Overcoming Obstacles Associated with Other Learning Experiences and School-based Assessment: Perspectives of High School Students with Visual Impairment in Hong Kong

Collaborative Research Project Report

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EXECUTIVE SUMMARY

Overcoming Obstacles Associated with Other Learning Experiences and School-based Assessment: Perspectives of High School Students with Visual Impairment in Hong Kong

This report identifies obstacles that high school students with visual impairment experience in the curriculum areas of Other Learning Experiences (OLE) and School-based Assessment (SBA) in mainstream secondary schools in Hong Kong. The report explores and recommends various solutions for overcoming or minimizing these obstacles in the context of the new Senior Secondary Curriculum.

Twenty-five participants were interviewed, based on a structured questionnaire. They were asked to describe all the obstacles they have encountered in school-based assessment and OLE. They were also asked to suggest how teachers could minimize their difficulties and help them cope with obstacles. It was found that most participants encountered difficulties in OLE. Problems were specifically related to community service, aesthetic development and physical development. School-based assessments also presented difficulties, particularly in three compulsory subjects (Chinese Language, English Language, Liberal Studies) and the elective subjects of humanities. Suggestions are made related to increasing and improving training for teachers, making Braille / soft copies of reading materials available earlier, and strengthening the resource teacher support programme. Specific advice for classroom teaching and assessment of these students is also provided.

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ACKNOWLEDGEMENTS

1 Background and Context

1.1 School-based Assessment (SBA)

School-based Assessment (SBA) refers to all forms of assessment administered within schools and marked by the students' own teachers. Marks awarded in SBA also count towards students' results in public assessments, such as formal examinations. The purpose of SBA is to contribute to a fuller picture of a student's overall achievements by including performances and attainments that cannot be easily assessed in one-off public examinations. Public examinations may not always provide the most reliable indications of students' actual abilities. The Hong Kong Examinations and Assessment Authority (2008, p.1) states that: 'Assessments based on performance over an extended period of time and developed by those who know the students best—their subject teachers—provide a more reliable assessment of each student.'

The on-going and formative aspects of SBA also serve to reinforce good teaching practices by revealing clearly and regularly to teachers what their students know and can do.

1.2 The new Senior Secondary Curriculum

Over the period since the year 2000, major reforms affecting the style and scope of school education have occurred in Hong Kong. One very significant change has been the introduction of the new *Senior Secondary Curriculum*, jointly developed by the Curriculum Development Council and the Hong Kong Examinations and Assessment Authority. This curriculum is intended to provide all students with a broad and balanced education that contributes to 'whole person' development (Education Bureau, 2010).

The stated aims of the new curriculum are to widen students' horizons, help them build healthy lifestyles, cultivate positive attitudes and values, develop lifelong interests, and enhance career aspirations and positive work ethics (Education Bureau, 2008).

Under this new system, all senior secondary students now take four *core*

subjects (Chinese Language, English Language, Mathematics, and Liberal Studies). In addition, students choose two to three *electives* available from 20 subjects— a series of applied learning subjects and six other language subjects. All students also engage in what are termed *Other Learning Experiences* (OLE). OLE has five components: *moral and civic education, community service*, *career-related experiences*, *aesthetic development* and *physical development*.

1.3   Other Learning Experiences (OLE)

The opportunities potentially provided within the OLE component are highly relevant for all students, including those with disabilities. It is claimed that OLE can create a learning space that is different from the study of academic 'subjects', so that students can experience the pleasure of learning without the pressure of examinations (Education Bureau, 2010). It is hoped that the participatory nature of OLE can enhance students' attitudes towards learning as well as build their thinking skills, attitudes and values. The activities and experiences undertaken by students in OLE can be recorded in their *Student Learning Profile* (SLP) as evidence of their development and achievement.

Notes issued by the Education Bureau in Hong Kong (2010; and an undated memo) indicate that OLE should occupy not less than 15% of lesson/learning time. This equates with an allocation of 405 hours in total over 3 years. *Moral and Civic Education*, *Community Service*, *Career-related Experiences* together occupy 135 hours, and 135 hours each are to be allocated for *Aesthetic Development* and *Physical Development.* A combination of structured lessons and after-hours activities can be used to achieve this coverage. For example, *Physical Development* embraces much more than traditional 'physical education' (PE) in the narrow sense of that term, and includes encouraging students to develop a healthy lifestyle and to acquire recreation and leadership interests. This balance is achieved through structured lessons (amounting to some 5% of teaching time), in addition to activities out of school hours (clubs, team events, sports days, and competitions). *Community Service* and *Career Related Experiences* will more often involve time outside normal school hours (services in the community, visits to places of work, and work experience placements). The Education Bureau suggests that activities related to the community and

career awareness could also be timetabled during post-examination times, weekends or even school holidays if required. The area of *Moral and Civic Education* requires some formal lessons, but is also delivered through such occasional events as ceremonies, assemblies, festivals, discussions, and debates. *Aesthetic Development* is fostered through specific lessons and further stimulated by organized visits to musical concerts, film appreciation sessions, after-school clubs, art exhibitions, visits to galleries, attendance at plays and dance performances.

Taken as a whole, topics included under OLE, with their emphasis on active participation and affective development rather than academic attainment, have much to offer students with special educational needs. However, it is obvious that students with certain forms of disability or impairment may face obstacles to their full participation in some activities. The focus of the study reported here was on identifying the obstacles experienced by students with impaired vision when accessing OLE as currently implemented in secondary schools. The study also investigates difficulties they encounter in school-based assessment.

1.4   Students with visual impairment

Since 1997, the policy in Hong Kong has been introduced to integrate students with disabilities, including those with visual impairment, into mainstream schools wherever possible, and to provide additional support for their learning. The international trend toward establishing inclusive education over the past decade has strengthened this move (Knowles, 2011).

