Chinese children with ASD in Hong Kong (SAR): development of inclusive practice

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The advancement of inclusive educational provision in the Asia-Pacific region has been guided by international research. As one example, Hong Kong has developed a unique and cultural response to inclusive practice within the region. This paper reviews Hong Kong's development of inclusive education practice for children with autism spectrum disorder (ASD). It provides an account of how services in education have developed for Chinese children with ASD, from diagnosis to school placement, and how the students are supported. A number of challenges for the region are discussed including those related to pedagogy, mentoring, placement, support and the need for culturally appropriate professional learning.

Introduction

Since the government's first initiative towards the integration for children with special educational needs (SEN) in 1997 (Hong Kong Government, 1977, p. 4.2c) and guidance towards inclusive education was outlined in the Disability Discrimination Ordinance (DDO) (Equal Opportunities Commission, 2007), Hong Kong's development towards inclusive education has reflected the global move towards education for all (Forlin and Lian, 2008). Within the last decade, the Asia-Pacific region as a whole has experienced a major shift in educational reform that has seen countries and administrative regions such as Hong Kong reconsider the way in which children with SEN are included in normal provision (the term used in Hong Kong to describe regular schools) and how government policy supports inclusive education. Publication of the reform proposals of the Education Commission (EC) indicated that 'We should not give up on any single student' (Education Department, 2002, p. 1, 1.5). This has been a central tenet to integrated education in Hong Kong.

Although schools in Hong Kong have consequently increasingly aimed to cater for children with SEN in regular classrooms, the government has raised concerns regarding student placement and, in particular, the expertise of teachers in handling these students [Legislative Council of Hong Kong Special Administrative Region (LEGCO), 2008]. According to LEGCO, regular schools ought to be able to limit student intake to children with not more than two types of SEN as it was mooted that it was 'unrealistic to expect teachers to be equipped with different skills and knowledge in handling students with different types of SEN' (LEGCO, 2008, p. 7, 3.8) while simultaneously ensuring that the admission procedures for schools did not breach discrimination laws in Hong Kong.

The inclusion of children with autism spectrum disorder (ASD) in regular classrooms is often considered to be the most challenging for mainstream teachers (Forlin, 2008b; Frederickson and Cline, 2009; Humphrey, 2008). Techniques and strategies in pedagogy that have worked well with others often fail with children with ASD (Frederickson and Cline, 2009). Additional factors in Hong Kong that contribute towards the difficulties perceived by teachers, as found by Yuen, Westwood and Wong (2004), suggest that large class sizes of 35+ students, a lack of teacher experience and limited experience in working with children with SEN also impact upon teachers' motivation, knowledge and confidence in implementing child-specific programmes. Like many of the major cities in the world, Hong Kong has grown as a multicultural city. Of the total 7 million people, 95% are Chinese and 5% are identified as other ethnic groups. The different cultural background, thus, positions inclusion from another perspective, which in many instances is challenged by the more traditional segregation approach that has developed an educational stronghold throughout the region. Forlin (2007) posits that the inclusion movement will continue to make significant changes to the teachers' already complex role, challenge their time-honoured beliefs and is likely to stretch their professional capacity.

This paper will outline the development of inclusion for children with ASD in Hong Kong from early identification to school placement by examining local and international definitions, identification and prevalence rates. It will further evaluate early childhood support for children with ASD in Hong Kong government schools, the implementation of inclusive education and some of the issues that teachers face in this special administrative region. It will consider the culturally appropriate ways in which Hong Kong is evolving to address education for all.

This review was undertaken by identifying research from an exploration of four electronic repositories, ProQuest,

EBSCO host, the British Educational Index, Educational Research Information Clearinghouse, and the Hong Kong Education Bureau (EDB) web site. Search terms included 'Hong Kong' with 'Autism*' or 'inclusion'. A systematic search from 1999 until 2009 uncovered a dearth and paucity in peer-reviewed studies examining educational practice for Chinese children with ASD and inclusive provision within Hong Kong. Research that focused on empirical studies with very small numbers or individual students engaging in specific programmes [e.g., Treatment and Education of Autistic and Communication related handicapped Children (TEACCH), The Modified Checklist for Autism in Toddlers (MCHAT)] was not included as this was not the focus of the paper. A total of seven relevant peer-reviewed papers were found concerned with identification and educational support or policy for children with ASD in Hong Kong. Of these, three focused on identification and educational support, and an additional four focused on policy. Subsequent analysis of the same databases for international research on 'inclusion' with 'students with ASD' provided, in comparison, a wealth of peer-reviewed studies. Some of these are discussed in order to explore development within the Hong Kong context with what has happened internationally for children with ASD. A substantial amount of information rather than research was also gathered from the EDB web site. All of the government documents were available in Chinese with the main ones also being in English. These documents were reviewed to explore the policy and implementation of inclusive education for children with ASD in Hong Kong.

