

## Research Article

# INTERVENTION STRATEGIES USED ON A STUDENT WITH AUTISM SPECTRUM DISORDER IN THE MAINSTREAM CLASS AT STAR INTERNATIONAL SCHOOL BANGKOK

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## Abstract

**This research study will find out what are the best two intervention strategies that teachers, parents and other family members can use to help a child or student with ASD. This can help teachers and learning support assistant to decrease stress in supporting student with ASD and help them to be an effective teacher. The study discusses the different classroom intervention strategies that we can use in teaching student with ASD in the mainstream class.**

**The research focuses on a sample of high school students with autism spectrum disorder in one of the international schools in Bangkok. For confidentiality, we will name the school as Star international school Bangkok.**

**Keywords: Intervention Strategies, International Schools, Autism Spectrum, Mainstream Class**

## Introduction

Autism Spectrum Disorder (ASD) does not choose by race or ethnicity, whether you are Asian neither Westerner you can be affected by ASD. It is not based on the family income or educational level to have a child with ASD; anyone can have a child or children with ASD. Autism is usually first diagnosed in childhood. About 1 in 68 children is diagnosed with autism in the United States. Autism spectrum disorders are three to four times more common in boys than in girls. Studies in Asia, Europe, and North America have identified individuals with ASD with an average prevalence of about 1%. A study in South Korea reported a prevalence of 2.6% [1].

On November 25, 2014, there was an article that was published in The Arizona republic newspaper

in the United States of America that caught the interest of the researcher. The article was entitled ‘diagnosis of boy’s autism pits doctors versus school’, it was about the dispute between the Bruno’s family and the Gilbert public school officials about their son who was diagnosed with autism and his needs of special education services to help their son succeed in school. His son is being discriminated by the teacher in school and the parents filed a formal complaint with the US department of education about the issue. The US department of education was placed the teacher on temporary leave as a punishment [2].

On the researcher’s point of view, this scenario will be avoided if the teacher is knowledgeable enough on how to handle a student with special needs in a mainstream class and if an appropriate inclusion program was implemented. Ignorance

and lack of knowledge and understanding about special educational needs will lead to failure of the school and the students. The school has the main role in the success of their students, but if these students with ASD will be neglected by the school due to their difficulty it will affect our community. The concealed talents and potentials of these students will remain obscure rather than flourishing their ability that will be beneficial for the society [3-5].

Not all famous people who had made a tremendous contribution to our society are the so called 'normal' people among these people have special needs. One good example is Albert Einstein, a famous physicist and scientist who has signs and symptoms of autism, who developed the theory of relativity. Another example is a boy with Autism communicates through his Award-winning art, an article written by Beth Watson Drinnen in Knox news on June 9, 2010. It is about a seven years old boy named Jalyn Wetson, who has autism, expressed himself through Art. His work has been exhibited many places, including the Knoxville museum of art, the Chattanooga zoo and the Tennessee performing arts center in Nashville. At his young age he can make beautiful paintings and he could be a famous painter someday and an inspiration for other children to aim high and believe in themselves [6-8].

Children with autism spectrum disorder may vary from each other in their characteristics, skills and other aspects that comprised them as a whole individual. The researcher had noticed the importance of knowing the difficulties of the students and to find a solution to remove these barriers to help them meet their potential in life. A challenging task for a teacher indeed that require further study and patience to test the possible effective strategies that could give a great impact in changing a student's life.

According to Autism Society, about 1 percent of the world population has autism spectrum disorder.

Evidence that ASD cause among children is increasing.

The researcher would like to have a wider knowledge about ASD to help teachers and LSAs to decrease their stress in teaching student with ASD in the mainstream class and to fully understand the characteristics of a student with ASD. In addition, it would help the parents, other family members and the community to be aware and have a wider concept about the children with autism spectrum disorder.

In this research, the researcher will give you some information about the characteristics, history of ASD, sign and symptoms of a child with ASD. It will also discuss the different intervention strategies that teachers and LSAs can be used to improve the academic success of student with ASD in the mainstream class. The researcher will find out which are the best two intervention strategies that we can use in different situations in teaching student with ASD in the mainstream class.

#### *Theoretical/Conceptual framework*

Researchers and scientists are still conducting further studies in finding causes of autism. Some scientist studied some theory that autism is due to genes of the parents. Some say that is due to the toxic from the environment and made a theory that is the cause of the vaccine injected on the child. But, until now researchers and scientist are haven't discovered a cure to prevent Autism and a cure for it [9,10].

Educators and therapist have been using some theories of learning and behaviour to help the child with autism to improve his social life and help them to become successful in school. Among these theories of learning and behaviour are the behaviourism, cognitive theory and development theory.

