

Part C (Project Details)

10. Project Details

(a) Background

Introduction

In recent years, the number of children diagnosed with autism spectrum disorders (ASD) has risen steeply and overwhelmed the resources of school systems (Coo et al., 2008; Guillermo & Halterman, 2006). The 2010-2011 Policy Address of the Chief Executive showed that the Government would endeavour to provide early identification, assessment and treatment for children with ASD to ensure that they receive appropriate care and support during their development. Autism spectrum disorder (ASD) is a developmental disability, which affects the normal functioning of the brain. In recent years, more children are being diagnosed with ASD. Over the last few decades there has been a major rise in the rate of autism (Rutter, 2005). Around 6500 families in Hong Kong have members with autism spectrum disorders (ASD) (Health and Welfare Bureau, 1994, p.12). The reports of the prevalence rate indicated that approximately 1 in 110 individuals was diagnosed with ASD (Centers for Disease Control and Prevention [CDC], 2009). The increase of the number of individuals with ASD has caused the rise in enrollment of this group of students in ordinary school settings and the increase has resulted at a corresponding demand for appropriate instructional programs to be provided (Lerman, Vorndran, Addison, & Contrucci-Kuhn, 2004).

In fact, children with autism have received attention and services since 1970s. Children with autism were usually placed in special schools for children with mental handicap. A Resource Teaching Program (RTP) has been introduced to special schools since mid-1980s. Additional resources are allocated to those special schools with an enrollment of a number of 8 children with core autism or 16 children with autistic features. In general, principals of special schools could employ an additional resource teacher for the enrollment of an average of 12 children with autism or autistic features. Since 1997, the Hong Kong Government has launched the integration scheme. As indicated in the Dowson et al's Report (2002), most teachers opined that the most problematic category of disabled children to deal with is the children with autism. Their perception about children with autism is not surprising. Children with autism manifest themselves in many facets of behavioral idiosyncrasies and developmental delays. There is no doubt that the priority is given to the development of efficient and effective instructional programs suitable in both inclusion and special education classrooms (Machalicek et al., 2010; Matson, Sevin, Box, & Francis, 1993)

Teaching Students with ASD the generalization skills

To function independently throughout the school day, students should possess the ability to applying skills learned in one setting to other settings. The development of independent skills is an essential curricular goal for students with ASD. It is important for students to have successful community inclusion and future employment. A unique feature of students with ASD is their difficulty in encountering a new environment. The application of learned skills to other settings could be a hindrance to their independent

performance in current and future environments. In developing and demonstrating the skills necessary to generalize skills from one setting to the other settings, it is useful to understand what challenges students with ASD may face.

Learning Needs in Students with ASD

Many individuals with ASD have difficulty in generalizing skills learned in one environment to new environments (Koegel, Koegel, Harrower, & Carter, 1999). They may also demonstrate behavioral differences from one setting to another (Lord & McGee, 2001). Many students with ASD focus on specific details of an event, routine, or concept and they are not able to manage to connect the details and find out its meaning (Happe & Frith, 2006). The demonstration of stimulus overselectivity is a unique feature of these students (Reed & Gibson, 2005). Students with ASD may attend to specific parts of a situation without regard for the context within which the situation occurs (Happe & Frith, 2006; Quill, 2000). Their attention would be placed on a limited number of environmental cues at one time. The features of overselectivity, or attention to parts rather than wholes result in the limitation of the students with ASD the understanding the whole picture of the scenario (Happe & Frith, 2006). This is especially true for the situations which are new and complex (Reed & Gibson, 2005). Hume (2004) argued that focusing on specific details without attention to the whole scenario causes the problem in identifying the core components that would allow generalization of skills across environments. Difficulties in generalizing behaviors and detail-oriented processing significantly influence the ability of individuals with ASD to participate independently in many different environments.

Yet, researchers have observed that an important measure of the functionality of a newly acquired communicative behavior is whether it results in a generalized use across settings, behaviors, and persons (Mirenda, 2003; Schlosser, 2003). In addition, generalization of skills has been cited as one of the indicators of appropriate use of newly acquired skills (Schlosser, 2003). It is therefore reasonable that intervention programs that have been proven to be effective for persons with disabilities are also assessed on their capacity to promote generalization.

