ performance is monitored regularly using a ‘Standards of Work Performance’ template. Trainers and job coaches assess trainees’ work habits and behaviours, ranging from punctuality to self-regulation, workplace

safety awareness and vocational performance. This process is chiefly based on feedback from the work supervisor and co-workers, together with any significant feedback from caregivers. At the beginning of the programme, all trainees set personal goals that are specific, measurable, attainable, realistic and time-bound (SMART goals) for areas such as independent travelling, improvements in social interactions, workplace etiquette, reliability—and these are tracked over time.

Additionally, SG Enable organises regular meet-up sessions with caregivers to provide information to them regarding their family members' performance at work and in training, and to encourage them to cooperate with the job coaches to help trainees become more independent.

SG Enable personnel also regularly engage with employers, in particular the supervisors and co-workers, to elicit feedback about the trainees and to better understand when there is need for further training or accommodation that is necessary to improve a trainee's work performance.

### ***Further Training and Customised Employment***

In addition to the Group Internship pathway, SG Enable provides two pathways to employment for the students—'Further Training' and 'Customised Employment'. These options are made available because some students may not benefit from group internship due to an inability to work well with others, and some may need more customised job support. Students placed in 'Further Training' are attached to training partners who will take them on for extended periods of vocational or soft skills training before attempting to place them into jobs. In 'Customised Employment', the student is placed with a well-matched employer and undergoes very specific on-the-job vocational training in a particular role or position. The three pathways provide different forms of support to students and the employers, and the results for the past two years have been very encouraging.

### **Evaluation**

Surveys were conducted to gather more information about the programme and to see where there could be improvement. Overall, for the 2015 and 2016 cohorts, caregivers had very positive feedback about the programme.

For 2015, caregivers observed that trainees had increased positive feelings of self-esteem, had improved in their abilities to learn and concentrate and had come to build a stronger relationship with their families. In 2016, all parents felt that the programme had helped their family member make a smooth transition from school to post-school life; and they observed that the individual had improved in daily living skills and independent travelling, had stronger self-esteem and had learnt new skills.

Additionally, the survey asked parents what their child would have been doing if not for the S2W programme, and the majority responded with 'placed in sheltered workshop' or 'disability day activity Centers', or 'staying at home'. This feedback suggested strongly that the year-long S2W programme brought value by supporting a child with a disability into employment, and had also changed the parents' mindset to one that is more optimistic for the child's future.

In 2015, 30 students were accepted into S2W and later 24 were successfully placed into employment. In 2016, 26 students were accepted into the programme and 20 were successfully placed into employment. These results are very positive, and they demonstrate that this model of supported employment, on-the-job training and group internships is making a definite contribution to preparing students for transition into employment.

The programme also resulted in long-term benefits to employers who participated, and initial feedback from co-workers and supervisors has been very positive. Employers noted in their survey responses that co-workers have learnt to be more understanding of those with a disability, that staff morale and teamwork have improved as a result of the programme, and that the students contributed meaningfully and helped them with their daily workload. This indicates that employers were participating in the programme not just for reasons of perceived social responsibility but were also able to achieve business value.

Positive feedback also came from caregivers, with one stating:

From top management of SG Enable to the coaches, fitness instructors, other staff working in the background and their partners, I can sense their sincerity and determination to walk through the journey with me and my son. This could be a once-in a lifetime opportunity for your child to gain meaningful employment or do something that he or she enjoys. If you do not let your child experience it, you would never know whether it is good for him or her.

Another caregiver commented:

I hereby would like to express my thanks to the coaches for making this possible. Without your help [my child] would still be a short-tempered, stubborn and lazy boy. You are not only giving him a chance to work but also making him see for himself that he still can do and have a future like others.

From the perspective of the students, their family members, caregivers and the co-workers and supervisors in the companies, the programme is invaluable. The programme will now be expanded to include more schools. With the initial success of the programme, the five schools involved in the pilot have now taken steps to improve the curriculum, so that students are better prepared to join the S2W programme. The changes to the curriculum include a greater focus on building students' physical stamina and coordination, incorporating parts of the social enrichment programme into the school programme, and greater emphasis on work experience and transition planning. SG Enable has also worked with the schools to introduce a Job Shadowing Day for younger students (aged 15–17) to help them better understand the concept of 'responsible work' and to experience different workplaces. These improvements have helped the students appreciate the nature of a working life, and they can also become inspired to want to work after leaving school.

In Singapore, the Ministry of Education (2018) has also finalised a framework for transition planning and developed a guide to support all special schools in preparing their students, with their families for their post-school transition.

## Conclusion

This pilot School-to-Work Transition Programme has produced encouraging results, with estimated 800 people assisted into employment over 2 years. SG Enable will continue to work closely with MOE to introduce the programme to more schools and will also be working with employers to evaluate the impact of the programme in more detail to better understand its long-term benefits.

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**Part IV**  
**Useful Tools for Assessment**  
**and Intervention**

# Chapter 18

## Transition Assessment and Goal Generator (TAGG): Useful Tool to Assess Non-academic Skills



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**Abstract** Non-academic skills are as important as academic skills for the employment and postsecondary education of individuals with disabilities. Due to less than half of individuals with disabilities gaining employment, and the fact that the majority of students with disabilities do not graduate from postsecondary education due to non-academic skills, educators needed a method to assess and identify the non-academic skills students have and need to learn. The Transition Assessment and Goal Generator (TAGG) is an easy-to-use transition assessment instrument based on research-identified non-academic behaviors and experiences associated with post-school employment and further education. TAGG assesses (1) strengths and limitations, (2) disability awareness, (3) student involvement in the IEP, (4) goal setting and attainment, (5) persistence (6) interacting with others, (7) employment, and (8) support community (McConnell et al. 2012). TAGG has more validity evidence supporting its use than most other transition assessments.

**Keywords** Transition assessment · Non-academic skills · Validity

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## Importance of Non-academic Behaviors

Non-academic skills can be defined as skills that are critical to successful adult life but are not tied to core academic content. They include social and emotional skills, self-regulation, goal setting, and daily living skills, and they need to be accompanied by attributes such as determination, grit, and reliability (Kamenetz 2015).

Non-academic skills are as important as academic skills for the futures of students with disabilities. These skills are important for those who want to attend postsecondary education or seek to gain employment after leaving school. Even though more students with disabilities are enrolling in postsecondary education, 80% do not graduate (Murray et al. 2000). Less than half the population of individuals with disabilities are employed (Baer et al. 2011), and many are fired for reasons that have nothing to do with performing the job but rather an inability to get along with others, dishonesty, or failure to complete tasks (Inglis 2014).

It is clear that much more effective transition preparation is required for students with disabilities, and they need to understand more deeply how skills and knowledge learned in school help them get and keep a job or attend college. Students who have dropped out of high school cite an inability to see the connection between what is taught in school and “real life” as the primary reason for leaving school early (Bridgeland et al. 2006).

Addressing non-academic behaviors predictive of more positive post-school outcomes for students with disabilities should be a priority for special educators. A first step in accomplishing this goal is to identify areas of strength and limitations in students’ existing non-academic skills. The *Transition Assessment and Goal Generator* (TAGG; Martin et al. 2015a) is a valid, research-based assessment tool for evaluating critical non-academic behaviors. McConnell et al. (2013) developed TAGG using research-identified non-academic behaviors and experiences known to impact post-school education and employment. Since development of TAGG, additional studies have found non-academic behaviors are associated with post-school success (Burnes et al. 2018; McConnell et al. 2013, McConnell et al. 2017; Rowe et al. 2015). TAGG exists in three forms—Professional (TAGG-P), Student (TAGG-S), and Family (TAGG-F) versions, and may well be suitable, with certain modifications, for use in the Asia-Pacific region.

## Development of TAGG Constructs

TAGG is an easy-to-use transition assessment based on research-identified behaviors and experiences that are found to be associated with positive post-school employment and further education outcomes. The developers conducted an in-depth literature review to identify experiences and behaviors of students with disabilities who had been successfully enrolled in postsecondary education or engaged in competitive employment. From this review, constructs and items were developed to cover relevant

behaviors and experiences. TAGG assesses the following constructs (1) strengths and limitations, (2) disability awareness, (3) student involvement in developing the individual education program (IEP), (4) goal setting and attainment, (5) persistence, (6) interacting with others, (7) employment, and (8) support community (McConnell et al. 2013).

## Initial Steps in Developing TAGG

TAGG was created through an iterative development process as outlined in *Standards for Educational and Psychological Testing* (American Educational Research Association, American Psychological Association, and National Council on Measurement in Education 2014). Its development was undertaken by seven experienced educational researchers who had examined the relevant research literature to identify initial constructs. A consensus decision-making process was used to identify relevant studies, review these studies, and build an initial list of behavioral constructs. The five initial steps to identify studies were (1) acquiring copies of all studies by acknowledged researchers in the field (Juan 2008), (2) obtaining correlational studies related to this population (Test et al. 2009), (3) conducting searches using EBSCO-host database with keywords identified by researchers, (4) combing references of gathered articles for additional sources, and (5) inspecting tables of contents of special education and transition peer-reviewed journals from the previous three years. Using this process, 83 studies were identified as potential sources of information for the creation of TAGG. Researchers utilized inclusion and exclusion criteria to determine which studies should be included. Studies must have (1) identified at least one student behavior related to postsecondary employment or education and (2) included students with mild or moderate disabilities. Furthermore, studies that only identified *academic* indicators (e.g., grades, state test results) were excluded. Applying the inclusion and exclusion criteria yielded 35 appropriate studies for further analysis.

## TAGG Constructs

Developers concentrated on non-academic behaviors because these are often overlooked in developing the transition sections of an IEP and are important to increase the likelihood of postsecondary transition success. Researchers implemented a multi-step process to identify non-academic behaviors and build constructs. Each team member read and discussed all studies, re-applying focus on inclusion and exclusion criteria, leading to each author drafting constructs from each study. This process ensured that all team members were familiar with the study and three team members were extremely knowledgeable on details. The researchers provided comments and suggestions in order to reach consensus on constructs and behaviors (Martin et al. 2015b). Finally, researchers matched study citations within each construct to

ensure inclusion criteria were followed. TAGG measures the following non-academic behaviors and experiences.

### ***Strengths and Limitations***

In order to be successful, students must be aware of their personal strengths, weaknesses, and how to request assistance (Aune 1991; Higgins et al. 2002; Lindstrom et al. 2011; Madaus 2006; McNulty 2003; Raskind et al. 2002; Sarver 2000). Furthermore, communicating these strengths and limitations in both academic and non-academic settings to teachers and employers is critical (Gerber et al. 1992; Higgins et al. 2002; Madaus 2006; Raskind et al. 2002; Sarver 2000; Skinner 2004).

### ***Disability Awareness***

Being fully aware of one's disability allows a student to explain their difficulties to others (supervisors, trainers) in postsecondary settings and acquaint them with any needed accommodations (Aune 1991; Gerber et al. 1992, 2004; Higgins et al. 2002; Raskind et al. 1999).

### ***Persistence***

The importance of persistence is acknowledged by many individuals with disabilities engaged in postsecondary education or employment (Goldberg et al. 2003; Greenbaum et al. 1995; Raskind et al. 1999; Skinner 2004). Demonstrating tenacity (grit) in the face of adversity, coupled with an ability to adapt one's goals when necessary, are attributes exhibited by individuals with disabilities who experience most success in postsecondary educational settings (Gerber et al. 1992, 2003; Greenbaum et al. 1995; Skinner 2004).

### ***Interacting with Others***

Interacting positively with others in a variety of environments is a social skill demonstrated by individuals who are successful in postsecondary education and employment settings (Doren and Benz 1998; Goldberg et al. 2003; Halpern et al. 1995; Liebert et al. 1990). Goldberg et al. (2003, p. 226) have suggested that successful individuals with disabilities are "engaged in the world around them, politically,

economically, and socially” and “participate in community activities” and “take an active role in their families, neighborhoods, and friendship groups.”

### ***Goal Setting and Attainment***

Goal setting was identified as a more powerful predictor of post-school success than IQ, academic achievement, socioeconomic status, and ethnicity (Raskind et al. 1999). Setting realistic goals that match career desires, breaking down large goals into smaller manageable steps and sequentially tackling each step, are hallmarks of successful individuals with disabilities (Gerber et al. 1992; Sarver 2000; Thoma and Getzel 2005). It is imperative that individuals set goals that are realistic and attainable (Goldberg et al. 2003).

### ***Employment***

Students with disabilities who maintain a job during high school are more likely to gain employment after high school (Dunn and Shumaker 1997; Fourqurean et al. 1991; Lindstrom et al. 2011; Mazzotti et al. 2009; McDonnall and Crudden 2009; Test et al. 2009). Employers show a preference for employees with work experience (McDonnall and Crudden 2009), and unpaid internships lead to increased likelihood of gaining employment after high school (Fabian et al. 1998).

Job-readiness is also demonstrated by students through appropriate school attendance, working hard on assignments, getting along with others, and maintaining proper personal hygiene (Fabian 2007; Fabian et al. 1998; Heal and Rusch 1995; Leonard et al. 1999).

### ***Student Involvement in the IEP***

Through active involvement in IEP team meetings, students with disabilities can practice self-advocacy, for example by expressing which accommodations best support their in-school success in various situations (Aune 1991; Gerber et al. 1992, 2004; Goldberg et al. 2003; Halpern et al. 1995; Skinner 2004). Participating in IEP meetings also helps to foster a student’s development of self-determination.

## ***Support Community***

Individuals with disabilities who are successful in postsecondary education and employment settings have a support system of individuals who have realistic expectations of them (Gerber et al. 1992; Goldberg et al. 2003; Greenbaum et al. 1995; Liebert et al. 1990; Lindstrom et al. 2011; Madaus 2006; Skinner 2004; Test et al. 2009; Thoma and Getzel 2005). Positive outcomes in work and education need individuals with disabilities to recognize situations when they need support from those most appropriate to provide it and then willingness to accept the offered help (Benz et al. 2000; Gerber et al. 1992; Goldberg et al. 2003; Greenbaum et al. 1995; McNulty 2003).