The seven papers that formed the basis for the discussion about the development of support for children with ASD and inclusion in Hong Kong are collated in Table 1 under two sections of identification and educational provision, and policy. Only one peer-reviewed study collated the prevalence and incidence rates for the numbers of children (Wong and Hui, 2008). The extent of figures was gained from a census undertaken by the Census and Statistic Department (2008), but had a fairly narrow focus on a single location within the region. Empirical studies on inclusion for children with ASD were very minimal, with only three being identified that collected data from relatively small samples. There was a clear lack of research on evidence-based practices for the inclusion of children with ASD in Hong Kong schools.

Definition of children with ASD

It is over 60 years since children were first identified as having infantile autism by Kanner in 1943. Since then, the terminology describing the characteristics of ASD has seen a number of iterations. Historically, the descriptions of ASD go back to 1938 when the term autism was used to describe certain features of behaviour in people with schizophrenia (Lyons and Fitzgerald, 2007). Internationally, ASD is now largely recognised as a neurodevelopmental disorder (Newschaffer, Croen and Daniels et al., 2007). For children to be identified as having ASD, a spectrum of characteristics and criteria specified in the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV)

inform the process [American Psychiatric Association (APA), 2000]. In 2010, children with ASD are recognised as having a triangulated core of traits associated with deficits in the following key areas: disturbances in social behaviour; atypical verbal and non-verbal communication; and limited interests that can be accompanied by repetitive behaviour (Levitt and Campbell, 2009). A progression towards identifying ASD as a spectrum of disorders emerged with growing professional understanding about ASD over the last 15 years [European Commission Health and Consumer Protection Directorate General (ECHCPDG), 2005]. There is now a list of five disorders under the spectrum in the DSM-IV, which includes: Asperger's syndrome, autistic disorder, pervasive developmental disorder not otherwise specified, Rett's syndrome and childhood disintegrative disorder.

In concert with other countries, the DSM-IV is the adopted criteria for diagnosis of ASD in Hong Kong. The core features for diagnosis are as in the DSM-IV: (1) Qualitative impairment in social interaction; (2) Qualitative impairments in communication; (3) Restricted repetitive and stereotyped patterns of behaviour, interests and activities; (4) Delays or abnormal functioning with onset prior to age 3 years; and (5) The disturbance is not better accounted for by Rett's disorder or childhood disintegrative disorder (APA, 2000).

Identification of children with ASD

Since the introduction of the DSM-IV over 15 years ago, the criteria for ASD have acted as a springboard for research (Volkmar, State and Klin, 2009) including investigation into the numbers of children being diagnosed (Rosenberg, Daniels and Law et al., 2009; Wong and Hui, 2008). Findings suggest that the increased recorded rate of children with ASD in recent years is most likely a direct result of the expansion of the criteria (Charman, 2002; Wong and Hui, 2008), rather than an increase in incidence *per se*.

Numbers of identified cases are based on incidence or prevalence. The prevalence numbers take into account the total number of people identified within a population and are an estimation of commonality, whereas incidence refers to the newly identified annual cases. It is extremely difficult, though, to obtain data that allow for reliable comparisons to be made as prevalence is often determined on subgroups of persons from a given region. To date, the widely accessible prevalence numbers are restricted to places like the USA and the UK. Even so, estimated prevalences still vary considerably depending upon the cohort under scrutiny.

Estimated prevalence in 2007 in the USA on a cross-section of the population of 8 year olds found at least 66 children with ASD in every 10 000, that is, 1 child in every 150 children (Centre for Disease Control and Prevention, US, 2009). According to the 2005 published estimates of the rates of incidence for children with ASD in the UK, prevalence was 16 per 10 000 of the population, but, according to the ECHCPDG, the rates increased to 63 per 10 000 when all the spectrum characteristics were included in diagnosis

Table 1: Research on identification and educational support and policy for children with ASD in Hong Kong from 1999 to 2009