Major Components of Instructional Program for Students with ASD

To enhance the skills of the students with ASD in acquiring generalization skills, it is important to encourage students with ASD to engage in learning actively. Active engagement is considered as one of the strongest predictors of learning for students with ASD (Iovannone, Dunlap, Huber, & Kincaid, 2003; Koegel, Koegel, & McNeerney, 2001). Learning activities focused on functional skills, recognition of mental states, and computer based instruction (CBI) have the support from a growing body of literature.

Functional skills

The functional skill instruction provides students with the opportunity to learn valuable skills that lead to greater independence and autonomy (Brown, et al., 1979). A functional curriculum allows the students to learn the life skills they require for successful daily living. More importantly, a functional curriculum equips the students with the skills to encounter for future environments. Students need to be exposed to curriculum content designed to enhance their current and future environments such as school, home, community, work place (Tse, Chiu & Ho, 1992). The emphasis on natural settings will maximize the meaningfulness and relevancy of the instruction and allows for the integration of skills from other domains (Browder & Snell, 1993; Snell, 1988). For

generalization of skills to other environments, students should be arranged to receive instruction for functional skills in natural environments as much as possible.

Recognition of Mental States

The sets of symptoms used in formal diagnosis of autism have varied over time and across cultures. However, in summary, all systems emphasize limited verbal and communicative behaviors and abnormal social relationships. Wing and Gould (1979) referred to these features as 'the triad of impairments' of social interaction, communication and imagination in autism, which manifest themselves in many facets of behavioral idiosyncrasies and developmental delays. However when one looks at these behaviors which appear so different superficially, say lacking pretend play, or being withdrawn in one's own world, or failing to engage in the to-and-fro conversations with other people, one cannot help wondering if there is a core deficit or a few core deficits that can give an overall explanation of the impairments at the psychological level. *Theory of mind* (ToM) is one such theory which says that without the ability to mentalize other people's behavior, individuals with autism cannot relate to people in an ordinary way and this is the fundamental deficit that lies at heart of most of their anomalous behaviours.

ToM was first used by Baron-Cohen, Leslie, and Frith (1985) to explain the core deficits of autism in socialization, communication and imagination. "A 'theory of mind' is defined as the ability to infer other people's mental states (their thoughts, emotions, beliefs, desires, intentions, etc.), and the ability to use this information to interpret what they say, make sense of their behavior and predict what they will do next" (Howlin, Baron-Cohen, & Hadwin, 1999). "Theory of mind" refers to three implicit areas of human behavior in social interaction: (a) attributing mental states to oneself and others; (b) predicting other people's actions based on such knowledge; and (c) responding with affective reaction. It mainly entails concepts of belief, emotion, and imagination. "Theory of mind" therefore stipulates that without the ability to mentalize other people's behavior, individuals with ASD cannot relate to people in an ordinary way and this is the fundamental deficit that lies at heart of most of their anomalous behaviors.

Computer-based instruction

Computer-based instruction (CBI; e.g., Bosseler & Massaro, 2003; Hetzroni & Tannous, 2004) is a potentially effective approach to students with ASD social and communicative skills for several reasons (Powell, 1996). First, research has shown that students with ASD often respond well to teaching techniques that are presented visually (Bondy & Frost, 1994; Whalen et al., 2010). The visual displays of CBI can attract the attention of students with ASD. Second, CBI could be used to minimize the impact of social deficits shown by students with ASD as CBI can be a means to reduce the complexity of student-teacher interactions. Students with ASD might benefit more from instruction if they do not have to simultaneously engage in social interaction with the teacher. Third, CBI can cater to the individual needs of students with ASD. Students can select difficulty settings appropriate for their own levels of ability. Finally, computerized instruction potentially can be explicit with immediate feedback, extensive skills review, and consistent error correction procedures. Finally, lessons in the computer program can be repeated; thus, creating consistency in structure and the development of a training routine (Golan & Baron-Cohen, 2006).