## **TAGG Factor Structure and Validity**

TAGG developers have generated evidence supporting its validity and reliability, including content, structure, relation to other variables, consequential validity, predictive validity, internal consistency, test-retest reliability, and correlations among different versions of TAGG. Table 18.1 provides a summary of research supporting valid use of the TAGG.

TAGG adheres to the *Standards for Educational and Psychological Testing* (AERA et al. 2014), commonly used to guide the development of educational and psychological tests and to ensure the ethical use of tests. *Standards for Educational and Psychological Testing* define validity as “the degree to which evidence and theory support the interpretations of test scores entailed by proposed uses of tests” (p. 9) and identify five sources of validity evidence: (1) content, (2) response processes, (3) internal structure, (4) consequences of testing, and (e) relationship to other variables. Supporting evidence for the properties of TAGG based on these sources is described below.

### ***Evidence Based on Content***

Evidence of content validity refers to whether the instrument adequately reflects items that are associated closely with the domain to be assessed. The in-depth literature review of the domain as conducted to develop TAGG constructs provides validity evidence on content. The TAGG development process involved building constructs from research-identified behaviors known to impact post-school education and employment is outlined in McConnell et al. (2013).

**Table 18.1** Summary of research supporting the TAGG

Type of evidence	Supporting research
Content validity	McConnell et al. (2013) used an in-depth literature review to build constructs from research-identified behaviors known to impact post-school education and employment
Internal structure validity	Hennessey et al. (2018) performed confirmatory factor analysis on all three TAGG versions to identify the eight constructs assessed
Internal structure validity	Hennessey et al. (2018) utilized factor analysis and confirmatory factor analysis to reduce test items from 75 to 34
Internal consistency reliability	Alpha levels ranged from 0.60 to 0.93 for TAGG-P and TAGG-F. TAGG-S yielded estimates ranging from $\alpha = 0.44$ to 0.82. All demonstrate acceptable to good internal reliability
Test-retest reliability	Large, statistically significant correlations were found between two administrations of TAGG with 13.7 week interval (TAGG-P $r = 0.80$ , TAGG-F $r = 0.70$ , and TAGG-S $r = 0.70$ )
Agreement across TAGG versions	Scores across the three TAGG versions showed statistically significant medium correlations ( $p < 0.01$ )
Relationship to other variables	Minimal to no test bias was found in TAGG based on gender, SES, GPA, or disability category (McConnell et al. 2015, 2017)
Consequences of testing	TAGG is not to be used for special education eligibility determination, but to identify transition skills and individual needs to create annual transition goals
Response processes	Over 20 TAGG administrations across four states were observed by researchers, and comments made by pilot TAGG participants (students and teachers) were documented and considered for revisions of the assessments
Consequential validity	A follow-up survey of TAGG users by Sinclair et al. (2018) demonstrated how satisfied users are with the TAGG, including (1) ease of use, (2) graphic results, (3) goals generated, and (4) ability to insert results into the IEP
Predictive validity	Burnes et al. (2018) surveyed students one to three years after leaving high school and showed four of eight constructs predicted engagement in employment or further education. Interacting with others, student involvement in the IEP, and support community were predictive of both education and employment



### ***Evidence Based on Response Processes***

Support for response process includes “interviewing test takers about their responses to test questions, systematic observations of test response behavior, evaluation of the criteria used by judges when scoring performance tasks, and analysis of item response time data” (Sireci 2009, p. 30). The TAGG development team observed educators in over 20 administrations of TAGG to students across four states, New Mexico, Colorado, Oklahoma, and Arkansas. Comments made by students and educators were documented and considered for later revisions of TAGG.

### ***Evidence Based on Internal Structure***

Researchers use factor analysis to contribute evidence of internal structure of an assessment instrument to ensure “consistency between the structure of the construct(s) that are supposed to be represented by the test and the relationships of the test items and scales with each other” (Schafer et al. 2009, p. 177). The TAGG development team conducted a confirmatory factor analysis on all three versions of TAGG, Professional, Student, and Family. Factor analytic, and confirmatory factor analytic techniques were used to reduce test items from 75 to 34 (Hennessey et al. 2018). The results of factor analysis identified eight constructs and associated behaviors in the TAGG (i.e., strengths and limitations, disability awareness, persistence, interacting with others, goal setting and attainment, employment, student involvement in the IEP, and support community). These all contribute to identifying non-academic skills associated with successful post high school education and employment.

### ***Evidence Based on Relationships to Other Variables***

Researchers should also examine any relation that scores obtained on the instrument have to other pertinent variables. This is often referred to as “criterion-related validity” (Sireci 2009, p. 30). AERA et al. (2014) describe evidence of relation to other variables using three categories: (1) convergent and discriminant, (2) test-criterion relationships, and (3) validity generalization. Discriminant evidence was obtained by comparing TAGG scores to student GPA and percent of time in general education. No correlation was found (McConnell et al. 2015). Developers examined test-criterion evidence by surveying students who completed TAGG in high school, one to three years after they left school. The purpose was to analyze whether TAGG scores predicted student engagement later in employment or further education. Four of eight constructs predicted student engagement in further education, and four constructs predicted student employment, with three of the four constructs appearing in both conditions—interacting with others, student involvement in the IEP, and support

community (Burnes et al. 2018). Researchers also examined the impact of gender on TAGG scores and found no difference in scores on the Professional and Student TAGG versions, and only a slight influence on Family TAGG scores for females (McConnell et al. 2017). Taken together, these studies provide evidence of validity for the use of TAGG.

### ***Evidence Based on Consequences of Testing***

Researchers must also consider the intended and unintended consequences of an assessment to ensure the correct use of the procedure. The results from TAGG can be used to identify transition skills and needs for individual students. TAGG is not intended for special education eligibility decisions, but the purpose is to create transition goals to ensure that the student has opportunities to learn skills and participate in experiences that research indicates as having an impact on employment and further education post-school success.

### ***Sources of Reliability Evidence***

As described by the current *Standards for Educational and Psychological Testing*, reliability refers to the consistency of scores across replications of testing procedures. AERA et al. (2014) note when decisions are based on testing results, “the need for precision increases as the consequences of decisions and interpretations grow in importance” (p. 33). Reliability can be assessed from the perspectives of *internal consistency*, *test-retest*, and *parallel forms*. Each of these assessments is described below.

### ***Internal Consistency***

Reliability estimates for the Professional and Family versions of TAGG ranged from  $\alpha = 0.60$ – $0.93$ , indicating good internal consistency. The Student version yielded an overall reliability estimate of a respectable 0.89.

### ***Test-Retest***

A test-retest measure of stability of TAGG scores across the three versions after a period of 13.7 weeks yielded statistically significant ( $p < 0.01$ ) correlations of 0.80 for Professional, 0.70 for Family, and 0.70 for Student. This indicates robust test-retest

reliability for an instrument of this type. The test-retest participants came from three states: Arkansas, Colorado, and New Mexico.

### ***Reliability Across TAGG Versions***

The total scores across the three TAGG versions showed statistically significant ( $p < 0.01$ ) medium-sized correlations. Pearson product-moment correlation coefficients for Professional-Family ( $n = 269$ ), Professional-Student ( $n = 339$ ), and Family-Student TAGG ( $n = 268$ ) versions yielded values of 0.38, 0.37, and 0.31, respectively. These are usually interpreted as a “medium association” between measures.

## **TAGG Features, Profile, and Data-Based Decision Making**

### ***Features***

The three versions of TAGG are available in English, Spanish, Traditional Chinese, Simplified Chinese, and American Sign Language. All items on TAGG-S and TAGG-F are available with a read-aloud function (English and Spanish). Assessments may be taken online, printed and completed by hand, or a link emailed to students, professionals, and family members. The cost of the assessment is three dollars per student for all three versions of the TAGG. The instrument has a total of 34 questions on each version, each rated on a 5-point Likert-type scale for the Professional and Family versions, and a 3-point scale for Students. The reading levels required for TAGG are (1) 10.4 (TAGG-P), (2) 5.7 (TAGG-F), and (3) 4.8 (TAGG-S). Great effort was made to decrease the reading level for the Student and Family versions so individuals with a disadvantaged educational background and weak reading skills could access the assessment. However, certain unavoidable words (like *accommodation*) had no appropriate synonym and including these in the instrument raised the reading level.

### ***Profile***

The profile of results provides information on (1) present levels, (2) strengths and needs, and (3) sample annual transition goals specific to individual results. The profile is saved online to the professional account and can be accessed for seven years from date of administration. All written results provided within the TAGG profile can be copied and pasted into documents (e.g., IEP). Educators can use the annual transition goals to teach skills students need for employment and further education after high school. Graphed results can be shared with students, educators, and family members

Save as PDF

## Transition Assessment and Goal Generator (TAGG) Profile

Student: EXAMPLE STUDENT

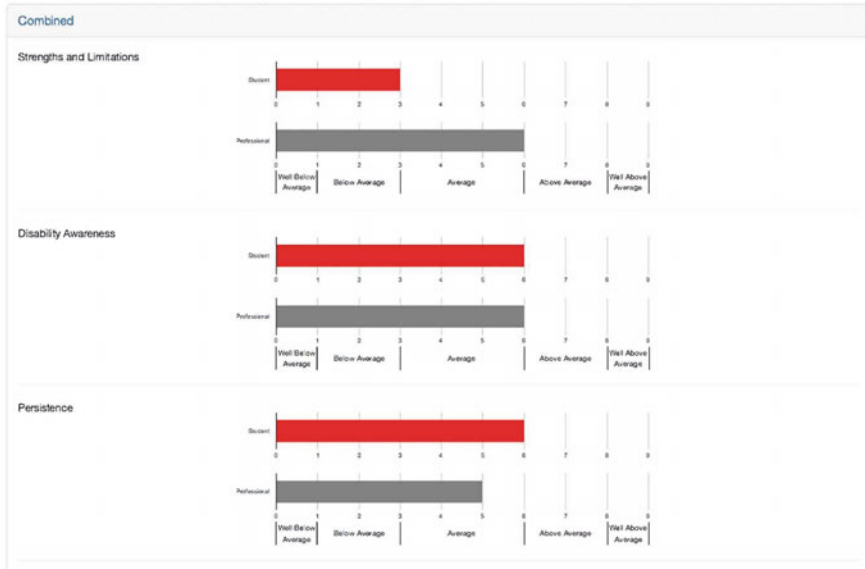
AGE: 18

GENDER: Female

Grade: 12

Date: Professional:

The Transition Assessment and Goal Generator (TAGG) measures eight areas of behaviors associated with education and employment beyond high school. The scales below depict each of the eight areas of behavior and this student's performance in those areas compared to other youth with disabilities.



**Fig. 18.1** Screenshots of TAGG profile including both the graphic representation of scaled scores and the narrative description of strengths, needs, present levels of performance, and suggested annual transition goals based on TAGG scores

to observe visually how each participant rated in each construct. The results profile assists educators in writing IEPs. Figures 18.1 and 18.2 provide example screenshots of a TAGG profile and the accompanying narrative.

### *Data-Based Decision Making*

IDEA 2004 requires personnel to write post-school and annual transition goals for student IEPs based on results from transition assessments (Flexer et al. 2013). However, researchers have found often this does not occur in practice (Landmark and Zhang 2013). The inclusion of at least one formal transition assessment is also recommended by the courts (Prince et al. 2014). TAGG enables transition professionals to use data-based decision making to improve goal setting for postsecondary student outcomes that are related to employment and further education.

**Area of Greatest Strength**

Areas of greatest strengths represent constructs with the highest scaled scores.

<b>Student</b> Persistence	<b>Professional</b> Student Involvement in the IEP
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**Areas of Relative Strength**

Areas of relative strengths represent constructs with comparatively high scores.

<b>Student</b> Disability Awareness Student Involvement in the IEP Employment	<b>Professional</b> Goal Setting and Attainment Employment Strengths and Limitations
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**Area of Greatest Need**

Areas of greatest need represent constructs with the lowest scaled scores.

<b>Student</b> Strengths and Limitations	<b>Professional</b> Persistence
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**Areas of Relative Need**

Areas of relative need represent constructs with comparatively low scores.

<b>Student</b> Support Community Interacting With Others Goal Setting and Attainment	<b>Professional</b> Support Community Interacting With Others Disability Awareness
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**Present Levels of Performance**

EXAMPLE STUDENT's abilities and experiences were assessed using the TAGG, a norm-referenced assessment with research-based items known to be associated with post-school employment and education. Compared to similar students, EXAMPLE STUDENT's overall results are above average (based on professional scores). EXAMPLE STUDENT's scores indicate greatest strengths in the areas of Persistence, and Student Involvement in the IEP. EXAMPLE STUDENT's relative strengths include Disability Awareness, Student Involvement in the IEP, Employment, Goal Setting and Attainment, and Strengths and Limitations. TAGG scores indicate the greatest needs in the areas of Strengths and Limitations, and Persistence compared to similar students and relative needs in the areas of Support Community, Interacting With Others, Goal Setting and Attainment, and Disability Awareness.

**Suggested Annual Transition Goals Ranked by Areas of Greatest Need**

**TAGG Goals**

**Strengths and Limitations (Based on Student Responses)**

Given access to technology, the student will express accurate information about three of his or her personal strengths in non-academic settings in a class presentation using digital media with 100% accuracy.

The student will write an essay describing three situations where the student used his or her strengths with 90% accuracy in the areas of grammar and context by the end of the essay writing unit.

**Persistence (Based on Professional Responses)**

After presentation instruction, the student will verbally describe three strategies to use when he or she wants to give up in school in a class presentation with 100% accuracy as measured by a teacher-made rubric.

After essay writing instruction, the student will write an essay describing three past situations where not giving up resulted in a positive outcome with 100% accuracy for content by the end of the writing unit.