In the case of students with significantly impaired vision, gaining access to the mainstream curriculum and to extra-curricular activities can be difficult (Holland, 2012). Although the potential intelligence of students with impaired vision falls within the normal range, blindness and low vision can have considerable impact on the full development of this potential (Bigelow, 2005). Visual impairment can also affect a child's social development and self-efficacy. As Leung and Yeung (2007, p.264) have warned:

> 'Placing students with visual impairment in mainstream classrooms does
> not automatically guarantee success. The ultimate criterion is whether
> students   are   learning;   and   mainstreaming   without   adequate   and

competent support will inevitably lead to frustration for both teachers
and their students.'

Visual impairment is classified as a 'low incidence' disability, affecting
approximately 1 to 2 individuals per 1000 in most developed countries. There is
a higher ratio in countries and communities where health services and infant
care are less readily available. Students classified as visually impaired are those
who are *blind* and those who have *partial sight* (also referred as '*low vision*').
Those who are deemed to be *blind* may have no perception at all of dark or light
(*total blindness*); or their degree of vision loss is so severe that it is impossible
for them to perceive print, even when magnified. These students, if they are of
adequate intelligence, are taught Braille as an alternative tactile method for
reading and writing (Allen & Cowdery, 2009). It is estimated that only about 10%
of children with vision impairment are totally blind. In Hong Kong, students at
the school for the blind (Ebenezer School) are taught Cantonese and English
Braille. Reading rate in both Braille and with magnification is much slower than
with 'normal' reading.

Students with varying degrees of *low vision* (mild; moderate) are usually
able to respond to magnification of normal print for reading, and can process
visual information. These students should be encouraged to use their remaining
sight to the full in order to preserve the ability.

It is not surprising that Leung and Yeung (2007, p. 256) remark that "…
learning without vision is not an easy task; the quantity and quality of the
information will be reduced, and both students and teachers will have to work
harder in order to interpret information.' Similarly, Allen and Cowdery (2009,
p.170) advise that 'Children with vision problems require more time, more
practice, more verbal mediation, and more encouragement from adults.'

In recent decades, information and communication technology (ICT) has
opened up many new opportunities for visually impaired students to access the
curriculum and to seek information. Such conventional and assistive
technologies include electronic books, computer screen enlargers, 'talking
calculators', screen readers, devices that allow printed materials to be scanned
into the computer and read aloud by voice synthesizers, and software that
allows the student to speak his or her responses as input and have these

converted to text. Even the common word-processing programmes allow font size to be increased to suit the vision of partially sighted students. However, the unfortunate fact is that it is virtually impossible to equip all mainstream schools with the broad range of assistive technologies that can be found in special schools for blind students. We are still a long way from achieving the ideal envisaged by Reiser (2011, p.162) when he comments that '…inclusive schools need to be resourced, and staff trained, to meet the diverse needs of all [students].' He also believes that effective inclusion requires '…an adequate number of support staff and specialist teachers, including those with expertise in visual, hearing, physical, communication, learning and behavioural impairments' (p. 164).

The situation in Hong Kong is that a student with impaired vision may be enrolled at the Ebenezer School for the Blind, or may apply to any secondary school of his/her choice. Commonly, students may spend a few years at the Ebenezer School before integrating into a mainstream school. Mainstreamed students then have support from a pool of 20 resource teachers, funded by Education Bureau and recruited by the Ebenezer School for the Blind. Resource teachers visit the visually impaired students at various high schools and collaborate with regular teachers to support students' access to the curriculum. Some schools have more experiences than others with inclusion of visual impaired (VI) students.

In the school year of 2011-2012, there were 32 students with visual impairment enrolled in Secondaries 4-6 in local schools providing the new Senior Secondary Curriculum.

2 The Study

2.1 Objectives of the study

(1) To identify obstacles that high school students with visual impairment experienced in the areas of Other Learning Experiences and School-based Assessment in mainstream secondary schools in Hong Kong;

(2) To explore and recommend various solutions for overcoming or minimizing the obstacles students with visual impairment experienced in Other Learning Experiences and School-based Assessment of the New Senior Secondary curriculum in mainstream secondary schools in Hong Kong.

2.2 Significance of the study

This study has both academic and practical significance. With the advent of inclusive education in Hong Kong, more students with impaired vision are now attending mainstream schools. It is important for teachers, school counselors, and administrators to be fully aware of all the obstacles that students with impaired vision may face when they attempt to engage with the mainstream curriculum, undertake school-based assessments, participate in extra-curricular activities, and socialize with their peers. An awareness of these obstacles can pave the way to making modifications and interventions that improve students' learning and adjustment. In turn this ensures greater success for the students concerned.

The data collected provide useful information, particularly for supporting students with visual impairment in local schools and preparing teachers and school personnel for implementing inclusive practices (Ainscow, Booth & Dyson, 2006; Griffin-Shirley et al., 2002). In particular the study provides baseline information for improving the participation and success rate of high school students with visual impairment in the new Senior Secondary Curriculum in Hong Kong.

A review of the literature indicates that there have been a few studies on

the experiences of students with visual impairment in mainstream schools (e.g. Simon, Echeita, Sandoval, & Lopez, 2010). However, limited empirical research has been conducted so far in Hong Kong on inclusive education for these students (e.g. Hui, Sin & Kong, 2006; Sin, 2012). No studies have specifically documented their experiences and progress in the domain of what is now termed as 'Other Learning Experiences' (OLE) in the new Senior Secondary Curriculum. Similarly, no studies have yet investigated the experiences of visually impaired students in completing School-based Assessment (SBA). Obviously, there is a need for teachers to know how best to adapt or vary assessment procedures to accommodate students with impaired vision.

3 Method

3.1 Research Design

Data were obtained through face-to-face interviews with 25 visually impaired students who had experienced inclusive education for not less than one year in Hong Kong. The sample included S.4, S.5 and S.6 (Grades 10 to 12) students from secondary schools in different regions of the territory.