Simpson, Langone, and Ayres (2004) used CBI to deliver social skills instruction to young students with autism in teaching in social protocols like turn taking and waiting for a turn. Mechling, Pridgen, and Cronin (2005) used CBI to teach verbal

responses for questions occurring in fast food restaurant. Mechling and Ortega-Hurndon (2007) used CBI to teach three complex chained tasks to young adults with developmental disabilities. Similar to the methodology used in, computer controlled the delivery of video and the teacher assisted with prompting. Ayres, Langone, Boon, and Norman (2006) followed Mechling et al.'s video strategy to teach purchasing skills to secondary school students with intellectual disabilities. Mitchell, Parsons, and Leanoard (2007) present one of the most technologically advanced examples of combining video and computer interaction for students with autism. They used a virtual reality environment to instruct teenaged students how to interact in a café (order food, sit at a table etc). Evidence suggests that video can be a powerful teaching tool (Ayres & Langone, 2005). CBI allows greater student independence during instructional activities because the video interactions are mediated by computer which provides prompting (often in the form of video) and an opportunity for the student to practice aspects of the target behavior.

Theory of Mind teaching programs for students with ASD in Hong Kong

In 2001, a Hong Kong Institute of Education (HKIEd) research team started a home-school partnership project to teach children with ASD social skills. Ho, Cheng-Lau, Chiu-Ching, Fung-Fung, Sin, and Yip-Ng (2003) have published a teaching package "Using Theory of Mind to Teach Children with Autism (ToM I)" after the completion of the project. The team looked into the possibility of teaching children with autism what constituted social appropriateness. The program provides the teaching materials that bridge the gap between surface behavioral skills and underlying psychological functions, which the current Education Department's Guide Book has left void. The team used Theory of Mind (ToM) (Howlin, Baron-Cohen, & Hadwin, 1999) as a reference to design the program book.

Teachers, however, had the following concerns on the first volume of the teaching package: First, the recognition of four basic emotions was not sufficient for students to socially interact with other people. Children with ASD might obtain more benefits from those programs with a wider selection of emotions and social skills. Second, though positive results were observed in this training program, the program was mainly designed for one-to-one teaching and focused on teaching four basic emotions, mind reading as well as imaginative play. The programs which are able to cater the needs of small group or whole class teaching would be more useful in intact classes. Third, there were no follow-up activities after the recognition of emotions in the first teaching package. That is, the manner in which the student should react when he or she felt happy, unhappy, angry or scared. Fourth, the emotions of the characters were identified in static forms. It is difficult for children with ASD to differentiate the face expressions between some emotions in pictures or photos. An unhappy face sometimes looks similar to that of an angry face. When the emotions were shown dynamically, the facial expression would include movement of eyes as well as the shaking of heads. In addition, the changing color of the face could also provide clues for students to recognize different facial expressions. Fifth, it is more useful for students to recognise facial expressions in contexts. A concern is that the students might not be able to generalize what they learned from the teaching package to the real environments.

Since 2007, our research team was funded by the Education Bureau to work on the production of the second volume of ToM teaching package (Ho, 2009). The activities which have been tried out in member schools were selectively adopted and reorganised. In this teaching package, a number of 60 stories were collected. The content of these stories was closely related to situations that children with ASD encountered in daily

life. The stories were categorized into four domains: school, community, domestic and leisure. Each story consists of eight activities:

1. Cartoon Video Story: The aim is to identify the situation;
2. Recognition of Emotions: The aim of this activity is to identify the emotions that the main character or the other characters in the story would have;
3. Recognition of Emotions (II): The aim of this activity is similar to that of the previous one. The aim is identification of emotions;
4. Situation Analysis: The aim of this activity is to assist the student to analyze the situation of the story;
5. Thought Bubbles: The aim of this activity is to identify the solutions for the problem;
6. Problem Solutions: The aim of this activity is to identify the solutions with the assistance of the video clips;
7. Role Play: The aim of this activity is to role-play the characters in the situation so that the student is able to experience the emotions of the characters; and
8. Collection of Views: The aim of this activity is to provide an opportunity for the students to understand the feelings of other people for a particular situation.