**Fig. 18.2** Screenshots of TAGG profile including both the graphic representation of scaled scores and the narrative description of strengths, needs, present levels of performance, and suggested annual transition goals based on TAGG scores

**Teaching and Enhancing TAGG Skills**

To assist educators, the developers of TAGG have provided resources to indicate practical suggestions for how to teach TAGG-identified behaviors within the school environment. Five curricula and lesson packages have been prepared, and these can be downloaded free from the University of Oklahoma Zarrow Center for Learning Enrichment Web site. The *Me! Lessons for Teaching Self-Awareness and Self-Advocacy* (Cantley et al. 2010), linked to Common Core Standards, includes ten

units with corresponding lesson plans, materials, additional resources, and knowledge quizzes. The *Me! Bell Ringers* units were developed to help teachers incorporate mini self-determination lessons into regular instruction (Lingo et al. 2018). *Tying the Knot* (McConnell and Deardorff 2017) is a guide to generate additional annual transition goals from TAGG using core academic standards from the English curriculum. *The ChoiceMaker Self-Determination Lesson Package* (Martin and Marshall 1995) provides educators with information on how to teach students to set goals (for education, employment, and personal development) and also attain IEP goals. Researchers suggest using the *Self-Directed IEP* (Martin et al. 1996) to engage students actively in their own educational planning process. Finally, *Whose Future Is It Anyway?* (Wehmeyer et al. 2004) provides students opportunities to address self-awareness, problem-solving, decision-making, goal-setting, and communication skills. A descriptive list of TAGG skills linked with curriculum packages to teach specific skills can be found in Tables 18.2 and 18.3.

## Next Steps

TAGG is a valid and reliable tool to assess non-academic skills associated with post-school success for individuals with disabilities. The instrument is appropriate for high school students with disabilities who plan to be employed or attend postsecondary education. An adapted version could be appropriate for use in the Asia-Pacific region, but more research work will be needed to assess the modifications required.

Two additional TAGG assessments are in development and proposal stages. Students with very complex disabilities usually have significantly more support needs, and they require a different set of skills and experiences for life after high school. The TAGG-alternate (TAGG-A) is currently being developed to meet this need. TAGG-A will assess the further education, employment, and independent living behaviors associated with positive postsecondary outcomes for persons with significantly greater support needs. In preparing TAGG-A, researchers will replicate the development process used for the existing TAGG (Fig. 18.3).

Unfortunately, most existing assessments for students with greater support needs lack validity evidence and do not include a version specifically designed for student input. They also lack ready-to-use profiles to assist educators in planning interventions. The TAGG-A Student version will use Universal Design for Learning (UDL) principles to create items accessible to students with a range of cognitive and communication impairments. Each item will have options for (1) text to speech, (2) word highlighting, and (3) visual representation. Educators will be able to select any of these options and will find supports or scaffolds to facilitate student use. Similar to TAGG, the TAGG-A will provide a list of a student's strengths and special needs, a written summary of results, two recommended annual transition goals based on each student's greatest needs and strengths, matched with three measurable objectives and coordinated activities. All this information can be copied and pasted into the transition sections of students' IEPs.

**Table 18.2** Descriptive list of TAGG skills linked with curriculum packages

TAGG construct	Curriculum lesson package
Strengths and limitations	<ol style="list-style-type: none"> <li>1. Me! lesson for teaching self-awareness and self-advocacy</li> <li>2. Self-directed IEP</li> <li>3. Tying the knot</li> <li>4. Whose future is it anyway</li> </ol>
Disability awareness	<ol style="list-style-type: none"> <li>1. Me! lesson for teaching self-awareness and self-advocacy</li> <li>2. Self-directed IEP</li> <li>3. Tying the knot</li> <li>4. Whose future is it anyway</li> </ol>
Persistence	<ol style="list-style-type: none"> <li>1. Take action (included in ChoiceMaker)</li> <li>2. Tying the knot</li> <li>3. Whose future is it anyway</li> </ol>
Interacting with others	<ol style="list-style-type: none"> <li>1. Me! lesson for teaching self-awareness and self-advocacy</li> <li>2. Self-directed IEP</li> <li>3. Tying the knot</li> <li>4. Whose future is it anyway</li> </ol>
Goal setting and attainment	<ol style="list-style-type: none"> <li>1. Take action (included in ChoiceMaker)</li> <li>2. Tying the knot</li> <li>3. Whose future is it anyway</li> </ol>
Employment	<ol style="list-style-type: none"> <li>1. Tying the knot</li> <li>2. Whose future is it anyway</li> </ol>
Student involvement in IEP	<ol style="list-style-type: none"> <li>1. Self-directed IEP</li> <li>2. Tying the knot</li> <li>3. Whose future is it anyway</li> </ol>
Support community	<ol style="list-style-type: none"> <li>1. Self-directed IEP</li> <li>2. Tying the knot</li> <li>3. Whose future is it anyway</li> </ol>

Additionally, a TAGG-middle school (TAGG-MS) has been proposed specifically to assess middle school students (ages ranging from 11 to 14 across grades 6, 7, and 8) who have been diagnosed with a mild to moderate disability and who desire to be in open employment or attend further education following high school. Federal law requires using transition assessments to identify student strengths, needs, and interests for transition planning at age 16. In reality, more than half of states in the US begin transition planning earlier than this to ensure students with disabilities have sufficient opportunities to acquire the skills for life after high school (Suk et al. 2018). TAGG-MS specifically supports states who require transition planning to begin prior to high school, and it will assess skills and experiences research has identified as being associated with positive postsecondary employment outcomes of individuals

**Table 18.3** Descriptive list of curriculum packages

Lesson package	Details
Me! lessons for teaching self-awareness and self-advocacy	<ul style="list-style-type: none"> <li>• Includes 10 units—getting started, learning about special education, understanding my IEP, understanding my rights and responsibilities, improving my communication skills, increasing my self-awareness, advocating for my needs in high school, advocating for my needs after high school, developing my resources, and assessing my progress</li> <li>• Takes approximately 20 h to teach entire package</li> <li>• Can be taught in English, Social Studies, Transition, or Study Skills courses</li> <li>• Free at <a href="https://zarrowcenter.ou.edu">https://zarrowcenter.ou.edu</a></li> </ul>
ChoiceMaker self-determination (take action and choosing employment goals)	<ul style="list-style-type: none"> <li>• Includes descriptions, student lessons, reproducible resources, and presentations for the areas of choosing goals for education, employment, and personal, and for attaining IEP goals</li> <li>• Specific teaching objectives are provided for educators</li> <li>• Free at <a href="https://zarrowcenter.ou.edu">https://zarrowcenter.ou.edu</a></li> </ul>
Self-directed IEP	<ul style="list-style-type: none"> <li>• Provides step-by-step procedures for conducting an IEP meeting, including (1) state the purpose, (2) introduce the team, (3) review past goals, (4) ask for feedback, (5) state school and transition goals, (6) ask questions, (7) deal with differences in opinions, (8) state support needs, (9) summarize goals, (10) close the meeting, and (11) work on goals all year</li> <li>• Free at <a href="https://zarrowcenter.ou.edu">https://zarrowcenter.ou.edu</a></li> </ul>
Tying the knot	<ul style="list-style-type: none"> <li>• Depicts eight English Standards, including (1) speaking and listening, (2) reading and writing, (3) critical reading and writing, (4) vocabulary, (5) language, (6) researcher, (7) multimodal literacies, and (8) independent reading and writing</li> <li>• Provides sample annual transition goals (most to least complex), which are connected to TAGG behaviors</li> <li>• Free at <a href="https://zarrowcenter.ou.edu">https://zarrowcenter.ou.edu</a></li> </ul>
Whose future is it anyway?	<ul style="list-style-type: none"> <li>• Includes 36 lessons in six sections, including (1) getting to know you; (2) making decisions; (3) how to get what you need; (4) goals, objectives, and the future; (5) communicating; (6) thank you honorable chairperson</li> <li>• Emphasizes student preferences, needs, and interests</li> <li>• Free at <a href="https://zarrowcenter.ou.edu">https://zarrowcenter.ou.edu</a></li> </ul>



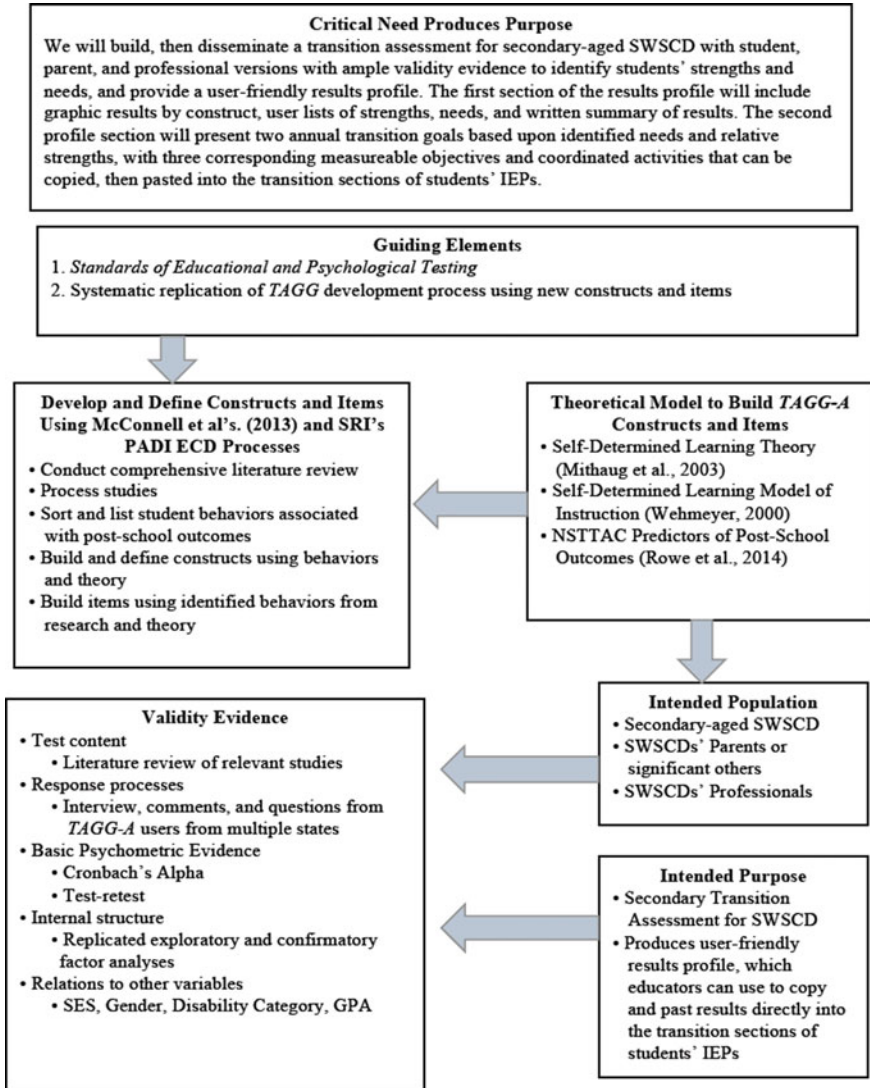


Fig. 18.3 Screenshots of TAGG-A assessment framework

with a variety of disabilities. TAGG-MS will have Professional, Student, and Family versions and will produce profiles containing results to facilitate transition planning discussions and writing students' IEPs.

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# Chapter 19

## Utilising Screen Reader to Support the Transitions of Learners with Visual Impairment



Kevin Shing-Chi Chan, Allan H. K. Yuen, Patcy P. S. Yeung, and Fay Wong

**Abstract** A two-year longitudinal study has been conducted to explore the utilising factors of people with visual impairment using screen readers. A mixed-method research design was used; both quantitative and qualitative data were collected to explore the utilising factors. A framework from previous technology acceptance studies was adapted to explore the factors affecting the frequency of using screen readers among 38 adults and 22 students with visual impairment. The results from questionnaires and focus group interviews converged showing that perceived ease of use among adults and continuance intention among students affect the use of screen readers. These results revealed the transition of access to information technology for daily activities among adults and students, and the school learning experience among students. The results also informed further improvement of screen readers to facilitate the effective use of screen readers among learners with visual impairment.

**Keywords** Visual impairment · Screen reader · Technology acceptance

### Screen Readers

Screen readers have been an important assistive technology (AT) for people with visual impairment to use computers (Evans and Blenkhorm 2008). Screen readers are an umbrella term for a variety of AT to assist people with visual impairment to access computers, including text-to-speech software programs and screen-to-Braille

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devices (Evans and Blenkhorn 2008). Commonly used screen readers include NVDA on Windows OS, VoiceOver on MacOS, VoiceOver on iOS and Talkback on Samsung Android. A screen reader can “give a blind person access to, and control over, a computer system” (Evans and Blenkhorn 2008, p. 478). Screen readers have been used widely by people with visual impairment (Hong Kong Blind Union 2014) and are necessary adaptive equipment in special schools for students with visual impairment (Ebenezer School 2017).

Prior to the popularity of screen readers, people with visual impairment relied on Braille for learning and communicating. Due to the development of information technology, there is a decreasing trend of the use of Braille among people with visual impairment (National Federation of the Blind 2009). Evans and Blenkhorn (2008) mentioned the low-level Braille literacy and suggested that speech-to-text screen readers have become a better solution for people with visual impairment.

The development of screen readers allows people with visual impairment to use a computer and nowadays, more importantly, to use a smartphone. Besides reading out textual materials on the screens, screen readers also improve the users’ access to the functions of computers and smartphones. For example, screen readers for computers allow users to use various keyboard shortcuts to navigate on a computer screen (NV Access Limited 2018). Screen readers for smartphones let the users use various finger gestures, such as finger swipe and swipe direction, for text messaging, Web surfing and book reading (Apple Inc. 2018; SAMSUNG 2018).

Despite the increasing use of screen readers among people with visual impairment, there is a lack of research examining the factors affecting the use of screen readers. Therefore, the current study aims to reveal the utilising factors in using screen readers and to explore the supported transition in daily communication and school learning experience by using screen readers among people with visual impairment.