Reference	Research focus	Participants	Instruments and procedures	Findings
Identification and educational support				
Wong and Hui, (2008)	The epidemiological pattern of ASD in Chinese children in Hong Kong First report on ASD in Hong Kong	Identified 4 247 206 children with ASD from 1986–2005	Census Identified newly diagnosed chn from 1986 to 2005 divided by total population of children 0–4 years on Hong Kong Island during same period	Discusses identification, increasing incidence (5.49 per 10 000) and prevalence (16.1% of this population less than 15 years old have ASD). Incidence similar to Australia and North America but lower than Europe
Wong and Hui (2007)	A discussion of developmental milestones in pre-school medical and training services in Hong Kong over the past 20 years in relation to children with ASD			Identified a gradual integration of services for children with ASD in Hong Kong. A historical account provided of early identification, referral, diagnosis, multidisciplinary assessment, and management and an evaluation of current practices in light of service provision that are still fragmented.
Cheuk and Hatch, (2007)	The provision of support and instruction in early childhood How early childhood teachers describe their experience with the integration	Eight teachers from four kindergartens	Open-ended questions In-depth interviews Typological analysis	Teachers taught children with SEN more social skills and those without SEN more academic subjects Proposed three urgent needs regarding (1) Government to include EC education within compulsory system; (2) Tch education needs to be improved regarding EC inclusion; and (3) Greater monitoring of programme quality required
Policy				
Heung (2006)	The impact of school evaluation on the move towards inclusive schooling The link between school evaluation and policy of inclusion		Review of literature about school-based evaluation and financial funding policy in Hong Kong	Introduction of a new funding mode enabled schools to address the financial aspects of support for all learners adopting a whole school approach and was viewed as a step towards a more inclusive educational practice

Table 1: Continued

Reference	Research focus	Participants	Instruments and procedures	Findings
Poon-McBrayer (2004)	Systemic dilemmas in Hong Kong regarding integration policy		A report on policy changes and development of inclusive education in Hong Kong	Global trends and societal development will affect the future development and direction of education for children with SEN in Hong Kong. Eliminating problems in the education system through leadership from government levels will be key to the future of special education and whole school approaches
Crawford et al. (1999)	Implementation of new policy on integration. Pilot project in integrating 48 students with disabilities in seven primary and two secondary schools		Data collected pre and post over an 8-month trial period; 380 school personnel and 886 parents in the first survey; 325 and 915, respectively, in the second survey Small group interviews conducted with teachers in nine pilot schools. Individual interviews with principals and resource teachers	Policy documentation well developed, but schools insufficiently prepared and teachers uncertain of their roles. Mixed responses received from teachers regarding policy. Greater encouragement found for cooperative teaching and improved partnership between parents and teachers. Most teachers felt unsupported. Success of policy was limited to individual effort and advocacy. Integration in Hong Kong perceived as a complex process. Implementation requires more knowledgeable leaders; review of role of special schools in supporting inclusion; banding should be reviewed. Better teacher preparation for inclusion
Pearson et al. (2003).	Teachers' experiences in policy of integration Attitudes and perceptions towards integrated education and perceptions of the usefulness of supportive services and availability of resources	224 qns (return rate of approximately 28%)	A survey sent to all primary schools in Hong Kong Individual interviews Focus group interviews with school principals	Acceptance varied according to level of disability. Students with a learning disability and/or behavioural problems were more challenging than those with a physical disability Teachers that had a range of children with SEN in a class experienced more problems in discipline and class management, and had an increased workload and struggled to maintain academic achievement standards of students

ASD, autism spectrum disorder; chn, Children; EC, Early Childhood; qns, Questions; SEN, special educational needs; Tch, Teacher.

(ECHCPDG, 2005, p. 4), which is similar to the findings in the USA for 8 year olds. When the number of prevalent cases reported includes the total spectrum of characteristics for ASD, estimations are highlighted as more problematic because several closely related disorders share similar features (ECHCPDG, 2005).

Wong and Hui (2007), in their international comparison of epidemiological studies conducted from 2000 to 2006, found the following prevalence rates of children with ASD per 10 000 of the population: Canada, 64.9 in the 5–16 years age group; Sweden, 53.3 in the birth cohort 1977–1994; and in the UK, 58.7 in the 4–6 age group. The incidence of ASD between 1986 and 2005 indicated that of the total population of Chinese children on the Hong Kong Island [one region within Hong Kong (SAR)], there were 5.49 children from 0–4 years diagnosed with ASD in every 10 000 children (Wong and Hui, 2008). The annual incidence rate for this cohort from 1990 to 2000 was relatively stable, ranging from 4.46 to 5.25 children per 10 000; however, according to Wong and Hui, (2008), a much higher rate of incidence at approximately 15 per 10 000 occurred in 2004, when cases had gone undiagnosed and therefore accumulated over the period of the outbreak of severe acute respiratory syndrome as families had restricted their activities. Across the same period of time for children on the Hong Kong Island from 0 to 14 years, a much higher incidence rate was noted of 16.1 per 10 000. This clearly indicates that for more than half of the population of children diagnosed with ASD in Hong Kong, this does not occur until they are at least 5 years old. In the years 2006/2007, the prevalence of people with ASD across all ages and regions in Hong Kong was estimated at 3800 persons, that is, approximately 10 per 10 000, with 2500 being under the age of 15 (Hong Kong Census and Statistic Department, 2008). Although it is difficult to compare figures because of enormous variation in cohorts assessed and differences in assessment procedures between jurisdictions, based on these figures, it would seem that the incidence of people identified with ASD in Hong Kong, while increasing, is noticeably less than elsewhere.