The major difference of the second volume of teaching package is the introduction of additional number of emotions in the teaching activities. A number of 14 emotions were identified in the 60 stories. In addition, the emotions were presented in cartoon video. An angry face was illustrated with a red face, enlarged eyes as well as the standing up hair. The emotions were found in a real life environment. The recognition of the emotion was not independent of the situation. Another difference is that, in addition to the recognition of different kinds of emotions, the teaching activities to deal with the emotions were also designed. Students were not only taught the emotions that they or other people would face. More importantly, they would be taught to solve the difficulties if they faced a particular kind of emotions. When encountering an impatient emotion, for example, while waiting a long time for the arrival of a bus, the student would be taught that he could sing a song, read a story, or count the people on the street and so on for relaxing their impatient emotions.

In general, comments on this package were positive. Most teachers agreed that the video stories were attractive. The follow-up activities were logically linked. It was easy for students to follow the order to attempt the eight activities. In addition, the procedure for delivery was shown in the guide book and demonstration of each activity in real classrooms was given to teachers. All in all, this was a user-friendly teaching resource for teaching the recognition of emotions and the relaxation of adverse emotions. Teachers in their try-out teaching reported that students benefited from the training.

Teachers, however, also suggested that some students were not required to go through all the follow-up activities. It is useful for the package to provide guidelines for teachers to select the most appropriate situations and follow-up activities for their students. Guidelines for considering variables such as grade level, age, gender, and special needs in the selection of situations and activities should be provided. In addition, the activities in the package were not interactive. The children were not able to obtain responses for their performances. It would be useful for students to have self directed learning. Students can make their own choice to select stories and follow-up activities. Self-monitoring of the learning should be encouraged. Another insufficiency is that the stories related to false beliefs were not much mentioned. As most situations were collected from teachers and parents, they usually placed the emphasis on the most urgent needs of the children with ASD, such as how to read a book quietly in the

library, or follow the regulations in a ball game. Teachers and parents were less attentive to their deficits in recognizing the concepts of false beliefs. However, it is important for teachers and parents to teach their children the false beliefs for understanding the intention of other people.

In 2009, our team has again been funded by QEF for a project on “Implementation of Theory of Mind (ToM) Learning Activities: Teaching Students with Autism Spectrum Disorders”. This project focuses on three major areas:

1. to enrich existing ToM teaching materials such as exemplars of program planning and teaching materials on more complex emotions and concepts of false belief. A revised version of the ToM teaching package will be produced.;
2. to equip teachers the knowledge and skills in using ToM activities to deal with the social problems of children with ASD; and
3. to maximize the learning effects of the ToM activities by inviting parents to follow up the school activities.

A dissemination of the teaching package will be held in September 2012. In recent years, the Hong Kong teachers have been keen to find out the strategies which are supposed to be effective in teaching students with ASD. These teaching methods and activities are designed for teachers and parents to use. The developed teaching packages are resources for teachers and parents to plan the training programs. There are very limited materials which are designed for students with ASD to work on their own. The computer-based instruction (CBI) can be an alternative for students with ASD to learn effectively and efficiently.

The new proposal

The argument for the existing teaching packages for students with ASD in Hong Kong is that the target groups of users are teachers and parents. The teaching packages are useful resources for teachers and parents to train students with ASD social and communicative skills. There are limited materials which are designed for students to work on their own in Hong Kong. On the other hand, learning materials of this kind can vastly be found in western countries. The environment offered by computer-based intervention tools are habitual and persistent, levels of difficulty can be adjusted to fit the needs of the individual user. The goal of these interventions is to present users with a “system” of emotions. Ideally, once learned, users can apply these systems to real-life situations.

The Interactive Guide to Emotions (Baron-Cohen, Golan, Wheelwright & Hill, 2004) is a multimedia computer program aimed at systematically teaching emotion recognition. In this program, over 1000 emotion words were sought and these emotion words were grouped into 412 discrete emotional concepts. The emphasis of the program is placed on facial expression and voice. These emotions were grouped into families or groups. This Guide is divided into 6 levels to teach age-appropriate emotions.