## Technology Acceptance Studies

Davis (1989) designed the technology acceptance model (TAM), which was first introduced among economic research to study the factors of users’ willingness to use computer technology that can enhance job performance. Previous studies have shown that the TAM is useful in predicting the probability of the use of information system (Legris et al. 2003; Ma et al. 2005). The frequency, perceived usefulness and perceived ease of use of computer programs have been found to be positively correlated with users’ acceptance (Davis 1989). Davis et al. (1989) examined the predictive powers of perceived usefulness and perceived ease of use on the frequency of using a computer program. The results showed that perceived usefulness and perceived ease of use explained over 60% and 20% of the variance, respectively.

Further studies on technology acceptance have found that in addition to perceived usefulness and perceived ease of use, satisfaction and attitude are significant predictors of continuance intention and perceived effectiveness of computer programs

(Chau 1996; Teo et al. 2008; Venkatesh 2000), which suggested a more comprehensive framework in studying about technology acceptance of new information technology.

The technology acceptance framework reveals the factors why individuals accept or reject new information technology and factors that predict the continuance intention (Teo et al. 2008). The technology acceptance framework matched the aims of the current study, which explored the utilising factors affecting the use of screen readers and the supported transition of students. Therefore, we achieved the stated aims by adapting the technology acceptance framework as the research framework for the current study.

## **Development of Screen Readers for Individuals with Visual Impairment in Hong Kong**

The Census and Statistics Department (2014) reported that 2.4% of the Hong Kong population were presented with visual impairment in 2014. As a result of the design purpose of the screen readers, a special school for visual impairment in Hong Kong, Ebenezer School, has promoted the screen readers to all the students (Ebenezer School 2017). Besides students with visual impairment, the screen readers have also been promoted to adults with visual impairment in Hong Kong. Non-government organisations (NGOs) in Hong Kong, for example, the Hong Kong Blind Union, provide training courses for adults with visual impairment to learn using screen readers to improve their daily life (Hong Kong Blind Union 2014).

VoiceOver on Apple devices and Voice Assistant on Samsung Android support Cantonese natively. However, NVDA on Windows OS was originally designed for English-speaking people and can only read out English textual materials. The Cantonese version of NVDA was further developed to facilitate the use of screen readers for people with visual impairment in Hong Kong (Hong Kong Blind Union 2014). Therefore, people with visual impairment in Hong Kong are nowadays able to access screen readers on the commonly used computer OS (i.e. Windows OS and MacOS) and smartphone OS (i.e. iOS and Android).

Although the pros and cons of using various AT among people with visual impairment have been extensively examined in past research (see, e.g., Alper and Raharini-rina 2006; Brown 1992; Hersh and Johnson 2008), there is a paucity of published studies on the use of screen readers. The current study aims to fill this literature gap by examining the utilising factors, the effectiveness and the barriers of using screen readers among individuals with visual impairment in Hong Kong. For studying the utilising factors, we adopted the technology acceptance framework with five domains, including perceived usefulness, perceived ease of use, attitude, satisfaction and continuance intention (Chau 1996; Davis 1989; Davis et al. 1989; Lee 2010; Legris et al. 2003; Ma et al. 2005; Park 2009; Teo et al. 2008; Venkatesh 2000; Venkatesh and Davis 2000). In addition, we examined the relationships between

the five technology acceptance domains and the frequency of using screen readers. Moreover, the transition of students from limited to extended access to information technology for their school learning and daily communication by using screen readers on computers and smartphones was explored. Furthermore, the factors that hinder people with visual impairment from using screen readers were investigated.

## Research Questions and Hypotheses

In accordance with the stated aims, five research questions were formed:

1. How do the factors proposed by the technology acceptance studies, including perceived usefulness, perceived ease of use, attitude, satisfaction and continuance intention, affect the frequency of using screen readers?
2. Can screen readers improve the daily activities (e.g. entertainment and communication) for people with visual impairment?
3. Can screen readers improve the school learning experience for students with visual impairment?
4. Can screen readers support the students' transition in using information technology?
5. How to improve the effectiveness of using screen readers?

Based on the stated research questions, hypotheses were also formed:

1. The technology acceptance domains can significantly predict the frequency of using screen readers;
2. Screen readers can improve the daily activities for people with visual impairment;
3. Screen readers can improve the school learning experience for students with visual impairment and can support the students' transition about using information technology.

## Method

The findings of time point 1 and time point 2 from the two-year study are reported in this chapter. Time point 1 was conducted in April 2018, and time point 2 was conducted in October 2018. The study adopted a concurrent triangulation mixed-method research design. Quantitative data were collected by questionnaires, and focus group interviews were conducted to collect qualitative data. The findings from the quantitative and qualitative data were used to reveal the factors affecting the use of screen readers and the transition from limited to extended access to information technology among people with visual impairment.



## ***Participants***

At time point 1, there were 38 adults (female = 23, mean age = 59.45) with visual impairment and 22 students (female = 13, mean age = 12.83) with visual impairment, who were studying in senior primary to junior secondary school. Eight adults dropped-out at time point 2, which was 21% of the sample. All participants completed a set of questionnaires at both time points. At time point 2, in addition to the questionnaire, focus groups were formed among both adults and students to further explore the use of screen readers.

Considering the characteristic of the participants, a verbal consent rather than typical written consent was used. A standard consent script was used to explain the research purpose, rights of participants, benefits and other details of the study. Before commencing any research procedure, the researcher read out the whole consent script and the participants required to answer agree or disagree to indicate their preference about participating in the current study. The verbal consent was voice-recorded according to the approved ethics protocol.

## ***Questionnaires***

Questionnaires were constructed based on the past studies on technology acceptance (Davis 1989; Davis et al. 1989; Lee 2010; Venkatesh and Davis 2000). The questionnaires were divided into five domains, including perceived usefulness (PU), perceived ease of use (PEU), attitude (A), satisfaction (S) and continuance intention (CI). Participants were required to rate each statement on a 4-point Likert scale. The frequency of the use of screen readers (FRE) was included as an outcome variable, and the participants were required to indicate their frequency in using various computer software and screen readers on a 5-point Likert scale. The whole questionnaire consisted of 59 questions and took around 30 min to complete. Due to the visual impairment and the variation of ability in using computers, a trained researcher was assigned to read out items on the questionnaire to each participant verbally. All experimental procedures were voice-recorded for analysis and data checking.

## ***Focus Group Interview***

A semi-structured design was implemented for the focus group interview. Some questions were constructed to guide the interview, with ad hoc questions being added for further discussion on a particular topic. The questions were based on the mentioned five domains and the daily usage of screen readers. The interview session was held for 1 h. The interview began with a short self-introduction of the participants, after which the researcher stated the constructed question and the participants began the

discussion. Two focus groups were held, one with five adult participants and another one with six student participants. Each interview session was voice-recorded for transcription and data analysis.

## Results

### *Time Point 1*

At time point 1, only a questionnaire examining users' acceptance of screen readers was used. To address the issue of missing values, total scores (TS) were converted to percentage ( $P$ ) with the formula ( $P = TS/(NQ * HM)$ ), where NQ is the number of answered questions and HM is the highest mark of those questions. For example, a total of 5 questions were in PU domain with the highest score of 4 for each question, and a participant answered 3 questions with the scores: 2, 2 and 3. The TS would be 7 and the  $P$  would be 0.58. Tables 19.1 and 19.2 show the descriptive statistics of the questionnaire among adults and students, respectively. All measures had a high-reliability index,  $0.72 \leq \alpha \leq 0.96$ , and good normal distribution, with both kurtosis and skewness being less than 3.

**Table 19.1** Descriptive statistics of questionnaire among adults

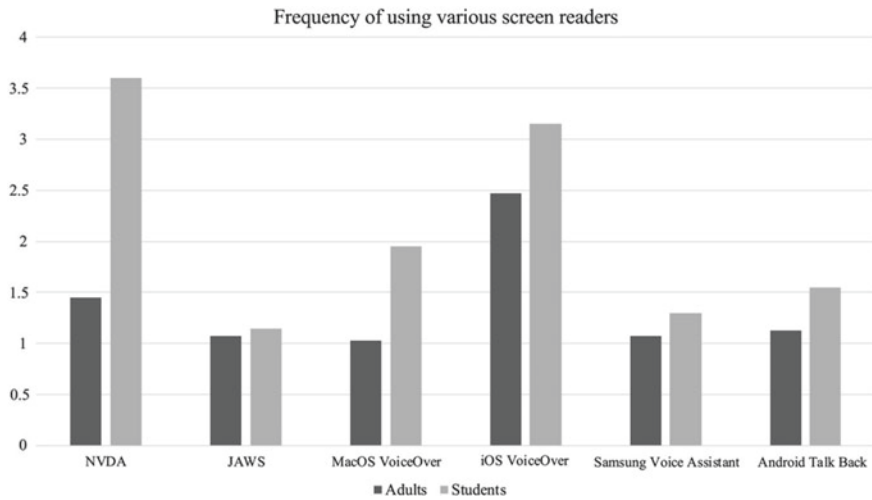
	<i>N</i>	<i>M</i>	SD	Max.	Min.	$\alpha$	Skewness	Kurtosis
PU	38	0.79	0.19	1.00	0.25	0.92	-1.27	1.95
PEU	36	0.56	0.19	0.88	0.6	0.87	-0.47	0.0
A	38	0.71	0.27	1.00	0.6	0.87	-1.08	0.45
S	37	0.64	0.21	0.93	0.8	0.93	-1.09	0.60
CI	37	0.70	0.24	1.00	0.13	0.83	-0.76	-0.11

Note PU Perceived usefulness; PEU Perceived ease of use; A Attitude; S Satisfaction; CI Continuance intention

**Table 19.2** Descriptive statistics of questionnaire and Chinese linguistic measures among students

	<i>N</i>	<i>M</i>	SD	Max.	Min.	$\alpha$	Skewness	Kurtosis
PU	21	0.76	0.17	1.00	0.35	0.84	-0.54	0.14
PEU	21	0.70	0.17	1.00	0.31	0.87	-0.28	0.28
A	21	0.69	0.15	1.00	0.44	0.72	0.44	-0.04
S	21	0.70	0.14	0.98	0.41	0.87	0.36	0.37
CI	21	0.68	0.20	1.00	0.38	0.96	-0.11	-0.90

Note PU Perceived usefulness; PEU Perceived ease of use; A Attitude; S Satisfaction; CI Continuance intention



**Fig. 19.1** Histogram of the frequency of using screen readers among adults and students

Figure 19.1 shows the frequency of using screen readers among adults and students. Results of the independent samples t-test indicated that there were significant differences in the frequency of using screen readers between adults and students, ( $t(24.91) = 4.90, p < 0.01$ ). The most frequently used screen reader among adults was VoiceOver on iOS. However, VoiceOver on iOS was only the second most frequently used screen reader among students, with NVDA on Windows OS being the most commonly used screen reader among this participant group.

In addition, Tables 19.3 and 19.4 show the results of correlations among adults and students, respectively. The technology acceptance measures were significantly correlated among adult participants, except that PEU was not significantly correlated with CI ( $r = 0.30$ ). In contrast, only PU-S ( $r = 0.67, p < 0.1$ ), A-S ( $r = 0.65, p < 0.1$ ) and S-CI ( $r = 0.49, p < 0.5$ ) showed significant correlations among student participants. The correlation showed different factors related to the frequency of using screen readers between adults and students.

**Table 19.3** Correlations of technology acceptance measures among adults with age controlled at time point 1

	PU	PEU	A	S
PEU	0.50**			
A	0.65***	0.58***		
S	0.54**	0.70***	0.80***	
CI	0.50**	0.30	0.58***	0.43*

\* $p < 0.5$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

Note PU Perceived usefulness; PEU Perceived ease of use; A Attitude; S Satisfaction; CI Continuance intention

**Table 19.4** Correlations of technology acceptance measures among students with age controlled at time point 1

	PU	PEU	A	S
PEU	0.33			
A	0.45	0.30		
S	0.67**	0.26	0.65**	
CI	0.46	0.5	0.24	0.49*

\* $p < 0.5$ , \*\* $p < 0.01$

Note PU Perceived usefulness; PEU Perceived ease of use; A Attitude; S Satisfaction; CI Continuance intention

**Table 19.5** Regression analysis on FRE among adults with age controlled

Model		$R^2$	$F$	$\beta$	$t$
1		0.13	4.74*		
	Age			-0.35	-2.18*
2		0.49	4.51**		
	Age			-0.25	-1.76
	PU			0.16	0.87
	PEU			0.54	2.79**
	A			-0.17	-0.66
	S			0.12	0.46
	CI			-0.2	-0.13

\* $p < 0.5$ , \*\* $p < 0.01$

Note PU Perceived usefulness; PEU Perceived ease of use; A Attitude; S Satisfaction; CI Continuance intention

Regression analysis was conducted to examine the prediction of the frequency of using screen readers by the technology acceptance measures. Tables 19.5 and 19.6 show the regression analysis results among adults and students, respectively.

In the regression models for adults, age was entered in first step and followed by the technology acceptance measures in the second step. In the regression model for students, age was not entered into the regression model as a control variable because the age range of the students was limited. The regression analysis results showed that only PEU significantly predicted the frequency of using screen readers among adults ( $F(6, 28) = 4.51, p < 0.1, R^2 = 0.49$ ), whereas only CI significantly predicted the frequency of using screen readers among students ( $F(5, 14) = 30.1, p < 0.5, R^2 = 0.52$ ). These findings showed that different underlying factors affect the use of screen readers between adults and students.