Early diagnosis
As incidence rates of children with ASD grow globally and the importance of early intervention is recognised internationally, the need for early intervention through educational channels has become imperative as clear evidence suggests that with early intervention, based upon early diagnosis, children with ASD have a better prognosis (Humphrey and Parkinson, 2006; Magiati, Charman and Howlin, 2007; Waddington and Reed, 2006).

In line with the growing worldwide consensus, the accepted view of ASD in Hong Kong is of a lifelong condition. Hong Kong's history of identification and diagnosis of children with ASD began in 1986 with the establishment of a register of children. Children with ASD were not a common occurrence in 1986 (Wong and Hui, 2007). In China, ASD is similarly often not recognised as a disability type, diagnosed effectively or catered for within schools (Deng and Holdsworth, 2007).

Increased reliability in criteria and confidence in the identification of ASD by general practitioners in the late 1980s in Hong Kong meant that children were more readily referred to the child assessment centres (CAC) under the Child Assessment Service (CAS) Department of Health Service History (2009); however, the usual age for referral was rather late at between the ages of 6 and 8 years (Wong and Hui, 2007). The CACs have a focus on a multidisciplinary and comprehensive assessment approach for children with SEN in order to serve the local population on a regional basis. There are six centres located in different regions across Hong Kong. The assessment and diagnoses of children with ASD have been under the jurisdiction of psychiatry or the CAS, which came into operation in 1977 under the supervision of the Department of Health. Educational assessment is additional to the initial diagnosis, and all children entering year one of normal (the government preferred term) government primary schools who are suspected of having challenges to learning undergo a school assessment called the Early Identification and Intervention of Learning Difficulties Programme for Primary One Pupils (EDB, 2007d). In 2009, assessment is widely provided by CAS.

Pre-primary provision for children with ASD
Paradigms for educating children with special needs, and particularly children with ASD, have received a renewed interest through Vygotsky's vision of social constructivism (Hick, Kershner and Farrell, 2009). Vygotsky argued that play was central to the child's cognitive development and joint play assisted in the development of self-regulation as children learn play by a rules concept. Inner speech, imagination and pretend play are key internal devices recognised as crucial for cognitive development and self-regulation within typically developing children, and are even more important for children with ASD. As pre-primary is a key time when these opportunities for engaging in play are made available, it is essential that young children with ASD are able to access appropriate early intervention where they are able to observe and learn alongside typically developing peers.

Integrated kindergarten education in Hong Kong has been in implementation since 1986 (Cheuk and Hatch, 2007). In the last decade, pre-primary services include privately run kindergartens registered under the Education Ordinance. There are a range of educational facilities for children with mild SEN, which includes those with ASD, such as: education training centres, kindergarten-cum-child-care centres, special child-care centres or residential special child-care centres, which offer an integrated programme (Social Welfare Department, 2005). Children with SEN, including those with ASD, usually access educational intervention when enrolled in an integrated programme. Such programmes adopt the standardised government curriculum, Guide to the Pre-primary Curriculum (EDB, 2006). The pre-primary curriculum guide was first endorsed by the Curriculum Development Council of Hong Kong in 1996 and has been in circulation since. Concerning children with SEN, there is a brief statement as to how these children need

'to be able to explore their ability and potential so (they may) reduce and overcome their congenital conditions' (EDB, 2006, p. 54). Mainstream kindergartens that offered an integrated programme were phased out from 2005 to 2006 (Cheuk and Hatch, 2007), and consequently, kindergarten-cum-child-care centres actively employed *the integrated programme* and the early provision of intensive training and care to mildly disabled children aged 3–6 years (EDB, 2007b). It was thought that by encouraging children with SEN to attend the integrated programmes, the children would 'stand a better chance of future integration into the mainstream education system and the society in general' (EDB, 2007b).