- Level 1 : equivalent to a typical 4-7 year old
- Level 2 : equivalent to a typical 8-10 year old
- Level 3 : equivalent to a typical 11-13 year old
- Level 4 : equivalent to a typical 14-16 year old
- Level 5 : equivalent to a typical 17-18 year old
- Level 6 : an adult

At level 6, all the 412 emotion concepts and 24 emotion groups are shown. There are three applications within the Mind Reading program: the emotion library, the learning center, and the game zone. The emotion library consists of a series of images,

definitions, stories, videos, and voice recordings for each emotion. The learning center contains lessons and quizzes in a structured environment. Lessons allow users to review sets of commonly used emotions and to measure their success with corresponding quizzes. The game zone consists of five games aimed at enhancing emotion recognition in an enjoyable and educational manner. All games require some degree of skill; these range from tasks involving the manipulation of an actor's level of emotional display, to activities focused on memory and ToM skills.

Baron-Cohen, et al.'s program focuses mainly on the recognition of simple and complex emotions. The proposed program emphasizes the follow-up responses to the identified emotions. The activities include the analysis of real life situations by using wh-questions, the identification of the emotions of the characters in the story, the working out of the solutions to the problems.

For example, once the student finds that he/she feels unhappy, the responses to the emotion can be 'reading a story', 'talking to a friend', or 'having a soft drink'. In particular, the computer program will include real life stories which the people would have different emotional reactions to the main character's behaviours, quizzes to test the students' understanding of the stories. Each individual can be monitored distinctly. Rewards of the program in case of achievement of a certain task can be selectable by teacher. Since all the responses (wrong, correct, omitted) are stored in database separately, in case of any request they can be easily used for statistical analysis or tracking the individuals' improvement.

The aim of this project is to develop an interactive multimedia computer program for the students with ASD to enhance their generalisation skills. Baron-Cohen, et al.'s computer program would be used as a reference. The specific objectives of the project are:

1. to compile the existing teaching materials for students with ASD into a multimedia computer program for interactive learning. The computer will consist of the recognition of emotions, appropriate responses to real life situations through quizzes and games;
2. to assist the students with ASD to generalize the learned knowledge and skills into real life situations; and
3. to conduct a study to validate the effectiveness of the computer program.

In addition, schools will be invited to take part in the computer program. The schools will be networked to share their experiences in the delivery of the computer program.

Outcome of the Project

1. A workshop for teachers of participating schools
2. A multimedia computer program
3. A school-based training program for children with ASD
4. An evaluative report of the effectiveness of the computer program
5. A dissemination seminar for teachers of ordinary and special schools

Activities to be Organised and the Details

Nature	Purpose	Targets and expected number of beneficiaries
Workshop	A workshop for the implementation of ToM package will be conducted to teachers of participating schools	Teachers of 21 schools (around 40 teachers) will be invited to take part in the school-based training program for students with ASD.

Cross-site visitation	School-based training program	Teachers of the participating schools will involve in these activities. A school network is set up for teachers to have a platform for an interactive exchange of ideas, resources, services, and expertise among different schools that mutually address the needs of children with ASD. In particular, teachers will be provided the opportunity to demonstrate new technique; practice in workshop settings; and receive prompt, constructive feedback from their colleagues.
Dissemination seminar for teachers	Collaborative and consultative meetings	Four meetings will be organized for preparing teaching materials; sharing information; co-planning learning activities; and reviewing the effectiveness of the proposed activities.
Supervisory visits	School consultative visits	Institute supervisors will visit each participating school at least once in each phase of the project.