**Table 19.6** Regression analysis on FRE among students

	$R^2$	$F$	$\beta$	$t$
	0.63	4.43*		
PU			-0.14	-0.59
PEU			0.11	0.56
A			-0.5	-0.19
S			0.30	1.10
CI			0.71	3.38**

\* $p < 0.5$ , \*\* $p < 0.01$

Note PU Perceived usefulness; PEU Perceived ease of use; A Attitude; S Satisfaction; CI Continuance intention

### Time Point 2

Tables 19.7 and 19.8 show correlations of technology acceptance measures among adults and students at time point 2, respectively. Most measures were significantly correlated, except for PU-PEU ( $r = 0.41$ ), PEU-CI ( $r = 0.27$ ) and PEU-A ( $r = 0.43$ ) among adults and PU-CI ( $r = 0.46$ ) among students. The inconsistent findings among adult participants as compared to time point 1 were possibly due

**Table 19.7** Correlations of technology acceptance measures among adults with age controlled at time point 2

	PU	PEU	A	S
PEU	0.41			
A	0.84***	0.43		
S	0.76***	0.53*	0.92***	
CI	0.68**	0.27	0.80***	0.70**

\* $p < 0.5$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

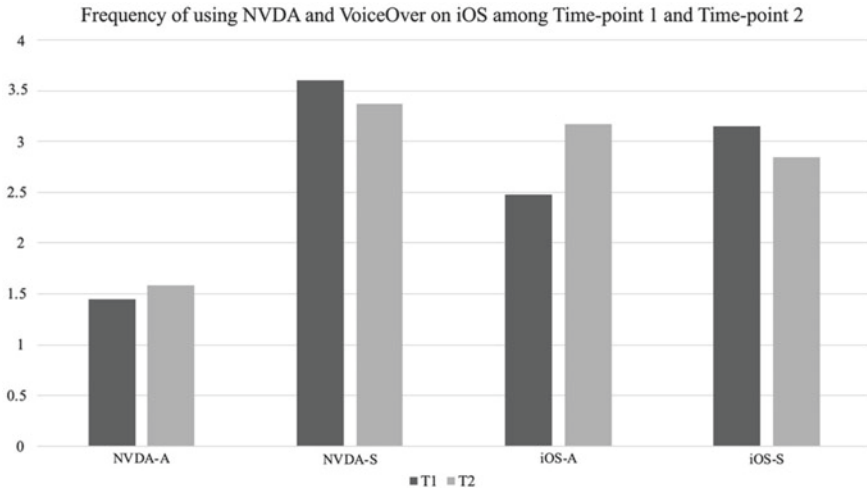
Note PU Perceived usefulness; PEU Perceived ease of use; A Attitude; S Satisfaction; CI Continuance intention

**Table 19.8** Correlations of technology acceptance measures among students with age controlled at time point 2

	PU	PEU	A	S
PEU	0.77***			
A	0.79***	0.68**		
S	0.84***	0.62**	0.75**	
CI	0.46	0.58*	0.58*	0.58*

\* $p < 0.5$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

Note PU Perceived usefulness; PEU Perceived ease of use; A Attitude; S Satisfaction; CI Continuance intention



**Fig. 19.2** Histogram of the frequency of using NVDA and VoiceOver on iOS among time point 1 and time point 2. *Note* NVDA-A—Use of NVDA among adults; NVDA-S—Use of NVDA among students; iOS-A—Use of VoiceOver on iOS among adults; iOS-S—Use of VoiceOver on iOS among students

to the drop-out of participants. At the same time, there was a considerable difference about the correlation among student participants. In contrast to time point 1, only PU-A, PU-S, A-S and S-CI showed significant correlations. The difference of correlation among students between time point 1 and time point 2 may be due to other external factors, which affect the perception of screen readers among student participants.

Figure 19.2 shows the mean frequency between time point 1 and time point 2 of using NVDA on Windows OS and VoiceOver on iOS, which were the most commonly used screen readers among adult and student participants. Results of the paired samples t-test indicated that there were significant differences in the frequency of using screen readers among adults between time point 1 and time point 2, ( $t(18) = 4.53, p < 0.01$ ). However, there were no significant differences among students, ( $t(19) = 0.0, p > 0.5$ ). The results indicated that there was a trend where adults used screen readers more frequently at time point 2 for both NVDA and VoiceOver, while students used almost the same frequency of screen readers.

### ***Focus Group Interview***

The two focus group interviews were voice-recorded and transcribed for content analysis. Content analysis was used to analyse keywords in the transcription, with keywords being summarised into different themes according to the technology acceptance domains and the usage of screen readers. The most mentioned keyword category

from adult participants aligned with the results from questionnaires, which was the ease of use of screen readers. The most mentioned words about the ease of use of screen readers were “difficult” and “do not know”. The results suggested that users of screen readers were experiencing a difficult situation when using screen readers. The participants shared that they felt frustrated in mastering the command to use the screen readers, and they often did not know a particular command to use a function of the screen readers.

Further, the keywords also revealed the users’ reaction to screen readers when encountering difficulties. The most mentioned keyword about the solution in dealing with the difficulties was “by look at”. Some participants with limited “seeing ability” still relied on their limited vision when using computers or smartphones although they believed that screen readers are useful. As a result, this reliance hindered the learning of screen readers among people with limited vision. Moreover, some participants mentioned that sometimes there was no voice-feedback from the screen readers. As many people with visual impairment rely on the voice-feedback when using smartphones or computers, the lack of or poorly functioning voice-feedback from screen readers presents a barrier for the usage of this AT.

On the other hand, students expressed different opinions about the use of screen readers. They also discussed the ease of use of the screen readers, and unlike adults, no student mentioned any keyword about difficulties. In contrast, they mentioned “very easy to use”, which was opposite to the feelings the adults expressed. The students were also asked to explain the ways to deal with difficulties with screen readers. Notably, the students explained that they can solve the difficulties by themselves, which suggests that students can be independent users of screen readers. In addition, the voice-feedback issue among adult participants was discussed in the student group. No students reported that they experienced similar difficulties. However, they mentioned that the voice-feedback from VoiceOver on iPhone was better than Talkback on Android. Moreover, the students mentioned that it was not necessary to be supported by or to support their peers to use screen readers, suggesting that they were self-motivated to explore and master the use of screen readers.

Students also discussed their learning experience before using screen readers in junior primary grades and the difficulties without screen readers in the classroom. For example, they showed concern about the thickness of the Braille book: “thick like a dictionary”. A Braille textbook is usually 3–4 times thicker than a typical printed book. Before the use of screen readers in classroom learning, they had to bring more than one “dictionary” to school every day. Moreover, a Braille typewriter was necessary for note taking and classroom interaction. They expressed that the Braille typewriter was particularly annoying in the classroom, due to the operating noise. Because all students typed almost at the same time, the classroom was full of the sound produced in operating the Braille typewriters. It followed that the classroom was so noisy that they could not hear the teachers clearly.

The commonly used applications on screen readers were also explored. The variety of applications used among students was broader than adults. Adult participants used screen readers for information on the daily news, weather and travel routes, and for the

optical character recognition (OCR) function, which transfers images to computer-readable texts. In addition to these applications, students also used screen readers for their school learning and entertainment, for example, book reading, movie watching and gaming. Indeed, they mentioned that screen readers were necessary for almost every lesson and examination in school. The results suggest that students can make use of screen readers to improve their daily activities.

Participants in both focus groups provided some suggestions for improving the function of the screen readers. Adult participants suggested that more active voice-feedbacks and more instructions of the use screen readers were necessary. Student participants mainly focused on the applications on screen readers; they mentioned that although screen readers per se were useful, applications that supported screen readers were particularly limited. For instance, they mentioned that so far only one online game supported the use of screen readers, which limited their entertainment activities. The students expressed that software developers could pay more attention about the support of screen readers, which could enhance their daily life. Moreover, student participants mentioned the need for particular improvement on Samsung screen readers. They suggested that a similar function to Siri on Apple devices was necessary to facilitate their use of screen readers.

## Discussion

The results from the focus group interviews explained the difference of the frequency use of different screen readers among adults and students. The adult focus group spent most of the time discussing their experiences of screen readers on mobile OS, including both Android Talkback and VoiceOver on iPhone. In contrast, the student group discussed the use of screen readers on both computer OS and mobile OS and commented that only NVDA was used on computer OS and that the major screen reader on mobile OS was VoiceOver on iPhone. These differences that adults used screen readers mainly on mobile OS while students used screen readers on both computer and mobile OS were also supported by the quantitative results from the questionnaires.

## Utilising Factors Affecting the Frequency of Using Screen Readers

According to Fig. 19.1, students used screen readers more frequently than adults for both mobile and computer OS. At the same time, NVDA on Windows OS was generally used more frequently than VoiceOver on MacOS. Among student participants, the use of screen readers on computer OS was higher than on mobile OS. However,



adult participants showed opposite results, with the use of screen readers on mobile OS being higher than on computer OS.

At time point 1, regression analysis results showed different utilising factors among adults and students. Among students, the significant predictor of the frequency of using screen readers was CI. Among adults, the significant predictor of the frequency of using screen readers was PEU. The insignificant prediction of PEU among students was probably due to the longer duration of the use of screen readers. Most of the adult participants have been using screen readers for around 6 months. However, student participants have used screen readers starting from junior primary for their daily activities, which was around 3 years. Therefore, students had more experience with the solution of solving difficulties in using screen readers. Instead of PEU, CI, which is about the support from family, school and friends, was important to support students in using screen readers.

The results from focus group interview aligned with the quantitative data, which suggested different utilising factors between adults and students. As mentioned previously, the ease of use of screen readers was the single significant predictor of the frequency of the use of screen readers among adult participants. Keywords from focus group interviews supported the findings from regression analysis, with the adults frequently emphasising that the screen readers were difficult to use and that it took a particularly long time to become familiar with how to use screen readers. In fact, these difficulties hindered the learning of how to use screen readers. As mentioned previously, adults expressed their difficulties when using screen readers, including no voice-feedback, understanding of commands and use of finger gestures. Their solution for the difficulties was to use screen readers with limited vision or instead not use smartphones, which hindered the learning and the use of screen readers among adults. Different findings were observed among student participants. The students believed that screen readers were useful and necessary for their schoolwork and daily activities. Moreover, difficulties reported by adults were not mentioned by students. Students expressed that they could not recall any memories about the difficulties and claimed that difficulties are possible to be resolved by themselves and would not be an issue in the use of screen readers.

## **Transition Support by Using Screen Readers**

The screen readers support the transition of access to information technology among individuals with visual impairment. Both adult and student participants noted the differences in their experience in leisure activities and communication before and after the use of screen readers. Furthermore, students expressed the usefulness of screen readers in their school life.

### ***Transition of Access to Information Technology by Using Screen Readers for School Learning***

The students reported that NVDA was mainly used for school learning activities, including classroom learning, examinations and homework. Apart from school learning activities, students mentioned that VoiceOver on iPhone was preferred to NVDA. They expressed that VoiceOver on iPhone was more stable and had more usage than NVDA on Windows OS. Although they thought VoiceOver on MacOS would be a good alternative of NVDA on Windows OS, Macintosh computers are generally more expensive than Windows computers, and only one Macintosh computer was provided by the school. Therefore, they decided to use NVDA on Windows OS rather than using VoiceOver on MacOS.

Moreover, students expressed the usefulness of screen readers in school. Screen readers were necessary for almost every lesson including Chinese, English and general education. Additionally, screen readers were necessary for their extra-circular activities. For example, the screen reader was necessary for the reading session every morning. Students' extensive exposure to using screen readers compared to adults might allow them to master the use of screen readers more easily.

As discussed, screen readers were useful in most of the lessons. Students reported that they learnt Braille and could only use Braille in learning in classrooms when they were in junior primary. Implementation of screen readers into classrooms began from the first year of senior primary, which marked the transition from using Braille only to mainly using screen readers for classroom learning. As mentioned previously, the use of screen readers enabled students to have a more enjoyable school life. For example, students could have a lighter school bag, take notes easier and have a quieter classroom. These examples provide evidence of how school learning can be enhanced by the transition from Braille to screen readers.

### ***Transition of Access to Information Technology by Using Screen Readers for Daily Activities***

The enhancement in daily activities facilitated by the use of screen readers is also evident in the interview results. Adult participants mentioned that screen readers allowed them to access information which they are interested in (e.g. daily news, weather and travel routes) and more importantly instant messaging for communication with their friends and family. Although they can still access information and communicate by other means (e.g. radio and phone calls), they believed that it would be better to learn using screen readers to access the information and to communicate given the extensive use of information technology in every sphere of life. Similarly, students expressed that screen readers allowed them to have a more convenient daily life.

In addition, the transition of access to information technology by using screen readers for daily activities also improved individuals' engagement in leisure activities. Both adults and students expressed that using screen readers allowed them to have more leisure activities such as movie watching. Prior to using screen readers, their leisure activities were limited to radio listening. Screen readers allowed them to watch movies over the Internet (e.g. YouTube). Students also shared that screen readers allowed them to play online computer game over the Internet, which increased the choice of leisure activities. Screen readers contributed a more enjoyable and fruitful daily life.

## **Improvement Over Screen Readers Utilisation**

The major suggestion from adult participants was about the design of screen readers. They desired an easier and a more user-friendly design; for example, more voice-feedback and easier finger gestures in using screen readers were recommended. At the same time, more training workshops and technical support from NGOs would facilitate their use of screen readers. On the other hand, technical support seemed unnecessary among students. As mentioned, students were self-motivated to use screen readers and were able to solve difficulties by themselves. Moreover, since students had more experience in using applications on smartphones by screen readers, more concrete suggestions on the application improvement among screen readers were provided. Students mentioned the compatibility of screen readers, as until now only a limited number of applications on smartphones and on computers are compatible with screen readers, which limited the variety of application usage among people with visual impairment. Therefore, improving the compatibility of screen readers would enhance the utility of screen readers in their daily activities.

Despite the difficulties of using screen readers among adults, the mean frequency of using screen readers increased at time point 2 (see Fig. 19.1). The results suggested that adult participants may have a positive attitude towards screen readers, which increased their frequency of using screen readers regardless of the encountered difficulties. Adults shared their feeling towards the use of screen readers in the interview. They expressed that although extra effort was required to use screen readers, they believed that in the long term, screen readers could benefit their daily activities. It motivated them to attend the workshops regularly and to attempt various functions on screen readers. As a result, it increased their frequency of using screen readers at time point 2.