The email addresses of secondary school students with visual impairment were obtained from the Hong Kong Blind Union and their associated network. An invitation was then sent to parents and students, together with a consent letter to participate in the face-to-face interview. Parents were asked to read the invitation to the student and, if he/she agreed to participate, the signed consent letter was returned to us. The participants might choose to contact the research coordinator by email or telephone. Face-to-face interviews were conducted by research assistants at the Hong Kong Blind Union centres in Kwun Tong and/or Ebenezer School in Pokfulam, at a time convenient to the participants. A grant of HK$100 was provided as an allowance for those who attended the interview.

In the main study, details of each participant's personal background were obtained. Each participant was then asked to describe all the obstacles he/she encountered in the specific OLE areas of Moral and Civic Education, Community Service, Career-related Experiences, Aesthetic Development, and Physical Development. Participants were also asked to identify any obstacles they had encountered in school-based assessment. Finally, participants were then asked to suggest practical solutions that their schools and their teachers might use to reduce these obstacles.

3.2 Instrument

The questionnaire (see appendix) was constructed by the research team. Items were developed based on a literature review of educating school students with visual impairment and the relevant adaptations that could be made for

them. The items were then validated by a panel of educators, and persons with visual impairment. The questionnaire was piloted using face-to-face interviews.

This study formed the groundwork for a longitudinal study of inclusive education experiences of high school students with visual impairment, and teachers' practices in supporting students with visual impairment in Hong Kong.

4 Key Findings

4.1 Informants

Twenty-five students were interviewed, with a mean age of 19.08 (*SD* = 1.44) (see Table 1). Of the students interviewed, 7 (28%) were at S.4 level, 10 (40%) were at S.5, and 8 (32%) were at S.6. The sample contained almost an equal number of males and females.

In terms of visual status, 12 (48%) students were totally blind, 8 (32%) had severely low vision, and 5 (20%) had a moderate degree of vision impairment. Twenty-three (92%) were Ebenezer School graduates. Twenty-one (84%) used Braille. All reported receiving additional support from a resource teacher.

Table 1

Personal Particulars of the Informants

	Frequency	%
Grade		
S.4	7	28
S.5	10	40
S.6	8	32
Gender		
Boys	13	52
Girls	12	48
Visual status		
Totally blind	12	48
Severe low vision	8	32
Moderate low vision	5	20
Mild low vision	0	0
Ebenezer School graduates		
Yes	23	92
No	2	8
Braille user		
Yes	21	84
No	4	16
Resource teacher support		
Yes	25	100
No	0	0

Note. Age of informants (Mean = 19.08 ; SD = 1.44).

4.2   Results

4.2.1 Informants' Participation in OLE Activities

All students reported having participated in Moral and Civic Education and Aesthetic Development. Twenty-four of the students (96%) participated in Career-related Experiences, 23 (92%) participated in Community Service, and 20 (80%) joined activities related to Physical Development (see Table 2).

Table 2

Informants' Participation in Other Learning Experiences Activities

	Frequency	%
Moral and Civic Education		
Yes	25	100
No	0	0
Community Service		
Yes	23	92
No	2	8
Career-related Experiences		
Yes	24	96
No	1	4
Aesthetic Development		
Yes	25	100
No	0	0
Physical Development		
Yes	20	80
No	5	20

4.2.2 What are the obstacles that high school students with visual impairment experienced in the areas of Other Learning Experiences in mainstream secondary schools in Hong Kong?

In all five areas of OLE, difficulties and rejections were encountered. The participants reported most difficulties and rejections in the areas of Aesthetic Development, Physical Development and Community Service. 'Rejection' in this context included experiences such as not being considered capable of benefitting from an experience, and being left out of an activity.

Regarding Aesthetic Development, 15 (60%) encountered difficulties while 7 (28%) encountered rejection. Under Physical Development, 8 (40%) encountered difficulties while 11 (55%) encountered rejection. Within Community Service, 11 (48%) encountered difficulties while 2 (9%) encountered rejection. The details are summarized in Table 3.

Table 3

Difficulties and Rejections in Participating in Other Learning Experiences Activities

	Frequency	No. of students who have participated	%
Difficulties Encountered			
Moral and Civic Education	5	25	20
Community Service	11	23	48
Career-related Experiences	4	24	17
Aesthetic Development	15	25	60
Physical Development	8	20	40
Rejection Encountered			
Moral and Civic Education	4	25	16
Community Service	2	23	9
Career-related Experiences	3	24	13
Aesthetic Development	7	25	28
Physical Development	11	20	55

The participants reported difficulties in community service if the activities were carried out in an unfamiliar setting. For example, without assistance from their peers, they did not know the environment and any possible dangers in the area designated as the flag-selling station. They also felt 'insecure' while doing outside service in the community because they could not see the responses of the people they served.

In the domain of aesthetic development activities, participants explained that the most difficult tasks involved dealing with and responding to artifacts that they could not see. Some students believed that they could manage better if there is someone who can speak with them about the scene — for example, give a description of what is occurring in a movie, or have a narrative service (e.g. tape recording and headphones) in a museum.

Regarding physical development activities, most students complained

that they were not allowed to engage in ball games. And in some cases, they were excluded from even simple physical exercises like jogging, because teachers were afraid that they would hurt themselves.

4.2.3 What solutions exist for overcoming or minimizing the obstacles students with visual impairment experienced in Other Learning Experiences of the New Senior Secondary curriculum at mainstream secondary schools in Hong Kong?

The most frequently suggested strategy to enhance participation in OLE was to arrange *'tailor-made' OLE programmes* for students with impaired vision, taking into account their strengths, weaknesses and capabilities. This supports Rieser's (2011) view that to facilitate inclusion there is a need for teachers to develop a sensitive approach to meeting the 'impairment-specific needs' of students with disabilities. This strategy was suggested by 16 students (64%). Tailor-made programmes in areas such as Community Service, Career-related Experiences, and Physical Development should be age-appropriate and challenging enough to raise students' interest and self-confidence. Students with impaired vision should not automatically be excluded from experiential and hands-on activities in these domains, simply on the basis of their disability. If teachers ensure that common sense safety measures are in place at all times students with impaired vision should engage in the same range of experiences as their peers. 'Tailor-made' also implies that adapted resources are always made available for these students to use—for example, soft copy, enlarged print texts and notes, audio recordings, models to manipulate, and Braille materials for those who use this medium.