Action Plan with Time-line

It is planned that the project will last for 30 months and the activities will be organized as follows:

Phase	Activities	Dates	Remarks
1	<ul style="list-style-type: none"> Recruiting staff for the administrative work Notifying schools and prospective families to participate in the project Identifying children for training Designing the multimedia computer learning materials 	October 2012 to May 2013	
	<ul style="list-style-type: none"> Planning the delivery of the training programs for children with ASD Trying out the multimedia materials Revising the content and activities of the computer program 	June 2013 to August 2013	<ul style="list-style-type: none"> Meetings for Institute lecturers and teachers Visit to a centre for children with ASD in the UK

Phase	Activities	Dates	Remarks
2	<ul style="list-style-type: none"> Inviting interested schools to participate in the training program Conducting instructional program for target children Visiting individual schools Arranging cross-site visitations for peer observation Video-shooting 	September 2013 to May 2014	<ul style="list-style-type: none"> Visits to school by Institute lecturers and overseas consultant A feedback session for teachers of participating schools

	<ul style="list-style-type: none"> • Editing the video 		
	<ul style="list-style-type: none"> • Compiling the materials for the final version of the computer program 	June 2014 to August 2014	
	<ul style="list-style-type: none"> • Preparing the materials to be presented in the dissemination seminars • Conducting seminars for teachers 	August 2014 to March 2015	<ul style="list-style-type: none"> • One seminar for teachers of special and ordinary schools in Hong Kong

Proposed Budget

Items	Breakdown (HK\$)	Total (HK\$)
Staff Costs		
1. 1 full-time executive assistant (MPF, medical incl)	$(\$18,000 \times 30 \text{ mth}) \times 1.05$	\$567,000
Sub-total		HK\$567,000
Services		
1. Funding for Participating Schools <i>(used for hiring of supply teachers purchasing teaching materials; seeking support for IT professionals, subsidizing part of travel expenses for overseas visit, etc.)</i>		
▪ First phase 6 core Schools	$\$20,000 \times 6 \text{ schools}$	\$120,000
▪ Second phase 6 core Schools 15 participating school	$\$20,000 \times 6 \text{ schools}$ $\$10,000 \times 15 \text{ schools}$	\$120,000 \$150,000
2. Services of supply teacher		
▪ Supply teachers for cross-site visitations (\$1023 per day) (first phase)	$\$1023 \times 6 \text{ school} \times 6 \text{ days}$	\$36,828
▪ Supply teachers for cross-site visitations (\$1023 per day) (second phase)	$\$1023 \times 21 \text{ school} \times 6 \text{ days}$	\$128,898
3. Services of the leadership team		
▪ Overseas working partners	$\$40,000 \times 2$	\$80,000
▪ Local consultants:		
- Collaborative meeting (\$800 per hour for the local consultants) (phase 1 and phase 2)	$\$800 \times 3 \text{ hrs} \times (4+4) \text{ meetings} \times 3 \text{ consultants}$	\$57,600
- Lectures (\$800 per hour for local consultant) (phase 1 and phase 2)	$\$800 \times 4 \text{ hrs} \times 2 \text{ workshops (for teachers)}$	\$6,400
- Cross-site visitation (\$800 per hour for local consultant) (phase 1 and phase 2)	$\$800 \times 5 \text{ hrs} \times (6+6+15) \text{ schools}$	\$108,000
- Seminar (\$800 per hour for speakers) (Phase 1 and Phase 2)	$\$800 \times 6 \text{ hrs} \times 2 \text{ seminars (for teachers)} \times 3 \text{ consultants}$	\$28,800
▪ 6 part-time student assistant (preparing teaching materials, and implementation of the training)	$(47 \times 6 \text{ assistants} \times 100 \text{ hr})$	\$28,200
4. Production of teaching and learning package		
▪ Production of the multimedia computer programs		\$400,000

<ul style="list-style-type: none"> ▪ Video Shooting of class activities ▪ Online platform and website 	\$10,000 × 6 days	\$60,000 \$50,000
Sub-total		HK\$1,374,726
General Expenses		
1. Miscellaneous items such as stationery, printing and photocopying, postage, travel expenses (site visit; conference; study visit), cost for renting venue (retreat, seminar), reference materials, retreat for teachers of member schools, audit fee, etc.		\$90,674
2. Production of teaching and learning package		
<ul style="list-style-type: none"> ▪ CD-ROM production ▪ Learning packages 	\$50 per copy × 1,000 copies \$100 per copy × 1,000 copies	\$50,000 \$100,000
3. Institute Overhead		\$112,400
Sub-total		HK\$353,074
Grand Total		HK\$2,294,800