## **Further Research and Limitation**

The current study is the first attempt in exploring the factors affecting the use of screen readers among people with visual impairment and the enhancement of their

daily activities and school learning experience. Previous studies have been rarely conducted in this research area. The current study fills the literature gap that the technology acceptance concept is not only applicable to software programs for typical users, but also applicable to software programs for people with visual impairment.

Practically, the current study revealed the transition from limited to extended access to information technology in daily activities and school learning experience among adults and students with visual impairment. The findings supported the effectiveness of the use of screen readers in school settings and in other aspects of life among individuals with visual impairment. Furthermore, the current study explored the difficulties and improvement of screen readers, which contributes to the further development of screen readers.

However, due to the limited number of potential participants, the current study could not recruit a baseline group of participants to examine the effectiveness of the screen readers in a quantitative perspective. Although similar findings are yielded in the current study in the qualitative part, quantitative results could provide a more comprehensive understanding of the effectiveness of screen readers. Therefore, future studies can consider recruiting a group of participants who do not have any experience in using screen readers. With proper training and support on the use of screen readers, the effectiveness of the use of screen readers can be observed.

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# Chapter 20

## Life Design, Inclusion, and Sustainable Development: Constructs, Dimensions and New Instruments to Stimulate a Quality Future Design for All



Sara Santilli, Ilaria di Maggio, Maria Cristina Ginevra, Laura Nota, and Salvatore Soresi

**Abstract** The world in which we are living is considered at high risk because of social, economic, and environmental crises that are much more worrying and pervasive than those of the past century, such as natural disasters, ecological uncertainty, public health crises, extreme social inequity, and rising violence. In connection therewith, career guidance activity should support people to think about their future and to achieve by 2030, of at least some of the 17 goals that the UN has proposed to the world in the 2030 Agenda for sustainable development. On the basis of these premises, the chapter reflects on a series of elements and resources that can affect career planning and presents examples of career intervention activities in an inclusive perspective to promote these constructs in youth with and without disabilities and vulnerabilities.

**Keywords** Sustainable development · Future challenges · 2030 Agenda · Career intervention

### Introduction

The present and the near future have such rates of uncertainty, change, and complexity that often have a negative impact also on the health and well-being of individuals. The

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changes that we can observe from diverse perspectives can no longer be interpreted as exceptional or ephemeral events, and they are no longer “one-off” as they were in the past. If, on the one hand, they are bringing unexpected opportunities for some, on the other they create discomfort and exclusions for many, even for the middle class, who in the past and in many countries felt, all things considered, protected, and safeguarded.

This chapter intends to look at some conditions that seem to characterize our times in order to reflect on the elements that can affect career planning, and then to present examples of career intervention activities in an inclusive perspective that may favor the construction of a professional life that pays attention to the self and to life contexts.

## Some Threats and Challenges Typical of Our Times

Reflecting on the future is an interweaving of phenomena that interact not in a linear, but rather in a circular and dynamic way (Nota and Soresi 2018). We are now going to examine some conditions that characterize our Western life contexts.

***Socio-economic policies and inequalities*** Some authors (e.g., Ginevra et al. 2018; Hooley et al. 2018) maintain that the last few decades have witnessed an ideological drift, a neo-liberalistic view of reality that has led to emphasize some economic and social policies. The idea has taken hold that a person’s well-being is related to a series of objects, to their functionality, to their consumption (Watkins et al. 2019). The aim of neo-liberalism was to emphasize the role of property, free markets, free exchange, and to revisit the meaningful role of the state, which should be considered an institution that lays the cultural foundations, through schools and universities, and the financial foundations, through lower taxes on incomes and riches, to favor all that. Globalization has accentuated change thanks to the free movement of capitals and the ensuing difficulty in taxation, the development of large production networks and the availability of a “global workforce,” with consequent reduced production costs (Chomsky and Polychroniou 2017).

Thus, over time, inequalities have increased (Milanovic 2017). Among them, we recall the polarization of wealth and income, which means that in every nation a small minority of the population enjoys continually expanding wealth, whereas a good bracket of the remaining population finds themselves in difficulty, which is trapped into a poverty spiral and powerless to prevent the reduction of their level of well-being.

***Super-diverse Societies*** Given the contraposition between the Western world where we find a concentration of wealth, technology and comfort and the rest of the globe where we find extreme poverty, discouragement and desolation, we can indeed wonder why so few people actually emigrate, and it is not at all difficult to hypothesize that figures will continue to increase dramatically (Mintchev and Moore 2018). We

can certainly imagine that our cities and our neighborhoods will be increasingly characterized by *super-diversity*, a dynamic interplay of variables among an increased number of multiple-origin, transnationally connected, socio-economically differentiated and legally stratified individuals (Vertovec 2019). As can easily be perceived, these aspects will add to and interweave with other components that are traditionally and prototypically ascribed to the issue of diversities such as those involving impairment, learning difficulties, gender differences, and so on. All that creates a dynamic situation, “in the making” so to speak, where cultures, biographies, repertoires of different abilities and skills, different forms of communication and interaction between and among individuals come into play and create complex scenarios that are difficult to predict (Nota and Rossier 2015).

***The role of technologies*** As is well known, in our post-modern digital society of e-commerce and of the Internet, technologies have become a part of our daily life. Thanks to them, we can certainly say that life conditions have improved; however, at the same time, some considerably negative aspects have affected the production and use of products and services as well as employment. As concerns the production and use of products and services, the digital transformation has given rise to what has been called “disruptive innovation” (Schwab 2017). Technological innovations actually tend to be “disruptive” because over a short period of time they radically change products and services, their production and their use, at the same time pushing organizations to search continually for further “innovations” in order to survive (Downes and Nunes 2014).

With regard to employment, we must bear in mind that technologies and their dissemination are increasingly associated with the replacement of human workforce, and not only in routine jobs. By developing the ability to carry out tasks in professional sectors once thought untouchable (e.g., medical, financial, journalistic, legal) they are also causing loss of employment (Frey and Osborne 2017). This is happening without any loss of earnings on the part of employers, which means worsening working conditions for a huge number of individuals, an increase in the wage gap, polarization of wealth and of work itself (Ford 2015).

***Life on our planet*** The production of goods and “well-being,” especially in Western contexts, has been based on a vision of “exploitation of resources” and on policies involving the use of natural resources that have exceeded the offer, with countries using far more than their ecosystems are able to produce at the expense of others (Walls 2018). Humankind is living in an unsustainable way, exhausting the Earth’s limited natural resources more quickly than it is capable of regenerating them. This not only makes life situations more difficult, but also increases poverty and inequality to an extent that will jeopardize the possibility for future generations to live and achieve their development goals (Hallegatte et al. 2018).

If the idea of sustainable development refers to the definition proposed as far back as 1987 by the World Commission on Environment and Development, that is, to the idea that concerns meeting “the needs of the present without compromising the



possibility of future generations to meet their own needs,” to this day the problems are becoming so serious that environmental changes, but also the ensuing social and economic variations, will have but disastrous consequences for all (Giovannini 2018).

## Being Entrepreneurs of Themselves: A Further Threat?

The threats above described are associated with the presence of increasingly precarious and undignified working conditions but also with the paradoxical demand made to individuals to become more competitive, more resilient, to be “constantly” ready for and able to deal with unpredictable opportunities, to become “entrepreneurs” of themselves even without real capital to invest.

Adamson (2017) stresses that in a working environment, it is essential for individuals to have an entrepreneurial attitude, that is, the propensity to “build the future and a job for themselves,” and consider flexibility, short-term contracts, precarious work, etc. So we can talk of an “ideal worker” who, according to Schouten (2017), is a person who works a lot, who puts his/her job first, and is not sidetracked by personal and family problems.

Additionally, with the expansion of “immaterial” forms of work, more and more value is assigned also to abilities like establishing relationships and communicating effectively, being able to control one’s own emotions, investing in forms of learning over the lifespan with self-management of studying. However, Bialostok and Aronson (2016) maintain that although these skills are necessary for people to be more adequate to the labor market in our current society, it is equally essential that they are able to manage their failures. The authors argue that, given the premises, difficulties and failures are only to be expected. What is important is that individuals must think that not getting what they care about is due to their own responsibility, in order to prevent people from feeling shame. Better than a sense of guilt, which could lead to a cognitive analysis of the situation, shame creates an experience that can go from a slight embarrassment to a sense of humiliation; it is associated with fear of being abandoned, fear of being rejected, and fear of other people’s scrutiny. It keeps people emotionally focused on these intimate aspects and on fear and moves them away from an accurate analysis of the situation.

In no uncertain terms, some scholars say that all of these actions of “social and cultural engineering” are necessary: Hartlep and Porfilio (2015), Bessant et al. (2015) have examined the role of schools and universities by analyzing school textbooks, ministerial documents, Web sites, and activities carried out. They have highlighted a massive attention to abilities of “self-management” and self-entrepreneurship, on methods to increase flexibility and accepting of failure—considered the result of scarce capacity. From their examination, no attention was paid by school and university to the analysis of contextual aspects such as barriers, abuses, and discrimination. We believe, in accordance with Sugarman (2015), that the career counseling of the near future must also take complex forms of analysis and thought that take contextual

variables into account, to avoid being accused of helping build a society centered on ideological drifts.

## **From the Life Design Approach to Inclusive and Sustainable Career Counseling**

In light of what has been said above, we believe that the future will be better only if choices and projects, also professional ones and especially those of our young people, are less “ego-centric” and more oriented to prefer activities that allow them not only to achieve their own well-being, but, being inspired by less individualistic values, also contribute to the realization of quality life contexts for everyone, in which only the utopia of inclusive, equitable and sustainable development should be considered (Giovannini 2018). Vocational guidance must keep alive its original social mission: social and ethical values, attention to conditions of greater vulnerability, caring for people, and for life contexts (Solberg and Ali 2017), thus enriching with inclusive and sustainable actions the reflections already expressed in the Life Design approach.

The Life Design approach has clearly highlighted that it is no longer possible to make predictions on future possibilities and person-environment fits context (Nota and Rossier 2015; Yuen and Yau 2015; Savickas et al. 2009) because work context is continually changing and evolving.

We can add that within the Life Design approach we have been able to emphasize: (a) the need to implement personalized interventions; to consider the right to receive specific attention without having to undergo comparisons, profiling, placements below or above an average or a threshold of acceptability; to avoid standardized vocational guidance activities which are identical for all and are harmful as they hardly respect the specificity and uniqueness of every individual; (b) the value of emphasizing possibilities, opportunities, conclusions that can be original, unpredictable, of stimulating people to construct, or rather co-construct, new projects, new stories (Guichard 2018; Savickas et al. 2009). In this connection, based on Life Design, we have developed and verified interventions for children (Ginevra and Nota 2017), young adolescents (Nota et al. 2016), and adults with vulnerabilities (Ginevra et al. 2017) aimed at fostering a series of resources useful to encourage reflection on the future, to identify one’s own strengths, and to plan future projects.

However, in view of the threats humanity is currently facing, it becomes urgent for everyone to ask themselves also how the problems of social justice, inclusion, decent work, sustainable development could be handled (Guichard 2018). We need to invest in career planning characterized by inclusion and sustainability, in order to enable people to recognize discrimination, inequalities, barriers, exploitations, and then act to fight them. It is important to stimulate people to think a little more, and more often, about what may happen to others, identifying responsibilities, commitments and, as suggested by our vocational guidance project, the *mission possible* that one wishes to pursue and undertake for their future.

## Planning the Future: The Project “ *Stay Inclusive, Sustainable, Curious, Cosmopolitan, Passionate*”

The socio-economic conditions that we have considered above go together with increased hardships and difficulties in increasingly larger groups of the population, even in the richest countries that seemed to have been able to defend themselves from the threats of exclusion and impoverishment. Particularly at risk are the young and individuals with vulnerabilities such as disability, stories of migrations, and family unemployment (Cohen-Scali et al. 2018).

As Hooley et al. (2018) also state, there can be no vocational guidance without empowerment, without individual self-determination, and personal well-being itself cannot exist without social solidarity and inclusion, without guaranteeing support, protection, emergency lanes, and rescue networks, at least concerning people less able to compete.

Vocational guidance must therefore regain its nature of social practice of support for people and of “political” action, as regards also public decision-makers, so that the values of the 2030 Agenda, adopted by all United Nations (UN) Member States, can be taken into account and that its invitation to reflect on some scenarios and emergencies that the future will bring to the new generations can be accepted. From this perspective, a new way of doing vocational guidance could be encouraging people to think about tomorrow and ask themselves which study course to undertake and what professional contribution to give in order to play their part in achieving by 2030 at least some of the 17 goals that the UN has proposed to the whole world. In support of that there are data recently collected by Nota et al. (2018) which highlight that very few young people choosing a university course are aware of the goals of the UN: only one-third of the goals are considered able to significantly affect quality of life, and this is indicated only by 35% of the students involved.

In light of that, we have proposed the project “*Stay inclusive, sustainable, curious, cosmopolitan, passionate*” (Nota et al. 2018) that is articulated, on the one hand, around a series of instruments and, on the other, around different career intervention pathways.

The assessment instruments listed in Table 20.1 (for which preliminary analysis show adequate psychometric requirements; Di Maggio et al. 2018) lead young people to reflect on a series of future scenarios of which, according to the UN, we will have to take responsibility as the quality of life of the next generations will also depend on how we will be able to cope with these different alarming problems and difficulties. Specifically, based on Sustainable Development Goals set by the UN Development Programme (the 2030 Agenda), the questionnaire “The future is around the corner... what will it hold for us? An instrument on UN’s goals for the inclusive and sustainable development” stimulates young people to think how each of the 17 goals could influence their quality of their life and of those who will live beside them, and their educational and career choices. An example of an item is the following: “In the future there will certainly still be much to do to ensure employment and decent work for all... (a) How could this topic influence your future quality of life and those who

**Table 20.1** List of assessment instruments

Assessment instruments
The future is around the corner... what will it hold for us? An instrument on UN's goals for the inclusive and sustainable development
Professional activities for the near future inspired by the UN objectives
Young people's concerns and hopes
Thoughts on the development and economy of the future
To keep pace with the times that will come: investing in education
Planning in uncertainty
How cosmopolitan do I feel?
For my future I could perfect myself in... Future work skills (institute for the future, Palo Alto)
Well-being inspired by the world health organization
Curiosity, reflexivity, wisdom, passion

will live beside you? (b) How could this topic influence your educational and career choices? For both questions, adolescents are invited to express their views on a 5-point Likert scale (1 = too little, 5 = very much). Then, young people's self-efficacy beliefs and interests for career activities related to Sustainable Development Goals are also examined.