The development of inclusion in Hong Kong education
Various jurisdictions have adopted the inclusive education approach on the principles of human rights, social justice and equal opportunity (Chong, Forlin and Au, 2007). Hong Kong's development towards inclusive education began as early as the 1970s with the first government paper to propose integrating children with disabilities into mainstream provision, 'Integrating the disabled into the community: a united effort' (Hong Kong Government, 1977, 4.2c). It was not until after the Salamanca statement (UNESCO, 1994) and the enactment of the Hong Kong DDO (1996) that inclusive education was taken more seriously (Chong et al., 2007), where it was stated unlawful for an educational establishment to discriminate against people with a disability by failing to accept their admission or by the terms and conditions of their admission (DDO, 1996).

The terms of integrated education and inclusive education have been used interchangeably in Hong Kong (Forlin, 2007). The right of persons with disabilities in Hong Kong to learn in an educational setting free from discrimination and harassment is safeguarded by the DDO, which states that: 'All parties shall ensure an inclusive education system at all levels and lifelong learning directed to:

(a) The full development of the human potential and sense of dignity and self worth, and the strengthening of respect for human rights, fundamental freedoms and human diversity;
(b) The development by persons with disabilities of their personality, talents and creativity, as well as their mental and physical abilities, to their fullest potential; and
(c) Enabling People With Disability (PWDs) to participate effectively in a free society.' (Equal Opportunities Commission, 2009, p. 1.2).

A 2-year pilot project on integrated education (1997–1999) was initiated by the education department in Hong Kong when schools were invited to include students with SEN. Initially, children with five types of mild disabilities were considered for the programme: intellectual disability, visual impairment, hearing impairment, physical disability and autistic disorder with average intelligence (Crawford, Heung and Yip et al., 1999). Further developments in 2000 brought about the education reform proposal headed by the

non-statutory advisory body of the EC, which was a major step towards a more inclusive system. The extent of the proposal covered the curricula, the mechanisms for assessment and the systems for admission for the different stages of education: primary, junior secondary and senior secondary. As schools embraced the guidelines, appropriate support was given to establish and ensure the smooth and effective implementation of the reform. Student education and the ideal of education for all were firmly placed at the centre of the reform process:

> '(To) . . . enable every person to attain all-round development in the domains of ethics, intellect, physique, social skills and aesthetics according to his/her own attributes so that he/she is capable of lifelong learning, critical and exploratory thinking, innovating and adapting to change; filled with self-confidence and a team spirit; willing to put forward continuing effort for the prosperity, progress, freedom and democracy of their society, and contribute to the future well-being of the nation and the world at large.' (EDB, 2006, p. 5)

Poon-McBrayer (2004) posited that when the reform measures became fully implemented, then a clear direction for integration would be set and the existing boundaries between mainstream and special educational provision would eventually become blurred. As yet, this still has a long way to go before being realised.

In the USA and the UK, there is a general notion and movement towards 'responsible inclusion' (Waddington and Reed, 2006) with an underlying belief of 'a prevailing right to the best education' (p. 151). The concept of responsible inclusion is considered to include placing students with the necessary support services, providing professional learning opportunities to teachers concerning class and curriculum accommodation and modification, and providing alternative examination arrangements and appropriate assessment and collaboration with parents as partners (Woodrum and Lombardi, 2000). As such, countries like the UK continue to support a range of educational provision for children with ASD (Parsons, Guldberg and MacLeod et al., 2009). Although Hong Kong has started to embrace some of these responsibilities, as yet, very few modifications to curriculum or assessment are available because of the strong emphasis on examinations in all public schools.

Hong Kong context: initiatives supporting inclusive education for children with ASD
All children in Hong Kong start primary education at the age of six. Although it is expected that children with ASD have their educational needs met within appropriate provision, school placement is subject to professional assessment, subsequent recommendations and parental consent (EDB, 2007e). According to the school attendance numbers published by LEGCO (2008), there were 770 children with ASD included in primary school provision in 2007. Hong Kong continues to provide a range of educational provision

for children with ASD in primary and special schools, and is similar to the UK and Australia in this respect.

Inclusive education in the Asia-Pacific region has gradually witnessed the transformation of school culture and growth towards more supportive school environments for all (Forlin, Au and Chong, 2008; Poon-McBrayer, 2004). In support of a more inclusive approach in Hong Kong, the education department initiated two key support approaches after having successful trials from pilot projects. The two approaches are the whole school approach (WSA) from 1997 to 1999 and the School Partnership Scheme from 2003 to 2004 (EDB, 2007c).

WSA: support for students and teachers
Government initiatives have supported a large number of primary schools to adopt a WSA to embrace the ethos of inclusion and diversity. The initial stages of the programme in 2004/2005 offered places to students with mild grade intellectual disability, sensory impairment, physical disability and children with ASD with average intelligence. The WSA looked specifically at school change towards learning for all (Forlin et al., 2008), and schools were encouraged to develop an SEN policy to cover and support the five areas: identification, intervention, monitoring of progress, adaptations to assessment and curriculum differentiation, as well as developing good links with parents and staff development needs (LEGCO, 2008). Introduction of a new funding mode further enabled schools to address the financial aspects of support for all learners in schools adopting a WSA and was viewed as a step towards a more inclusive educational practice, rather than the integration of individual students (Heung, 2006).