Justifications for the budget:

- **Staff costs:** The executive assistant should possess a bachelor degree in special education, psychology or information technology. It is expected that the executive assistant would assist the project leader to liaise with teachers for the administration of the tests and training programs for the children with ASD. It is also important for the executive assistant to contact the IT companies for the production of the teaching package.
- **Funding for participating schools:** There are two levels of participation in this project. The core schools would be those schools which assists the team to develop the interactive computer program whereas the participating schools would later join in the project to try out the developed materials for the validation of the effectiveness. The funding is used for hiring of supply teachers purchasing teaching materials; seeking support for IT professionals, subsidizing part of travel expenses for overseas visit, etc.
- **Services of local consultants:** Lecturers of the tertiary institutions and expert teachers who have involved in the previous ToM projects will be invited to be the local consultants of the project. The role of the local consultants is to give comments and advices for the design of the project and delivery of the teaching programs. The local consultant is also required to monitor the progress of the training programs. The local consultant pays regular visits to schools to provide teachers immediate advice for the improvement of the programs. It is suggested that at least 4 meetings will be held for the discussion of the preparation of teaching materials, the planning of teaching programs, the compilation of materials for the teaching package, etc. Another important role is to observe lesson teaching during the cross-site visitations. Advices would be given to teachers for their performance in the follow-up discussions. It is proposed that each school will be visited on-site by a consultant at least once in each phase. Dr Chiu-Ching Tak Lan, former senior lecturer, Hong Kong Institute of Education, Mrs Agnes Fung-Fung Wing Yee, former senior inspector, EDB, Mrs Lisa Cheng-Lau Lai Ha, former inspector, EDB, Ms Lee Suk Han, former senior educational psychologist, EDB, Mrs Yip-Ng So Yue, guest lecturer of Department of Special Education and

Counselling, HKIEd and expert teachers of previous core schools will be invited to be the local consultants of this project.

- Services of working partners: A number of international scholars from the University of British Columbia, the University of Oxford, the London School of Economics and Political Science, Edith Cowan University, and the University of Newcastle are working partners with the team to conduct some joint projects on the education of students with SpLD as well as professional development for teachers of students with special needs. These scholars will also invited to work collaboratively with the team to design the learning package in this project. A subsidy will be given to members of the working partners for their services (e.g., demonstration lessons, advices to the delivery of the training programs, talks in the seminars, etc.) to the Project.
- Training package: It is expected that an interactive computer program can be completed and disseminated to schools in February or March 2015.

(b) Targets and expected number of beneficiaries

A total number of at least 21 special and ordinary schools will be invited to participate in this project. Schools will be requested to try out the proposed computer interactive activities. These activities will later be compiled into a learning program. It is expected that over one hundred students with ASD will be involved in this program.

(c) Evaluation method, that is, how the objectives and effectiveness of the project/activities are evaluated

An advisory committee will be set up to monitor the progress and effectiveness of the proposed project. Principals of member schools and representatives of EDB will be invited to join the advisory team. Regular bi-monthly meetings will be held to monitor the progress of the project.

The additional measures for evaluating the products of this project are described as follows:

Items	Evaluation methods
The orientation seminar for teachers	Questionnaire
The 2-day intensive training workshop for teachers	Questionnaire
The 10-week training program for children with autism	Direct observation; interview; questionnaire
The training program: <ul style="list-style-type: none"> • A manual for teachers • A computer interactive program for students with ASD • A report on the implementation of the training program 	Questionnaire; interview
The seminar for teachers on how to use the training program	Questionnaire

(d) Sustainability of the Project

To sustain the Project, it is suggested that a subscription is required when teachers wish to acquire the consultation from a group of expert teachers and professionals for the use of teaching materials. The subscription will support the continuous implementation of the regular activities, such as the development of new ToM teaching materials,

consultancy to new schools, delivery of workshops, etc. The following activities will be the major concerns for sustainability of the Project:

1. Consultancy and on-going support to schools:

An advantage for our team is that the Centre for Special Needs and Studies in Inclusive Education (CSNSIE) of HKIEd can be used as the base for communication among schools in the future. The Centre can provide venues for regular meetings for experiences and resources sharing, and conducting training courses for teachers and parents. It is hoped that the cross-site visitation can be organized. Some teachers have involved in ToM projects for more than ten years and these teachers possess a good knowledge of teaching emotions to students with ASD. These teachers will be invited to be members of the leadership team. The team will attach to the CSNSIE and they can provide consultancy and on-going support to teachers of new participating schools when requested.