Another solution suggested by 11 students (44%) was to *offer better training to teachers* so that they have an improved awareness of the learning characteristics and capabilities of students with impaired vision. They could then plan appropriate (tailor-made) learning experiences and prepare appropriate materials. They would also understand better the use of assistive technologies used by most visually impaired students (e.g. screen reader,

tactile map, low vision aids, binoculars, compressed speech recordings, etc) (Hersh & Johnson, 2008).

A few students (n=5, 20%) highlighted the value of *encouraging peer support* as one strategy for helping them cope with schoolwork and the school environment. For example, a classmate could read out the words that teachers write on the whiteboard. Enlisting the support of peers could be regarded as one additional way to help with tailoring the programme to the students' needs. Peer support is also important for the *social inclusion* of these students. Social development is often reported to be problematic for secondary school students with impaired vision, partly due to a lack of opportunity at a younger age to mix and interact freely with other children (Westwood, 2009). It is further restricted if members of the peer group feel shy or are lacking confidence in interacting with a classmate who is blind. Teachers can do more to facilitate the development of peer support; but obviously they cannot 'force' the formation of friendships.

Other feasible suggestions from the students are summarized in Table 4.

Table 4

Practical Suggestions in Enhancing Participation in Other Learning Experiences

	Frequency	%
Arrange tailor-made OLE programmes	16	64
Offer more specific training to teachers	11	44
Encourage more peer support	5	20
Offer more activities that VIS students can cope with	4	16
Arrange more staffing to enable teachers to give individual help	4	16
Facilitate an early and easy information delivery system	4	16
Give professional advice to school staff by resource teachers	2	8
Offer clear instructions and supporting materials	2	8
Promote inclusive education climate in school	1	4
Foster effective communication	1	4
Maintain stable policy	1	4

4.2.4 What are the obstacles that high school students with visual impairment experienced in the areas of School-based Assessment in mainstream secondary schools in Hong Kong?

As shown in Table 5, a number of students reported encountering difficulties due to visual impairment during their school-based assessment in all compulsory subjects. 13 (54%) reported encountering difficulties in Chinese Language, 10 (42%) in English Language, and 17 (74%) in Independent Enquiry Study (IES) in Liberal Studies. For the elective subjects, 46% of the participants taking humanities subjects reported encountering difficulties.

Table 5

Difficulties in Completing School-Based Assessment Related to School Subjects due to Visual Impairment

Difficulties Encountered due to Visual Impairment	Frequency	%	% (excluding the missing value)
Chinese Language			
Yes	13	52	54
No	11	44	46
Missing value	1	4	
English Language			
Yes	10	40	42
No	14	56	58
Missing value	1	4	
Liberal Studies independent enquiry study			
Yes	17	68	74
No	6	24	26
Missing value	2	8	
Sciences subjects			
Yes	1	4	33
No	2	8	67
I did not study these subjects	20	80	
Missing value	2	8	
Humanities subjects			
Yes	6	24	46
No	7	28	54
I did not study these subjects	4	16	
Missing value	8	32	
Technology subjects			
Yes	1	4	100
No	0	0	0
I did not study these subjects	22	88	
Missing value	2	8	

Difficulties Encountered due to Visual Impairment	Frequency	%	% (excluding the missing value)
Chinese Literature			
Yes	1	4	100
No	0	0	0
I did not study these subjects	21	84	
Missing value	3	12	
English Literature			
Yes	1	4	100
No	0	0	0
I did not study these subjects	24	96	
Visual Arts			
Yes	0	0	--
No	0	0	--
I did not study these subjects	25	100	
Physical Education			
Yes	0	0	--
No	0	0	--
I did not study these subjects	25	100	

Notes. 1. In relation to the missing values, some S4 students had not experienced SBA in some subjects. 2. Regarding English School-based Assessment, some students with visual impairment reported that they had difficulties following subtitles in movie appreciation activities.

4.2.5 What are the solutions for overcoming or minimizing the obstacles students with visual impairment experienced in School-based Assessment of the New Senior Secondary curriculum at mainstream secondary schools in Hong Kong?

Three suggestions emerged as the most practical for helping vision impaired students cope with school-based assessments. The first was to *avoid using complicated images during assessments* (n=8, 32%). Teachers seem not to understand that it may be difficult for a blind student, or one with very low vision, to respond to complicated images (unless these are embossed and available for tactile interpretation). Similarly, they seem unaware that students with partial sight also have difficulties attending to details even when using a magnifier, particularly in poor classroom lighting conditions. However, students with visual impairment can comprehend figures and graphics when provided with a *clear written or* verbal description. As Bigelow (2005, p.409) points out: 'Language becomes blind children's most useful tool for deciphering the external world.' For example, one student commented that subtitles on films shown in class were also difficult to read, indicating that teachers may need to devote more attention to reading aloud what is on the screen, or at least providing an overall oral commentary where necessary.

The second suggestion was to *grant more time allowance* (n=7, 28%) for students with impaired vision to complete take-home assignments and in class tests. Most books on teaching vision impaired students stress the importance of allowing adequate time for these students to process new information and produce their responses (e.g. Bishop, 2004; Salisbury, 2008). For example, as stated above, both Braille users and students with moderate to severe low vision require much more time to process and comprehend written matter (Leung & Yeung, 2007).