At school entry, all children who attend regular classes undergo an early identification and intervention programme as part of the five strategies approach. The assessment is conducted on an annual basis for all form 1 students suspected of having learning difficulties (EDB, 2008b). Children are assessed in three core curriculum areas through the use of a teacher observation checklist (unavailable in English). As part of the support system, each school has a student support team whose role is to monitor children who are identified through this screening process as having a learning difficulty as they progress through primary school. Once the child's needs have been determined, schools are advised to cater for individual needs by using a three-tier intervention model (Forlin and Sin, 2010). Tier 1 refers to the first level of support where quality teaching for supporting students with transient or mild learning difficulties is the mainstay of the regular classroom. Tier 2 involves additional intervention for students who have persistent learning difficulties. The type of intervention involved at tier 2 focuses particularly on small group work and out-of-class intervention programmes. Tier 3 level of support is specific to students identified as having severe learning difficulties, and individual education plans help structure the type of intensive support these students need to gain access to educational opportunities (EDB, 2008a; 2008c).

School partnership scheme
A School Partnership Scheme has also been initiated to support schools in their development of educational strategies for children with SEN and ASD. The emphasis of the programme is to 'help ordinary schools acquire confidence and strategies in handling students with SEN' (EDB, 2007a), and the government allocates funding for schools to partner with special schools in the three designated areas of the special administrative region: Hong Kong Island, Kowloon and the New Territories. In 2009, there were 18 special schools-cum-resource centres (SSRC) in total, with 15 of the schools offering specific support to partner schools on strategies for children with ASD. A further two normal resource schools' WSA offered experience with including students with ASD. Forlin and Rose (2010) indicated that such a model of support was a valuable addition to the development of the WSA. There is, however, little information on the willingness of schools in adopting the School Partnership Scheme and a dearth of research into the efficacy of the scheme in raising staff capacity to meet the needs of children with ASD. In addition to the School Partnership Scheme, the EDB has sought to provide numerous teaching and learning materials with the aim of helping teachers to provide 'teaching and guidance to students with ASD' (LEGCO, 2008).

Challenges for including students with ASD in Hong Kong
A number of local challenges have emerged as Hong Kong has transitioned towards a more inclusive philosophy, which highlights the uniqueness of its Chinese heritage. This is particularly noticeable when local government schools are asked to cater for the needs of students with ASD. International findings report that mainstream teachers considered catering for children with ASD within a regular class to be the most challenging (Dunsmuir and Frederickson, 2005; Forlin, 2008a; Humphrey, 2008; Rose, 2008). A preliminary case study in the UK revealed a limited amount of research and lack of policy to support inclusive practice for students with ASD (Humphrey and Lewis, 2008). Furthermore, a lack of knowledge of the needs of children with ASD increases teachers' levels of anxiety as does a lack of in-class support and where staff has preconceived notions about a child with ASD (Rose, 2008). This is similarly the case in Hong Kong.

The issue of a relevant pedagogy for inclusion is a particular local challenge. Although pedagogy in the more developed countries has evolved under social constructivism, active employment of Vygotsky's zone of proximal development and strategies such as scaffolding, pedagogy in the Asia-Pacific region has largely remained didactic (Forlin, 2008b). Additional factors, such as large class size, a lack of teacher expertise and a lack of motivation, and systems barriers, such as no dedicated time for collaboration, limited resources and no additional adult support in classes such as an education assistant, have all compounded the development of inclusive education in the region (Forlin, 2008b). What has been identified as being key for progress towards inclusive practice is the recognition of these issues,

the development of a working definition of inclusion in schools and greater awareness that practice can potentially limit and perpetuate a system of segregation within the school environment (Forlin, 2007). In promoting education for all in the Asia-Pacific region, Forlin identified that staff need encouragement to become more proactive: 'If people believe that they want to produce an inclusive school, if they believe they want to have inclusive classrooms, then they will find a way to make this happen' (Forlin, 2007, p. 63).