Additional assessment instruments stimulate young people to identify their concerns and hopes for their future, to reflect on their own ideas about the economy, the world of work, the importance of investment in studying and lifelong learning, how to plan their future in conditions of uncertainty, and also to consider the heterogeneity characterizing working contexts and societies, and the value of cosmopolitanism. The constructs of employability in relation to the future work skills identified by the Institute for the Future of Palo Alto (Davies et al. 2011) and well-being in relation to what the World Health Organization (2000) considers fundamental for the promotion of personal and professional well-being are also examined. Lastly, young people are invited to reflect about their responsibility in planning their future; to bring attention to resources such as curiosity, critical thinking (wisdom), reflexivity; to think about activities that could be become new passions.

Regarding career interventions of the project "*Stay inclusive, sustainable, curious, cosmopolitan, passionate*", it is important to consider that activities should:

- work to prevent people's stories from ending as it would be easily predictable considering the antecedents, their personal and environmental determinants, and seek different trajectories, even unpredictable ones, encourage to construct, or rather, in an inclusive perspective, to co-construct original developments, integrating own goals and interests and contribution to common goods.
- stimulate thinking of both oneself and others as inhabitants of the same planet, of the safeguard of the "common home," by identifying responsibilities, commitments and one's *mission possible* to be realized also with the support of others.

We believe that vocational guidance can and should refer to cognitive and non-cognitive processes involved in the representation of possible future scenarios, at the same time proposing to contribute to increasing the skills necessary to promote a sustainable quality future and a sustainable quality development for all. Based on this, possible actions can only be different, with essentially educational and preventive purposes, personalized, organized in such a way as to facilitate active involvement and significant learning, considering also the actual competencies of each professional and the “story” of the institutions in which they are operating. Consequently, we are constructing a broad and articulated proposal. Table 20.2 shows “the titles” of some basic modules and of “some” aiming to encourage further in-depth analysis and personalized educational pathways, which might be called off-course and off-track modules (Table 20.3).

Within this project, we have implemented a career intervention for high school students with and without disabilities and/or learning difficulties, in heterogeneous classes, titled “Looking to the future and to the university in an inclusive way,” in order to encourage their investment in university education. It consists of five didactic units, of two hours each at once, weekly, for a total of 5 weeks. In the first didactic unit,

**Table 20.2** Examples of basic modules

Basic modules
1. The future and sustainable development (today’s difficulties and fears, from problems to objectives, effective decisional strategies)
2. How to move toward the future (cosmopolitanism, wisdom, grit)
3. Milestones of the future (sustainability, solidarity, well-being)
4. Exploration (mental, social, environmental curiosity)
5. How not to be fooled (how to defend against hidden persuaders, the lure of the markets, fake news)
6. Always moving forward (hope, courage, good allies)
7. Working for health and well-being (health services and systems, quality of life, new technologies for health and well-being)
8. Working for a sustainable development (for a fair distribution of wealth, for fair trade, to promote social enterprises)
9. Working with technology for collective good (new technologies, artificial intelligence, robotics and biotechnology for inclusion and active participation, for the prevention of social conflict and in favor of decent work for all)
10. Working to safeguard life on the planet (for energy saving, for the defense of biodiversity, for the respect of the environment)
11. Working to highlight the value of the cultural heritage and of cosmopolitan identities (to promote culture and social participation)
12. Living with others in a satisfactory and inclusive way (being assertive, defending against excessive interference, promoting one’s own intentions and purposes, etc.)
13. Exploring the good work of the future (decent work, working for the common good, working in safety)

**Table 20.3** Off-course and off-track modules

• Off-track to defeat professional stereotypes and clichés at work
• Off-track toward “let time run its course” (reflections about “time perspective”)
• Off-track toward “time for study” (insights into time management techniques and study strategies)
• Off-track toward “time for me and others” (reflections and resolutions about “self-care”)
• Off-track toward “time for work” (personalized reflections and insights on the concept of work)
• Off-track toward “the rights of workers”
• Off-track toward “the rights of the child”
• Off-track toward “the rights of students”
• Off-track toward “the rights of entrepreneurs”
• Off-track toward “the rights of parents”
• Off-track toward “the rights of teachers”
• Off-track toward “robotics in education”
• Off-track toward “robotics in public health”
• Off-track toward “robotics in hidden works”
• Off-track toward “work sociology”
• Off-track toward “argumentation”
• Off-track toward “the philosophy of work”
• Off-track toward “the pedagogy of work”
• Off-track toward “negotiations and compromises”
• Off-track toward a “civil vocabulary” for inclusion

the definition of career guidance and the type of support that it provides to people were presented to participants. Subsequently, the five areas of critical importance for humanity and the planet (People, Planet, Prosperity, Peace, and Partnership) identified by the UN were discussed, and students were asked to examine them in relation to their hopes and concerns for the future. In the second didactic unit, the 17 Sustainable Development Goals set by the UN were presented to the students. They were asked to list the goals in which they have an interest for their future (at least a couple) and to describe the reasons. During this meeting, the importance of education and grit for the future was also discussed; and adolescents were invited to reflect on the advantages that these resources can bring to their future, and how these could be related to the UN goals. During the third and fourth meetings, students were invited to think about their future *missions possible*, taking into account the UN emergencies and goals. Example of materials used in this session is presented in Table 20.4. In the last didactic unit, adolescents were helped to identify occupations and professional activities related to their missions, and possible training paths that can help them acquire knowledge and skills useful to perform them. In line with

**Table 20.4** Example of materials used in the career intervention “Looking to the future and to the university in an inclusive way”

Considering the five areas of critical importance for humanity and the planet (people, planet, prosperity, peace, and partnership) (review the emergencies reported on page 7 of the material of the first didactic unit) and the 17 sustainable development goals (2030 Agenda) (review the goals on page 12 of the material of the second didactic unit) identified by the United Nations, please report the emergencies and goals on which you are reflecting for your future (indicate a maximum of three) and explain the reasons:

Emergencies	Goals
1. Because:	1. Because:
2. Because:	2. Because:
3. Because:	3. Because:

*From UN emergencies to missions*  
**I WRITE MY MISSION**  
 My Mission is:  
 My Mission aims at:  
 My Mission supports me to perform the following activities:  
 The following knowledge is required:  
 The following skills are required:

this, the different and extensive academic fields were examined, rather than specific degree courses, stimulating participants to reflect on the role of education to realize their missions and the contribution that study and training could give in pursuing the goals and handle the emergencies identified by the UN.

In order to test the effectiveness of the career intervention, a pilot study was conducted with 30 high school students (15 boys and 15 girls), with a mean age of 17.93 years (SD = 1.11). The results carried out highlighted that participants, at the end of the intervention, increased their levels of career adaptability, career decisiveness, and their investment in university education.

### Concluding Remarks

Involving people in the future planning of quality, inclusive, and sustainable lives means to stimulate them to look more at the external reality and at what will happen, at the same time remembering that not everything can be considered from the perspective of their own interests, their own passions and their own capitals. Socio-economic conditions lead us to believe that questions like “What do you want to do when you grow up?” or looking at interests, attitudes, and competencies to identify a profession toward which to guide someone can be of little help. As we have experienced in

the project “*Stay inclusive, sustainable, curious, cosmopolitan, passionate*”, it can be of value to work backwards, by substituting the questions “What job would you like to do? What course will you choose to do?” with questions like “What challenges do you want to face and what competencies do you want to acquire and develop for that purpose?” This will reduce the risk of the future becoming massively dependent on the past or the present and on a series of personal and contextual determinisms often inhibiting opportunities and development.

Moving away from the future and thinking about challenges to engage in, the “ball” will be passed on to one’s aims, to desired and hoped-for perspectives, to what will have to be learned and strengthened, to conditions to stimulate and seek, to opportunities to be discovered with eager curiosity, to objectives to be pursued with tenacity, which will appear relevant and filled with significance for those who wish to pursue them.

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# Chapter 21

## Assessing Career Life Skills Self-efficacy of Students with Special Educational Needs: A Comparative Study in Hong Kong



Lan Yang, Mantak Yuen, Hui Wang, Zhuoying Wang, and Kuen Fung Sin

**Abstract** The psychological construct of self-efficacy plays a salient role in students' pursuit of a career path. Career-related self-efficacy is strongly associated with life satisfaction and emotional well-being. Most of what is known about this construct has come from research with mainstream students in the West, and considerably less attention has focused on students with special educational needs. The limited knowledge we have of SEN students' career-related self-efficacy may be due to lack of appropriate assessment instruments with sound psychometric properties that can be used across cultures. This chapter reports steps taken to validate such an instrument, the *Career Development Self-Efficacy Inventory* (CD-SEI), for assessing career life skills self-efficacy in SEN students. The authors describe the use of a short form of CD-SEI in Hong Kong with a sample of SEN students and a comparison group without special needs. Theoretical and practical implications of using this instrument to assess career life skills self-efficacy of SEN students are discussed in light of current career development theories.

**Keywords** Career development · Inclusive education · Measurement scales · Students with special educational needs

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## Introduction

A very important issue for senior students with special needs or disabilities, regardless of whether they are in special schools or in mainstream inclusive classrooms, is preparing to move into employment after leaving school (Sin and Yang 2018; Talapatra et al. 2019; Westwood 2009). For this reason, career planning for these students must be a priority within their education. Most recently, intervention efforts in this domain have moved beyond simply providing information about jobs, teaching particular job skills, and arranging work-experience placements. A focus now is on also helping the students prepare emotionally and attitudinally for entering the world of work feeling confident and capable (Di Fabio and Kenny 2011; Gomez 2015; Langley 2000). This feeling of confidence and capability is generally referred to as *self-efficacy*.

Self-efficacy was originally defined as a type of expectancy related to belief in one's own ability to perform a task or a specific behavior (Bandura 1977). It was later expanded to mean people's beliefs about their capabilities to exercise control over almost all events that can affect their lives (Bandura 1989). According to Bandura (1986), self-efficacy is influenced most by a person's judgment of what he or she can do, based on the knowledge and skills they have acquired. Lent et al. (1996) later linked self-efficacy with the development of vocational behavior (Betz and Hackett 2006).

In the past few decades, the self-efficacy research in vocational psychology has covered a range of topics, including self-efficacy for making career decisions (Taylor and Betz 1983), self-efficacy for development of career skills (Maurer 2001), and self-efficacy in work-related performance (Hackett and Betz 1995; Lent et al. 1986). Previous research also suggested that self-efficacy is a strong predictor of academic achievement, course selection, and career decision-making across disciplines and grade levels (Britner and Pajares 2006).

## Career Development Self-efficacy

Career development self-efficacy was considered first to be reflected in an individual's beliefs in their own ability to transit from school to work effectively (Gysbers and Henderson 2000; Lent 2005), but it is now regarded as a significant factor linked to a wider variety of career prerequisites and outcomes (Betz and Hackett 1986; Lent and Hackett 1987; Yang et al. 2015). The term "career self-efficacy" now refers broadly to an individual's beliefs concerning his or her efficacy across a wide range of tasks, decisions, and behaviors.

In research, the career development self-efficacy in mainstream students has been examined from the perspective of its pivotal role in predicting adolescents' career interests (Turner and Lapan 2002) and in developing positive expectations about a career path (Lent et al. 2017). It was suggested by Hackett and Betz (1981) that

possessing strong career self-efficacy is an attribute facilitating pursuit of a career that is compatible with a person's interests and ability and has been linked to some degree with an individual's personality (Borgen and Betz 2008).

Secondary school years are known to represent a time period for students to start to explore future career options and to strengthen their self-efficacy in planning a career path (Glessner et al. 2017; Lapan et al. 1997; O'Brien et al. 1999). If secondary students can set career-related goals for themselves they are more likely to make successful transition later when hunting for and obtaining an appropriate job (Nagy et al. 2005; Vasalampi et al. 2009). Previous studies with large samples have indicated that the secondary school years are a critical period for adolescents' development of career aspirations and for their subsequent ability to achieve on a chosen vocational path (Arbona 2005; Choi et al. 2015; Rojewski 2005).

## **Career Self-efficacy for Students with Special Education Needs**

The concept of career self-efficacy developed by Hackett and Betz (1981) is now regarded as a useful reference point for understanding career development needs of people with disabilities (e.g., Luzzo et al. 1999). Students with a learning disability or general learning difficulty, and those with sensory, intellectual, or physical disabilities have been found often to possess weaker self-efficacy than those without such conditions (Hampton and Mason 2003; Rojewski et al. 2012). It is therefore important to help young adolescents with special needs prepare effectively to transit from school to adult working life (UNESCO 1994). It is for this reason that career preparation has long been regarded as one of the most critical goals in special education that merits more attention from researchers and curriculum developers (Hua 2002).

Compared to their peers without special needs or disabilities, students with these needs often experience repeated failures, which contribute to low self-efficacy and diminished confidence (Cummings et al. 2000). Panagos and DuBois (1999) conducted a study with 96 adolescents with learning disability (LD) to investigate their self-efficacy beliefs, abilities, and outcome expectations in relation to future career. Findings indicate that educators must consider not only the students' aptitudes and abilities but also their career self-efficacy beliefs and outcome expectations in order to help these students develop personal goals and plan for employment.

Hua (2002) conducted a case study to examine the development of career self-efficacy in a junior high school student with special education needs. Findings revealed that specific career-related intervention and a targeted use of resources for such students are critical in facilitating development of their positive self-efficacy, and that educators should provide them with a curriculum that carefully matches their interests and addresses their special needs. Taken together, these findings imply that

monitoring development of self-efficacy must take place at the individual student level.