The third suggestion was to *offer soft / Braille copies of reading materials* (n=6, 24%). Material in Braille is routinely available in special schools for blind students (e.g., Ebenezer School in Hong Kong), but it is much more difficult to produce this material immediately on demand in a mainstream school. Visiting resource teachers can help with this process, but

they are not necessarily immediately available when a particular lesson or topic is to be taught.

Over a period of time, mainstream schools need to develop a resource pool of adapted and modified teaching materials (including Braille resources, models, and tactile graphics) for each subject area. Teachers can then draw upon (and contribute to) this pool as the need arises.

Refer to Table 6 for the details of other practical suggestions.

Table 6

Practical Suggestions for Supporting Students with Visual Impairment Completing School-Based Assessment Related to School Subjects

	Frequency
Avoid using complicated images for assessments	8
Grant more time allowance for completing assessments	7
Offer soft / braille copies of reading materials	6
Allow flexibility in the ways students complete work	3
Provide early information on topics to be taught	2
Offer a companion staff during assessment	2
Arrange a more convenient schedule for SBA	2
Encourage peer support	2
Be aware of individual differences and individual needs	2
Use a timer during discussion	1
Offer a personal tutor where possible	1
Allow mark exemption	1
Arrange more staffing	1
Have a wider range of teaching and assessment resources	1
Exempt laboratory work if this not viable for VI students	1
Reduce homework burden	1
Offer more activities	1
Reduce the quantity of SBA	1
Divide the scope between tests and other forms of SBA	1

5 Discussion and Recommendations

5.1 This study found substantial difficulties for senior secondary school students with visual impairment when taking part in OLE and SBA.

5.2 *Opportunities for physical education and recreation.* Regarding OLE, while most of the students had engaged in OLE despite visual impairment, a substantial proportion of them encountered difficulties and rejections in the domains of Aesthetic Development, Physical Development and Community Service. This may be due to teachers' unwillingness to take risks in offering these students challenging activities; and perhaps reflected an underestimation of what students with vision impairment could achieve. Teachers traditionally tend to focus on what students with disabilities *cannot* do, rather than on what they *can* do (Rieser, 2011). One of the goals for in-service teacher development courses should be to raise teachers' awareness of the capabilities and potentials of these students.

In areas such as physical education and sports, there is a natural tendency for teachers to assume that students with impaired vision cannot participate for reasons of safety. However, these students have the same need for participation as other students and can be actively engaged if given support (e.g. peer assistance) and, where necessary, modified rules or equipment (Letcher, 2012). Teachers should, of course, check with student records and the visiting resource teacher to make sure the student does not have a visual defect that could be made worse by physical activity (Leung & Yeung, 2007). But in all other cases, physical education is an essential component in the visual impaired student's balanced curriculum. If a VI student is rejected from or excluded from physical activities on the basis of his or her impairment, this is clearly discriminatory. Opportunities for physical education and recreation are needed to achieve the OLE purpose of providing students with a broad and balanced curriculum. This principle has been fully acknowledged, for example in legislation within the United States (AAPAR/ASPE, 2010; Auxter et al., 2010), but not in Hong Kong.

5.3 *Teacher preparation.* As reported in other studies, it is not uncommon for students with visual impairment to encounter difficulties in the areas covered by OLE (Herold & Dandolo, 2009; Hui, Sin, & Kong, 2006). One of the barriers is that teachers and related assistants may not receive adequate training in teaching students with visual impairment. They may have insufficient understanding of the needs of those students, such that the instructions or teaching materials are not adapted to their abilities. In particular, teachers need to be fully aware that their frequent *non-verbal* communications (gestures, pointing, facial expression, etc) are not seen by blind students, and are very poorly perceived by those with low vision. For this reason, in every lesson much more *clear verbal communications* should be made to express surprise, pleasure, displeasure, and praise, as well as to convey explanations and information (Bigelow, 2005).

Some of the teaching techniques needed for blind students do require specialist training (e.g., orientation, mobility, Braille, etc) and mainstream teachers are not necessarily expected to have such skills. The specific skills are seldom included in initial teacher training programmes.

Florian and Rouse (2010) highlight the importance of teacher education, both pre-service and in-service, for providing teachers with attitudes and skills that will enable students with disabilities to succeed in inclusive schools. They also recognize that traditional teacher preparation courses have done very little to encourage teachers to be adaptable in their approach and, for example, work closely in tandem with a resource teacher or with colleagues to meet the disability-specific needs of their students. This lack of preparation to address the practical challenges of inclusive education is certainly typical of teacher education in Hong Kong.

Teachers should receive relevant on-the-job training. There are many simple things that any mainstream teacher can do routinely to help students with low vision —for example, providing soft copy of materials, printing handouts and notes in larger font size, using very clear verbal descriptions when teaching and explaining, checking frequently for understanding, always writing very clearly on the blackboard or whiteboard, seating the student with a vision impairment near the front of the class, and allowing more time for the student

to complete work.

In addition, in-service teacher education programmes need to give better attention to practical strategies for teaching students with special needs in the mainstream, to supplement the very general coverage that is typically provided in pre-service courses (Florian & Rouse, 2010). Teachers should also encourage and facilitate the setting up of a *peer support network*, to help the student with impaired vision take part in OLE programmes and keep up with assignments and note-taking.

5.4 *Personalized OLE.* Based on the practical suggestions made by the participants, more OLE programmes should be personalized and tailor-made for students with visual impairment (Reiser, 2011). This means that programmes are set up in a way that is sensitive to their needs and to their main channels of learning (hearing and touch), using for example accessible information on audio tape or CD format, more tactile graphics and multisensory experiences. In order to improve these areas, teachers should be provided with more specific training, targeted at planning activities and resources for students with visual impairment (Hui, Sin, & Kong, 2006). Training should focus not only on knowledge but also on attitudes, so that teachers can be more sensitive to the needs of these students. In particular, teachers should be able to understand the unique difficulties experienced by students with visual impairment (Simon, Echeita, Sandoval, & Lopez, 2010). But, as Ravenscroft (2012) indicates, improving the mainstream provision for students with visual impairment requires much more than mere 'awareness'— specific skills for teaching and adapting instructional materials and tests are also needed.