Under education reform in Hong Kong, there has been an initial willingness to embrace diversity, but like many teachers around the world, teachers in Hong Kong have a gap in knowledge as to what constitutes best practice for children with ASD. This has impacted upon school placements. As stated by the LEGCO, normal schools have shown a degree of reluctance to enrol students with ASD (LEGCO, 2008). Reasons may include teacher attitude; taking a confrontational approach towards students who do not respond to conventional teaching approaches; and seeing the difficulties encountered as a within-child phenomenon rather than a result of classroom management (Rose, 2008). Furthermore, as pedagogy continues to evolve, a conflict exists for teachers in Hong Kong between their traditional didactic approach and the more innovative teaching approaches that are needed to support an inclusive philosophy (Forlin, 2008b). Research into Hong Kong teachers' perceptions of inclusive practice indicates a range of feelings about inclusive practice. Teachers raise concerns about the organic nature of the child's disability, their lack of prior experiences of working with children with SEN and their inadequate initial teacher training in SEN (Chong et al., 2007; Forlin et al., 2008). According to Pearson, Lo and Chui et al. (2003), mainstream teachers in Hong Kong lack the necessary experience, confidence and specialised skills to address the educational needs of all children.

A further challenge has been the urgent need for enhancing professional learning for teachers regarding inclusion. As teachers have mostly not experienced the inclusion of students with ASD in either their own schooling or in their career as a teacher, they have little understanding of what is required to accommodate them. The EDB has sought to address this extant lack of expertise through professional learning opportunities over the past 3 years (LEGCO, 2008). On average, 6000 places for teacher development in SEN have been made available; however, the proportion of training allotted to the eight different groups of children with SEN included in mainstream, and specifically for teachers to address the needs of children with ASD, is not clearly stated (Forlin and Sin, 2010). In addition to the specific training supplied by the EDB, staff training needs have been met through a range of workshops, seminars and school-based programmes. Tertiary institutions have been conscripted by the government to add breadth and balance to the EDB's development programme and to offer specific guidance on including children with SEN as part of a 5-year professional learning development plan (EDB, 2007e). To ensure appropriate support for students with ASD, the efficacy of the training in skill transfer to classroom practice now requires evaluation with a clear indication of the outcomes for teaching and learning.

Although many interventions and a range of strategies have been promoted internationally for including students with ASD, there is a dearth of research into the type of strategies that are most appropriate for use with Chinese children. Notions of what constitutes best practice have largely remained unchallenged, and little, if any, consideration has been given to how proposed strategies impact on culturally different classrooms. Moreover, educational outcomes for children with ASD in published research have received insufficient review (Parsons et al., 2009). Although Hong Kong has looked to the UK and the USA in many instances to determine strategies for use in schools, Huang and Wheeler highlight the need for the Asia-Pacific when following Western practice to be simultaneously mindful of the cultural differences that exist:

> 'Each culture has its own definitions of what behaviors are socially appropriate and what are not. So we need to be well aware that cultural differences may affect the implementation of the above educational programs in their countries, thus they are recommended to avoid copying everything from the United States. When implementing such interventions, educators/professionals in Southeast Asian countries need to be realistic and make appropriate modification when necessary . . . Meaningful intervention outcomes are obtainable only when interventions are built on the student's strengths and interests.' (Huang and Wheeler, 2007, p. 85)

Discussion

A fundamental position to the inclusive education movement in Hong Kong for children with ASD has been that of enabling equal opportunity. Yet gaining access to regular classrooms has been a major concern at government level, and independent recommendations by the ombudsmen suggest the need to build in a 'monitoring mechanism' to ensure consistency of practice between schools, equity with mainstream students and improvement of support (Office of the Ombudsman, 2009). Extant research into the efficacy of support models in place is lacking; thus, context-specific investigation is imperative as teachers seek to define what the best practice is for children with ASD.

There is active international debate around a broad definition of ASD, with key questions being raised concerning the scope and usefulness of the defining criteria as a number of characteristics fall under the spectrum. This is particularly pertinent in the Asia-Pacific region where identification relies on criteria developed with significantly different cultural and ethnic groups. Although accurate definition enables some children to access support and other services, children who fall short of the qualifying criteria remain on the outskirts of the provision triggers. Frederickson and Cline (2009) indicate that some children that teachers encounter in the classroom do not have a diagnosis and consequently receive no financial support for access to edu-

cational strategies and programmes. For children with ASD considered cognitively able, there is a growing concern around the use of criteria. Some individuals clearly exhibit specific markers for diagnosis reliability, but not all markers (Volkmar et al., 2009). This difficulty has budgetary implications for governments as needs may not trigger the necessary systems to access beneficial intervention strategies. In addition, teachers have found that some children have a diverse range of need. Support may or may not be forthcoming despite identification with the ASD criteria, yet students' educational needs remain the same. In Hong Kong, access to support in normal schools is determined on a per head basis and, compared with international funding, could be considered minimal. Even though no consideration is given to the level of support required by students identified with SEN when allocating funding, to date, only children with mild support needs are able to be catered for within normal schools.