2. Organisation of School networks:

Participating schools of this Project will be networked. Teachers can, therefore, share experiences and resources. It is hoped that the culture of mutual support could be sustained and the dependence on the Institute would be diminished. For a long-lasting sustainability, the Institute will set up an online platform for teaching materials uploading and information exchange. Member schools will also be encouraged to upload their materials in their school websites. The websites of member schools will also be hyperlinked with that of the Institute. Member schools will be requested to take turns to maintain the online platform. It is hoped that the mutual support among schools will continue even after the completion of the Project.

(e) Additional Value of the Project

It is expected that a total number of 21 schools will participate in this project. In this Project, a school cluster system will be set up, with the goal of providing members with a platform, through which the interactive exchange of ideas, resources, services, and expertise, mutually addressing the issues pertaining to children with ASD, can be conducted. The sharing of experience and expertise among teachers is an important form of professional development (cf., Arthur, Butterfield, and McKinnon, 1998). It is important that a supporting learning community for teachers, through which they can share viewpoints and solve problems, be made available (Blanton & Perez, 2011). Collaborative learning is at the core of community practices involving the co-construction of meaning and mutual relationships through a shared enterprise (John-Steiner, 2000). In particular, learning communities serve as venues for the co-construction of knowledge (Fullan, 2007; Waldron & McLeskey, 2010). Therefore, professional development should have collaborative activities that provide opportunities for reflecting, sharing of expertise, co-constructing knowledge, and revisiting beliefs about teaching and learning.

As the knowledge and skills of teachers who have participated in previous ToM projects is comparatively mature, it is about time for these teachers to share experiences with teachers of other schools. As mentioned before, a leadership team will be organized. Members of the leadership team will be invited to conduct ToM workshops. Members of the leadership team will take the role of instructors for teachers' professional development.

(f) Applicants' Organisation**The Hong Kong Institute of Education**

The HKIEd is a tertiary institution, which draws on a long tradition of initial teacher education and professional development in Hong Kong through its roots in the former Colleges of Education and the Institute of Language in Education. The Institute is dedicated to promoting excellence in teacher education and to conducting research relevant to improvement in teaching and learning in the Hong Kong school system. It is well equipped with up-to-date teaching and research facilities; the purpose-built campus also fosters a strong coordination and professional collaboration among various schools, academic departments, and specialized units/centres. The Research Development Office of the Institute has a strong team of research specialists. A good research network has been set up with local and international universities and educational organisations. There is also strong support in the deployment of human resources, application of advanced pedagogic knowledge and utilization of resource materials within the Institute. HKIEd's Library.

(g) Report Submission Schedule

My organization commit(s) to submit proper reports in strict accordance with the following schedule:

Project Management		Financial Management	
Type of Report and covering period	Report due day	Type of Report and covering period	Report due day
Progress Report 1/10/2012 - 31/3/2013	30/4/2013	Interim Financial Report 1/10/2012 - 31/3/2013	30/4/2013
Progress Report 1/4/2013 - 30/9/2013	31/10/2013	Interim Financial Report 1/4/2013 - 30/9/2013	31/10/2013
Progress Report 1/10/2013 - 31/3/2014	30/4/2014	Interim Financial Report 1/10/2013 - 31/3/2014	30/4/2014
Progress Report 1/4/2014 - 30/9/2014	31/10/2014	Interim Financial Report 1/4/2014 - 30/9/2014	31/10/2014
Final Report 1/10/2012 - 31/3/2015	30/6/2015	Final Financial Report 1/10/2014 - 31/3/2015	30/6/2015

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