5.5 *Participation of Non-Governmental Organizations (NGOs).* NGOs typically have a pool of staff with valuable expertise in certain specialist areas, and these personnel could have a more active role in teacher training. In schools, their expertise could, for example, be called upon to help with tailoring OLE programmes for VI students. They could also contribute greatly to public education for teachers, parents and students.

5.6 *Community support.* More mutual support between students should be encouraged in schools. As suggested by Hui, Sin, and Kong (2006), the current level of mutual support between students with and without visual impairment often seems to be insufficient. Poor mutual support and restricted social acceptance can lead to the psychosocial problems sometimes suffered by students with visual impairment. Mutual respect and support within the student body must include all students with disabilities and differences as well as those without such problems. This applies not only to OLE activities but to daily school life as well. Some practical strategies for enhancing peer support include: making frequent use of group work that requires collaboration among students, finding a helpful student who is able and willing to be a 'buddy' for the VI student during group activities, providing a partner who will help the VI student during PE sessions or on excursions outside school, and generally creating a supportive classroom environment in which every student is supported and valued.

5.7 *Special arrangements for assessment.* The main practical suggestions related to school-based assessment are all feasible, if schools recognize and respond to them. Often it is the pressure of other duties or a heavy workload that causes teachers to overlook these basic common sense accommodations.

In terms of classroom tests or examinations, the teacher should clearly inform the VI students of the instructions for the test and provide a soft copy to reduce the amount of time taken by the student with visual impairment to read the material, and to ensure that he or she understands. It could be good enough for VI students to be well informed of the instructions. Teachers do not need to read aloud the instructions for VI students in particular.

Students with visual impairment (low vision) can often comprehend figures and graphics if provided with a *clear* description. However, assessment materials or tasks that require blind or very low vision students to deal with complicated images are inappropriate, even if they are easily accessed by other students in the class.

In such situations, students with impaired vision could be assessed by other means, such as oral testing or by practical demonstration of a skill. With

students whose visual impairment is less severe, printed tests may still be appropriate if the font size is enlarged on the computer or the photocopier, and if more space is available for them to write or type the answers. Additional suggestions for adapting assessment material and procedures are presented in Appendix 3.

As stated above, most authorities on teaching students with impaired vision stress the need to allow these individuals *more time* for completing class-work and tests. This may mean using a withdrawal room for their testing and examinations, and having another adult acted as a supervisor. If no time allowance is provided, the teacher is not acknowledging a very significant difference among learners, and is therefore not operating in a fair or inclusive manner.

Until schools have built up a pool of Braille / soft copies of core texts and notes, tactile graphics and models, the lack of immediate access to such materials will remain a problem for visual impaired students, significantly impeding their learning progress. Even when such a resource pool exists, there will still be a need to produce immediate materials in Braille or through thermoform duplicator at short notice. If a resource teacher is permanently attached to a school, the problem is less acute. As suggested by the Hong Kong Blind Union (2010), students receiving reading materials late are profoundly hindered in their learning, and this negatively affects their satisfaction with school life.

It would be impossible, of course, to suggest that all teachers should learn to read, write and produce Braille. And it must be admitted that this is one aspect of inclusive education that requires greater thought. Advocates of 'universal design for learning' (e.g., Rose & Gravel, 2011) would suggest that when curricula are first designed and produced by education departments or similar bodies, the resources involved should be produced immediately *in multiple formats* (including Braille and soft copy) so that all learners can access them easily. Perhaps this principle suggests that pressure should be exerted on the Education Bureau in Hong Kong to establish a resource unit within the Curriculum Development Institute that has the responsibility of producing adapted versions of resources for all compulsory subjects. However, while it is

technically feasible to produce a stock of Braille materials that cover key concepts in subjects such as science, mathematics, geography or history, it is much harder to do so in subjects that rely on constantly changing topics for their subject matter. Liberal Studies and some OLE courses fall in this latter category; and their need for new materials in Braille will be ongoing. However, current advanced assistive technology for students with visual impairment makes provision of softcopy an easier way for teachers to provide appropriate reading resources for their students.

5.8 *Resource teacher support programme.* Despite the support of resource teachers, a high proportion of students reported difficulties completing school-based assessment related to school subjects; and in particular those difficulties related to their visual impairment. Most students encountered great difficulties in Liberal Studies (independent enquiry study), Chinese Language, and English Language. The fact that all three subjects are compulsory highlighted the intensity of the problem that visual impairment is the primary factor hindering successful participation in the main curriculum. One main reason for this seems to be the delay in providing (and in some cases, complete lack of) Braille / soft copies of reading materials and related resources, thus postponing their learning schedule (Hui, Sin, & Kong, 2006; Simon, Echeita, Sandoval, & Lopez, 2010). As Rieser (2011) rightly points out, for inclusion to work effectively, resources need to be immediately available in alternative forms (Braille, audio, etc).

In some countries, (e.g. Britain; Australia) a limited number of secondary schools in each region have been designated as places where students with vision impairment can be integrated and included. These schools are then provided with necessary assistive technology to facilitate their inclusion and their learning. It is recognized that providing *all* secondary schools with such equipment is not viable due to the huge expense. The benefit of schools for inclusion of VI students is that, over time, the teachers within these schools would become more confident and competent in meeting the needs of these students. And if a school enrolls a number of VI students it becomes possible to place a resource teacher at the school. In Hong Kong, the roles of resource

teachers in refining the inclusive education framework at school level and collaborating with subject teachers could further be enhanced.

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Appendix 1

Interview Questionnaire (In English)

**Centre for Advancement in Inclusive and Special Education
& Hong Kong Blind Union**

Collaborative Research Project

Obstacles encountered by visually impaired students when engaging with Other Learning Experiences and School-based Assessment

Questionnaire and Telephone Interview Guide

[Note: The text below is a translation. The questionnaire was presented in Chinese. It was read aloud to any participant whose vision is seriously impaired].