Whereas the movement towards inclusion for children with ASD has certainly gained momentum in Hong Kong, in comparison to some jurisdictions, it still has a long way to go. Hong Kong currently provides 60 special schools that cater categorically for students with moderate to high support for SEN. All students with ASD co-morbid with an intellectual disability attend the special schools (LEGCO, 2008). In 2008, there were a total of 20 408 children with SEN in Hong Kong schools. Of these, 7448 attended a special school. A further 12 960 students with SEN were in non-specialist normal schools including 770 children with mild ASD in normal primary and 170 in normal secondary schools. Unlike many Western countries, though, parents are not proactive in seeking inclusion for their children with ASD as many consider that they receive a better education in the special schools where they (and their families) are not alienated or stigmatised. The issue of 'losing face' in the Chinese culture is so heavily entrenched that the idea of exposing a child with a disability and their family to non-family members is unacceptable. At this stage in its education reform, closure of special schools in Hong Kong would not be an appropriate option.

Albeit early intervention establishments in Hong Kong are now encouraged and do actively include students with mild ASD, an examination of pre-primary services for children with SEN in Hong Kong found that 'the standardized curriculum implemented in the integrated kindergarten programs (was) a major cause for excluding children with disabilities and keeping them from receiving appropriate instruction by kindergarten teachers' (Cheuk and Hatch, 2007, p. 430). Outcomes of their study suggested that the spirit of inclusive education found in the normal school system needed extension to early years inclusive practice and kindergarten education in general, with appropriate support being given at all levels.

Further evidence concerning children with ASD has demonstrated the children's heightened responses towards stress and that it takes longer for them to recover from this (Lytle and Todd, 2009). There is much to determine about how children with ASD learn, especially in skill generalisation (Bailey, 2007). For example, why do established teaching strategies that work well with the majority of children in mainstream fail to work with children with ASD? International research explains this phenomenon as a mismatch among the teachers' expectations of children with ASD, a lack of knowledge in how to approach learning and the unexpected responses that children with ASD sometimes exhibit (Tutt, Powell and Thornton, 2006). For some children, environmental factors such as sensory inputs may affect daily access to learning opportunities, thus compounding problems of opportunity and access. There is growing evidence of interplay found among the child having a learning difficulty, the child's interaction with the environment and the resultant experiences, which suggests that each identified factor contributes to what Goswami (2008) describes as affecting 'both basic liability and developmental trajectories' (p. 13). With so little teacher education in the early years arena for supporting students with ASD in Hong Kong, it is imperative that much greater emphasis is placed on this key area to ensure that early inclusion experiences in pre-school are appropriate and that they do not provide a negative rather than a positive experience for these children.

Conclusion

Hong Kong offers a unique cultural response and context for the development of inclusive practice for children with ASD. Although the process of inclusion has seen a slow pace of growth, the initiation of a WSA has been an endeavour to embrace and lead practice in the region. Evidence suggests that there is still a long way to go in developing a new culture in attitudes towards inclusion (Forlin, 2008a), which, it is believed, will emerge and change with the increased exposure of children with ASD to the mainstream education system. The change will also require culturally appropriate professional learning to enable teachers to reflect upon the specific challenges faced by developing an inclusive approach within a fairly regulated didactic education system (Forlin, 2010). With regular schools embracing inclusion within Hong Kong, the meaning of special education must change in focus and find a stronger foundation in the development of positive attitudes of all involved. 'To ensure success appropriate support must be provided to teachers and educational leaders with succinct and practical information on how to develop inclusive whole school communities that cater for a range of learners with diverse needs' (Forlin, 2008a, p. 6).

Evolution in service provision is a key area for future research and development. Changes in attitude may well come about in time as normal schools are encouraged to partner with special schools for specific resources and expertise under the School Partnership Scheme. Additionally, this particular model will need further exploration and gathering of empirical data, not only because it is a unique model and expands on the development of special schools as central resources, but also because as schools develop a WSA, specialist input and tapping into the vast experiences of special educators will help support changes in school

policy, school culture and the curriculum for students with ASD. Evidence-based approaches that are culturally and contextually grounded will help push the inclusion movement forward.

Although much research is conducted in the West, the Asia-Pacific region offers a huge potential for expanding knowledge in educational practice. If China is the next large economic growth area in the world, with the known precedence for its interest in educational achievement, this would suggest a shift of focal development in education and research from West to East. Clearly, there is a rich ground for potential research with the ultimate aim for improving teaching and learning for all children, including those with ASD. It is a time for innovation as well as review of research in light of cultural differences and applicability.

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