Through a systematic review of 31 studies involving 859 individuals with special needs, Cobb and Alwell (2009) examined any relationship that had been found between transition programs and transition outcomes for secondary school students with disabilities. Findings suggest that attention given to career-related self-efficacy is still limited in most curricula. As a consequence, school personnel designing and implementing such programs need to be more aware of the importance of assessing and building students' beliefs in their own ability to plan a career path and be successful.

In summary, the previous research on career self-efficacy in secondary school students with special needs reveals that: (1) secondary school years are the critical stage for students with or without special needs to develop career-related self-efficacy; (2) in addition to aptitude and ability, students' career self-efficacy has a pivotal role in shaping their career development; and (3) there is a relative lack of career-related self-efficacy research that has focused on special education students. In order to increase the precision of research and intervention in this domain, it is essential to have instruments that enable assessment of career self-efficacy in a given student population.

## **Existing Instruments for Assessing Career Self-efficacy**

Several assessment scales related to career self-efficacy have been developed in the West and are available in English. The best known are probably: *Mapping Vocational Challenges* (Lapan and Turner 1997), the *Career Decision-Making Self-Efficacy Scale* (Taylor and Betz 1983), and the *Career Decision Scale* (Osipow 1987). However, there are definite limitations to their usefulness when applied with populations of certain ages and from different cultures. The main problems are associated with a failure of the designers to provide adequate information on the psychometric characteristics of the instrument (Barrett 2007; Hooper et al. 2008; Schermelleh-Engel et al. 2003), its applicability to the secondary school age group in different cultures (Yuen et al. 2005), and its applicability for individuals with disabilities or special needs. Given the rapidly increasing number of SEN students in Hong Kong (estimated to be 42,890 SEN students in 2016–2017; Audit Commission Hong Kong 2018), there is an urgent need to prepare them more effectively for a working life ahead. An area in which they all require support is in developing career-related self-efficacy. To strengthen the provision of such support at an individual level, it is necessary to assess the students' current self-efficacy in order to set relevant goals for their progress. It is essential to develop an instrument specifically for investigating career self-efficacy with these students as an important first step. The purpose of the study reported here was to develop such an instrument, with sound psychometric properties, appropriate for assessing career self-efficacy in students with and without special education needs.

## Method

### *Participants*

A total of 109 SEN students were recruited from four mainstream secondary schools in Hong Kong. A comparative group of regular students (non-SEN) was randomly selected from four mainstream secondary schools from the second author's large scale study on regular secondary students' life skills. The average age of SEN (43% male) and non-SEN students (55% male) was 17 years ( $SD = 1.62$ ) and 16 years ( $SD = 1.28$ ), respectively. All students were from mixed ability classes and schools with both boys and girls. For SEN types, a range of types were identified, for example, specific learning difficulties (SpLD), autism spectrum disorders (ASD), attention deficits and hyperactivity (ADHD), intellectual disability (ID), and physical disability (PD). For detailed distribution, please see Appendix 1.

### *Measure*

The *Career Development Self-Efficacy Inventory* (Yuen et al 2005) uses a six-point Likert-type scale (from 1 = extremely not confident to 6 = extremely confident). It was originally composed of 24 items which were categorized into six subscales (career planning, gender issues in career, training selection, job hunt preparation, job hunting, and career goal setting), but in this study, a short form CDSEI-SF (15 items) was used with the two matched groups of students. This short form had been tested by Yang et al. (2015) with an earlier sample of SEN students. The gender issues subscale was excluded and the five remaining subscales were used to assess students' career-related self-efficacy (See Table 21.1).

### *Statistical Analyses*

The analyses were conducted at item level with the statistical software *Mplus* 7.4 (Muthén and Muthén 1998–2017) and were conducted using robust maximum likelihood (MLR) estimator to examine measurement invariance between students with and without special educational needs. More specifically, MLR estimator provides parameter estimates and model fit results that are robust to the non-normality of Likert scales underlying responses to the SF-CDSE inventory items. The very few missing data sets (4 of 218) were handled by *Mplus* default full information maximum likelihood (FIML) estimation process (Enders 2010).

With the aim of testing the measurement invariance between students with and without special educational needs, a preliminary analysis was first conducted comparing the mean differences between the two samples. The overall fit of data was

**Table 21.1** The CDSEI-SF subscales and item statements

Training selection	Understand a vocational training program before I enroll in it
	Collect information such as admission criteria and course selection procedure of vocational training schools
	Select and enroll in some suitable courses to prepare myself for different economic situations and labor demand
Job hunting preparation	Master general interview techniques (e.g., appearance, ways of speaking, etc.)
	Fill in job application forms accurately
	Produce a resume for myself
Job hunting	Still have the stamina to look for different job opportunities when there are difficulties in job hunting
	Look for suitable jobs according to my interest and ability
	Get help from some institutions and connections to help me find a job
Career goal setting	Assess and modify my career goals according to the change in external situation
	Master the strategy to achieve my career goal
	Constantly improve my study and career plan to work toward my career goal
Career planning	Explore different careers within my interest
	Understand my abilities so as to help myself choose a career
	Choose tertiary institution courses rightly to prepare myself for my future career

examined when two samples are combined. The goodness-of-fit indices used in the current study included the comparative fit index (CFI), the Tucker-Lewis index (TLI), and the root mean square error of approximation (RMSEA). RMSEA values below 0.06 and 0.08, and CFI/TLI values greater than 0.95 and 0.90 indicate excellent and acceptable fit to the data (Hu and Bentler 1999; Marsh et al. 2005).

Measurement invariance tests were then conducted to examine whether the SF-CDSE inventory treats responses from students with and without special needs equally. The invariance tests were performed in a sequential strategy, as suggested in prior studies (e.g., Byrne et al. 1989; Steenkamp and Baumgartner 1998). In total, three invariance models were examined: (1) configural invariance (invariance of the factors), (2) metric invariance (invariance of the loadings), and (3) scalar invariance (invariance of the loadings and intercepts). To determine whether measurement invariance could be supported with the current data, changes in chi-square, CFI, TLI, as well as RMSEA values were all calculated across adjacent models (i.e., between configural and scalar invariance models and between scalar and metric invariance models). A decrease in CFI or TLI smaller than 0.01 and an increase in RMSEA smaller than 0.015 were suggested in prior studies to be evidence of invariance (Chen 2007; Cheung and Rensvold 2002), and these thresholds were thus adopted in the current analyses.

## Results

### *Preliminary Analyses*

Descriptive statistics for the two samples are presented in Table 21.2. The mean scores on each of the five factors were between 3.98 and 4.21 for both groups of students, suggesting that students with and without special educational needs, on average both rated slightly higher than the midpoint of the scale (the midpoint is 3.5 with the scale anchoring from 1 to 6). This finding suggests that both groups were slightly above average in their career self-efficacy scores.

Students with special educational needs rated slightly higher than students without special educational needs on job hunting, career goal setting, and career planning, but were found to rate lower on training selection and job hunting preparation. However, further results from *t*-test analysis, comparing the two groups of students, showed that these slight differences did not reach statistical significance (Table 21.3). Therefore, students with and without special educational needs were found to be equivalent in their ratings on all five factors of the SF-CDSE inventory.

### *Measurement Invariance*

Confirmatory factor analysis (CFA) was first conducted to establish the validity of the SF-CDSE inventory using the entire sample with both groups combined. Results showed that the model fit the data well, with model fit indices for the CFA being in the acceptable to excellent range (CFI = 0.971, TLI = 0.959, RMSEA = 0.051). Measurement invariance tests were then conducted to assess the degree to which SF-CDSE inventory could measure the same factors across students with and without special educational needs.

Results from the current analyses first supported invariance at the configural level, with the model fit indices being within the excellent and acceptable range (CFI = 0.961, TLI = 0.945, RMSEA = 0.061). Subsequent analysis further supported invariance at the metric level, with the chi-square change being non-significant ( $\Delta\chi^2 = 14.70, p = 0.109$ ), the decrease of CFI being 0.003, the decrease of TLI being 0.001. The increase of RMSEA being 0.009 from configural to metric level. However, the current data did not support invariance at the scalar level. More specifically, although the increase of RMSEA from the metric to scalar level was 0.009, the chi-square change increase was found to be statistically significant ( $\Delta\chi^2 = 44.82, p < 0.001$ ), and the decreases of both CFI and TLI were both greater than 0.01 (i.e., 0.016 and 0.017, respectively). See Table 21.4 for more details on model fit indices from the measurement invariance tests.

To summarize, model fit indices for establishing the validity of CD-SE inventory of the entire sample were satisfactory, indicating the proposed model fit the data well. The results were consistent with those found in previous studies (Yuen et al. 2005).



**Table 21.2** Descriptive statistics

	N			M			SD			$\alpha$			Actual range		
	SEN	Non-SEN	All	SEN	Non-SEN	All	SEN	Non-SEN	All	SEN	Non-SEN	All	SEN	Non-SEN	All
Training selection	109	108	217	3.98	4.10	4.03	0.98	0.86	0.92	0.78	0.78	0.78	1-6	1.33-6	1-6
Job hunting preparation	109	107	216	4.10	4.21	4.15	1.07	0.92	1.00	0.84	0.79	0.82	1-6	2-6	1-6
Job hunting	108	108	216	4.19	4.16	4.17	0.99	0.81	0.90	0.82	0.73	0.78	1-6	2-6	1-6
Career goal setting	109	109	218	4.07	4.03	4.05	1.03	0.91	0.97	0.86	0.83	0.84	1-6	1.33-6	1-6
Career planning	109	109	218	4.17	4.11	4.14	0.99	0.82	0.91	0.81	0.73	0.78	1-6	2-6	1-6

*Notes:* SEN Students with special educational needs, Non-SEN Students without special educational needs

**Table 21.3** T-test results between the two samples

Factors	<i>t</i>	<i>df</i>	Mean difference	<i>p</i>
Training selection	1.00	215	0.13	0.316
Job hunting preparation	0.82	214	0.11	0.413
Job hunting	-0.20	214	-0.02	0.841
Career goal setting	-0.33	216	-0.04	0.745
Career planning	-0.50	216	-0.06	0.620

In addition, measurement invariance tests supported invariance cross-SEN students and those without SEN at both the configural and metric levels.

### *Significance of This Study*

In the context of Greater China (within which Hong Kong exists as a special administrative region), this study is the first to validate the SF-CDSEI among secondary students with SEN. By including a comparative group of students without SEN to test measurement invariance, the study extended the knowledge base on application of CDSEI and SF-CDSEI. At the theoretical level, the present study enriches the literature in the field of career self-efficacy. A consistent finding of the higher order five-factor structure of SF-CDSEI among students with and without SEN, adds support to the usefulness and generalizability of this instrument (e.g., Steger 2006; Yang et al. 2015; Yuen et al. 2005). The study also extends previous research on career development self-efficacy of students with SEN by including a broader range of SEN types.

In practical terms, this study has provided a useful tool for career guidance coordinators and teachers for assessing and monitoring the effectiveness of career guidance programs in building career self-efficacy across a diverse range of learners. Only with a good understanding of students' career current level of self-efficacy can schools purposefully develop interventions and activities to cater for career development needs of all students. The SF-CDSEI can be regarded as an effective screening tool to assess SEN students' career development self-efficacy in five essential areas: Career planning, training selection, job hunt preparation, job hunting, and career goal setting.

### *Recommendations for Future Research*

It was not the concern of this study to assess the career self-efficacy status in each separate disability category. The various special needs categories were all combined for analysis purposes. Future studies might use the instrument to determine, for

**Table 21.4** Model fit indices from the measurement invariance tests comparing students with and without special educational needs on the CD-SE inventory

Models	$\chi^2$	<i>df</i>	CFI	TLI	RMSEA	CI	$\Delta\chi^2$	$\Delta df$	<i>p</i>	$\Delta CFI$	$\Delta TLI$	$\Delta RMSEA$
Configural	208.92*	148	0.961	0.945	0.061	0.041; 0.080						
Metric	224.50*	158	0.958	0.944	0.062	0.042; 0.080	+15.70	+10	0.109	-0.003	-0.001	+0.001
Scalar	259.12*	168	0.942	0.927	0.071	0.053; 0.087	+44.82	+10	<.001	-0.016	-0.017	+0.009

*Notes* CFI—Comparative fit index, TLI—Tucker-Lewis index; RMSEA—Root mean error of approximation, CI RMSEA—95% confidence interval,  $\Delta$ —change in specific indicator relative to the previous model in the sequence, *p*—significance of chi-square different test

\* *p* < 0.01

example, whether career self-efficacy is stronger or weaker in students with impaired vision when compared to students with a specific learning disability—and what this might mean for planning intervention for different disabilities. Future studies might also investigate how, in the SEN population, career self-efficacy is associated with academic achievement, personality type, socio-economic background, and parental support.

A promising direction for the future is to better integrate career development theory, measurement and intervention to improve the current ways of supporting SEN students (Brown 2015; Patton and McMahon 2014; Niles and Harris-Bowlsbey 2005). Career development self-efficacy matters to all secondary students if they are to achieve a successful post-school life. A good understanding of students and related enhancement programs targeting career planning would help SEN students maximize their potential in securing meaningful employment which contributes to a meaningful life.

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## Appendix

SEN types and distribution in this study

SEN types and distribution in this study

SEN types	Frequency	Percentage
Specific learning difficulties	59	54.1
Intellectual disability	6	5.5
Autism spectrum disorders	9	8.3
Attention deficits and hyperactivity	1	0.9
Psychical disability	10	9.2
Visual impairment	1	0.9
Hearing impairment	1	0.9
Speech and language impairment	1	0.9
Emotional and behavioral disorder	2	1.8
Asperger syndrome	1	0.9
Total	91	83.5

*Note* In this sample, there were 18 students (16.5%) with low-achievement background but had not yet been clearly identified with a specific SEN type

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