Dear Students,

When you answer these questions you are providing us with information that will help us better understand your experiences in taking part in Moral and Civic Education, Community Service, Career-related Experiences, Aesthetic Development, and Physical Development. These are all referred to as 'Other Learning Experiences' in the New Senior Secondary Curriculum.

We also want to know your views on school-based assessment, which is also part of the New Curriculum. School-based assessments are conducted by your teachers, which include tests, homework, laboratory work, and independent study projects.

For each question we will ask you, there is no right or wrong answer. Please answer by giving your own views and experiences. You may also be able to suggest to us things your teachers could do that would make it easier for you to undertake Other Learning Experiences, and to be assessed fairly by your teachers.

Participation in this study is entirely voluntary. You may stop at any time without penalty. No record will be taken for non-completing participants. You will not be identified personally in any report or document that summarizes our findings later. All information obtained will be used only for research purpose.

The interview will take about 30 minutes. An allowance of HKD100 will be provided to all participants of the interview. You may withdraw from the interview at any time. For further information, please feel free to contact our research coordinator, Ms. *** (email *** or phone ***).

Thank you very much for participating in this research project.

Yours sincerely,

Dr. Yuen Man Tak

Associate Professor and Project Leader

Interview questions

1. Your gender: (1) Female

(2) Male

2. (a) Your Grade: (1) S.4

(2) S.5

(3) S.6

(b) Age: _____

3. Your Visual Status: (1) Total blindness

(2) Severe low vision

(3) Moderate low vision

(4) Mild low vision

4. Were you a student of Ebenezer School?   (1) Yes

(2) No

5. Are you a Braille User?   (1) Yes

(2) No

6. Have you received Resource Support Programme Service?

(1) Yes. For how long? _____

(2) No

7. In the past two years did you participate in activities in these domains?

7.1 Moral and Civic Education	(1) Yes	(2) No
7.2 Community Service	(1) Yes	(2) No
7.3 Career-related Experiences	(1) Yes	(2) No
7.4 Aesthetic Development	(1) Yes	(2) No
7.5 Physical Development	(1) Yes	(2) No

Did you experience any difficulties when participating in these activities?

(1) Yes. Please describe the difficulties:_____

(2) No.

8. In the past two years, have you been rejected from participating in activities related to these domains?

      8.1 Moral and Civic Education   (1) Yes   (2) No

      8.2 Community Service   (1) Yes   (2) No

      8.3 Career-related Experiences   (1) Yes   (2) No

      8.4 Aesthetic Development   (1) Yes   (2) No

      8.5 Physical Development   (1) Yes   (2) No

      What reason did the teacher give for rejecting/excluding you?

9. Please give three practical suggestions to schools and teachers for supporting you better in participating in these learning experiences.

      9.1

      9.2

      9.3

10. In the past two years, did you encounter difficulties due to your visual impairment in completing school-based assessment related to these school subjects? If you experienced difficulties, please describe them.

      10.1   Chinese Language school based assessment   (1) Yes   (2) No

      10.2   English Language school based assessment   (1) Yes   (2) No

      *10.3   Mathematics school based assessment   (1) Yes   (2) No

      10.4   Liberal Studies independent enquiry study   (1) Yes   (2) No

      10.5   Sciences subjects (e.g. Physics, Chemistry or Biology) school-based assessment

      (1) Yes

      (2) No

      (3) Not applicable, I did not study these subjects

      (*10.3: The question was cancelled)

10.6   Humanities subjects (e.g. Geography, Economics, Ethics & Religious Studies, Chinese History or History) school-based assessment

(1) Yes

(2) No

(3) Not applicable, I did not study these subjects

10.7   Technology subjects (e.g. Design and Applied Technology, Information Communication Technology) school-based assessment

(1) Yes

(2) No

(3) Not applicable, I did not study these subjects

10.8   Arts subjects (e.g. Visual Art) school-based assessment

(1) Yes

(2) No

(3) Not applicable, I did not study these subjects

10.9   Physical Education school-based assessment

(1) Yes

(2) No

(3) Not applicable, I did not study this subject

11. Please give three practical suggestions to schools and teachers on supporting you to overcome obstacles that are related to the completion of school based assessment.

Thank you for your collaboration and participation in this study.

Appendix 2

Interview Questionnaire (In Chinese)

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香港大學　教育學院

融合與特殊教育研究發展中心 與

香港失明人協進會

合作研究計劃

視障學童參與「其他學習經歷」與「校本評核」時所面對的障礙

</div>

訪談指引

[注意: 問卷會以中文顯示，文稿會朗讀給視障參與者聽。]

親愛的同學：

當你回答以下問題時，你所提供的資料有助我們了解你參與新高中課程中「其他學習經歷」的經驗，這包括：「德育及公民教育」、「社會服務」、「與工作有關的經驗」、「藝術發展」、以及「體育發展」。

此外，我們亦希望知道你對「校本評核」的看法，這也是新高中課程中的一個部份。「校本評核」是由你的所就讀的學校老師負責執行的，這包括測驗、功課、實驗操作、以及一些獨立研習項目。

訪問員所問你的問題，是沒有所謂對與錯的答案，請憑你的看法以及個人經驗提供答案；你亦可以就校方如何協助你參與「校本評核」及「其他學習經歷」提出建議，老師也能更公平地評核你的表現。

參與這次研究計劃是完全自願的，你可以在任何時間要求停止而不會有任何懲罰性的後果；未成功完成訪問的參與者，我們不會作任何記錄；你的個人身份絕對保密，並不會在任何報告或文件中被確認出來。整個過程將會錄音以作紀錄。參與者有權要求檢閱及刪除錄音。研究人員將會筆錄內容。所有搜集得來的資料只供研究之用。對於不希望被錄音的參與者，研究人員會確保他的談話內容將**不會**被錄音。

訪談需時約三十分鐘，參與訪談者將獲得港幣一百元的津貼。在訪談中，你可以隨時退出參與。若想取得更多資料，可與我們的研究聯絡員***小姐聯絡（電郵：*** 或電話：***）。

非常多謝你參與這次研究計劃。

袁文得博士上

副教授及計劃統籌

2012 年 5 月

面談問題

1. 你的性別: (1) 女
   (2) 男

2. (a) 你的年級: (1) S.4
   (2) S.5
   (3) S.6
   (b) 你的年齡: _____

3. 你的視力狀況: (1) 完全失明
   (2) 嚴重低視力
   (3) 中度低視力
   (4) 輕度低視力

4. 你曾是心光盲人學校的學生嗎? (1) 是
   (2) 不是

5. 你是點字的使用者嗎? (1) 是
   (2) 不是

6. 你有接受過資源支援計劃服務嗎?
   (1) 有, 多久? 是什麼?
   (2) 沒有

7. 在過去兩年，你有沒有參加過下幾個「其他學習經歷」範疇的活動?

7.1	德育及公民教育	(1) 有	(2) 沒有
7.2	社會服務	(1) 有	(2) 沒有
7.3	與工作有關的經驗	(1) 有	(2) 沒有
7.4	藝術發展	(1) 有	(2) 沒有
7.5	體育發展	(1) 有	(2) 沒有

7.6 在參與這些活動時，你有沒有因為視障而經歷過什麼困難呢?

   (1) 有

   (2) 沒有

若有，請描述一下你所遇過的困難:

-

-

-

-

8. 在過去兩年，你有沒有被拒絕參加下面幾個範疇的活動?

8.1	德育及公民教育	(1) 有	(2) 沒有
8.2	社會服務	(1) 有	(2) 沒有
8.3	與工作有關的經驗	(1) 有	(2) 沒有
8.4	藝術發展	(1) 有	(2) 沒有
8.5	體育發展	(1) 有	(2) 沒有

   在拒絕你參與的時候，老師提出的理由是什麼呢?

9. 請向學校和老師提出三個可行的建議，以支援你能更理想地參與這些學習經歷。

   9.1

   9.2

   9.3

10. 在過去兩年，在完成有關學校科目的校本評核時，有沒有因為視障而遇到困難呢? 若有，請描述一下你所遇過的困難。

10.1　　中國語文校本評核　(1) 有　　(2) 沒有

10.2　　英國語文校本評核　(1) 有　　(2) 沒有

*10.3　數學校本評核　　(1) 有　　(2) 沒有

10.4　　通識教育獨立專題　(1) 有　　(2) 沒有
　　　　探究

10.5　　科學教育科目 (例如： 物理、化學 或生物) 校本評核
　　　　(1) 有　　　(2) 沒有　　3) 不適用， 我沒有修讀這些科目

10.6　　個人、社會及人文教育科目 (例如： 地理、經濟、倫理與宗教、
　　　　中國歷史或歷史) 校本評核
　　　　(1) 有　　　(2) 沒有　　3) 不適用， 我沒有修讀這些科目

10.7　　科技教育科目 (例如: 設計與應用科技、資訊及通訊科技)
　　　　(1) 有　　　(2) 沒有　　3) 不適用， 我沒有修讀這些科目

10.8　　藝術教育科目　(例如:視覺藝術)
　　　　(1) 有　　　(2) 沒有　　3) 不適用， 我沒有修讀這些科目

10.9　　體育科
　　　　(1) 有　　　(2) 沒有　　3) 不適用， 我沒有修讀這科目

(***10.3**: 題目已取消)

11. 請向學校和老師提出三個可行的建議，以幫助你克服因要完成有關校本評核所出現的障礙。

11.1

11.2

11.3

多謝你在這次研究的合作和參與！

Appendix 3

Modifying test procedures and materials for students with impaired vision

The purpose of modifying test procedures and materials is to ensure that all students have a fair opportunity to reveal what they know about the topic, and what skills they have acquired. The following suggestions, adapted from Westwood (2012), are relevant when seeking to accommodate students with impaired vision within a school-based assessment model:

- Where appropriate (e.g. in the case of blind students), assess individuals through oral questioning, and accept oral answers.

- Alternatively, the test sheets are prepared in Braille with all figures or diagrams embossed (tactile graphics).

- When printed tests are appropriate (e.g. students with some residual vision), keep written instructions brief and simple.

- Leave adequate space for students to write answers.

- Include a variety of question types (e.g. short answer; multiple-choice; sentence completion; gapped sentences or paragraphs with words to be entered; true/false items; matching items). Present multiple-choice options *vertically* but not horizontally.

- Read aloud the instructions before the test begins. Check carefully for understanding. If relevant, repeat the instructions as each new section of the test is reached.

- When necessary, arrange the student to complete the test supervised in a private environment rather than the classroom (e.g. social worker's office; withdrawal room; library).

- When undertaking tests, students with partial sight must be permitted to use whatever magnification or other assistive devices they would normally use.

- On test papers, the print should be enlarged to 14pt, 16pt or even 18pt.

- It is often helpful to change the font from Times New Roman to Calibri or Arial, *without serifs*.

- If possible, avoid the use of italics.

- Enlarge any diagrams, tables and figures. Some diagrams may need to be simplified or presented in embossed form.

- Photographs may need to be replaced with simple dark line drawings.

- For some types of vision impairment (but not all), it helps to increase illumination of the page by means of a desk lamp. Obtain advice from student's records or from visiting specialist teacher.

- With certain vision defects, the use of a tinted paper, rather than white paper, can facilitate reading of print. The same applies to modifying the background colour on computer screens. Obtain advice from student's records or from visiting specialist teacher.

- For some visually impaired students, it is advisable to give occasional breaks if the test or examination lasts more than 45 minutes.

SHARE

Please share this report with your colleagues and friends