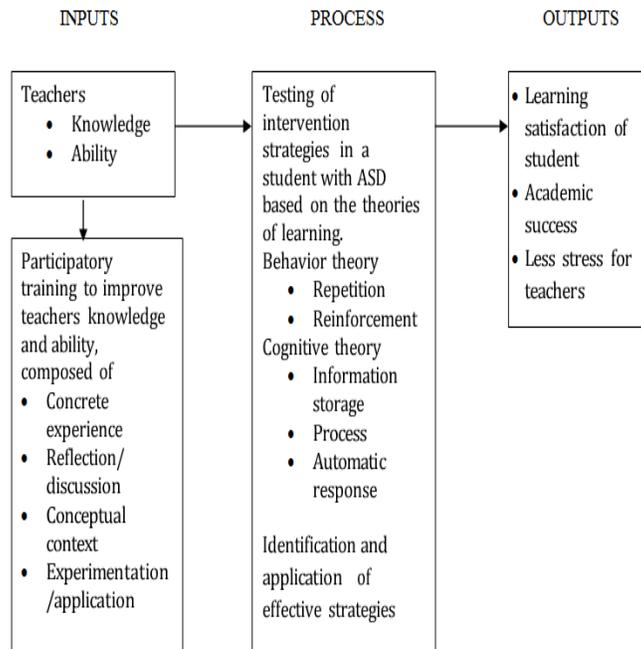
Behavioural models of learning focus on observable outcomes of learning as influenced predominately by the key principles of reinforcement theory in different learning contexts. This theory considers all behaviour is learned according to rules which shape, change or sustain it. Cognitive behavioural approaches take account of the capacity of individuals to understand and reflect on their behaviour. The advantages of this model lie primarily in the positive, practical outlook, the clear signs of success, and the ways in which the setting of specific targets allows all those involved in teaching and learning to understand the goals and expectations for individuals and groups of students. However, these approaches have been criticized for an overly narrow focus on measurable learning outcomes, when it is known that many aspects of knowledge and understanding are not directly observable and measurable in the required form. There is also an acknowledged danger of students coming to rely on extrinsic rewards for achieving success [11-14].

**Cognitive model:** Here the focus is usually on using and developing basic cognitive processes to improve skills in information storage, processing, organizing and retrieval. This may be at a phonological processing level, word level (semantics and grammar, or syntactic level), or sentence level. Other related perspectives include different models of auditory memory, and

approaches that examine how different aspects of language are stored and called up when needed.

While the specific causes of autism are not known, an etiological framework. Has been traced out that leads from genetic and possibly environmental factors, through neuro biological development and cognitive functioning, and finally to behavioural manifestations.

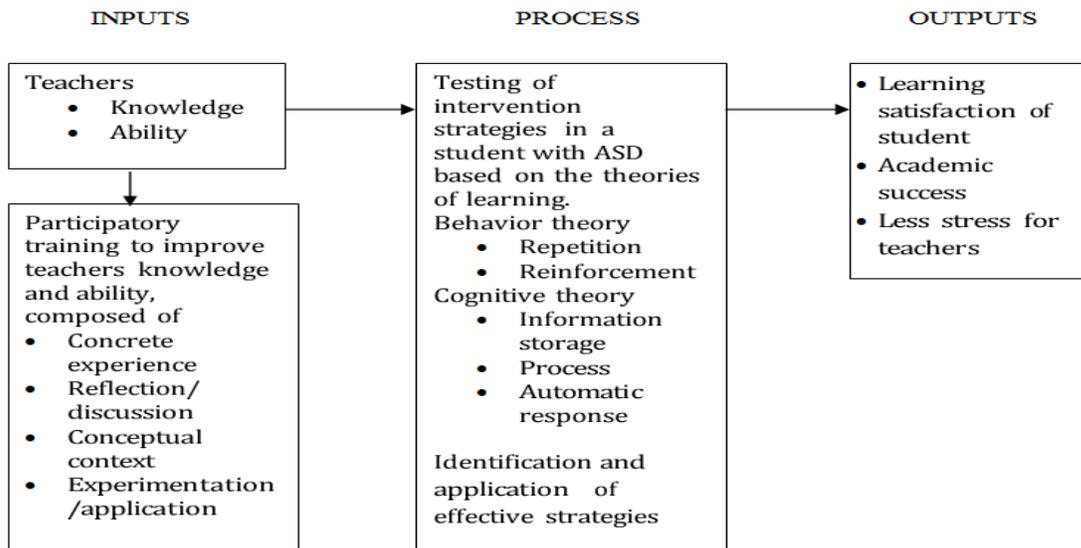
Many theories have attempted to give a cogent account of the changes in cognitive function that lead to the behavioral characteristics of autism. However, many individuals on the autism spectrum have given introspective descriptions that are quite different. One of the most famous is the account by Temple Grandin in her book thinking in pictures. Grandin, a high functioning adult with autism, states that her mental representations are predominantly visual, *i.e.* that she thinks in pictures, and that this representational bias affects how she performs a range of cognitive operations, from conceptual categorization to the interpretation of complex social cues. While Grandin's account of visual thinking has been primarily an introspective study, we aim to show that the thinking in pictures hypothesis does, in fact, represent a very powerful way to look at cognition in autism (Figure 1).



**Figure 1. Thinking in pictures as a cognitive account of autism.**

**Developmental model:** This perspective involves an analysis of the developmental stages through which a child is believed to pass. Although still prevalent in some literature, this

model is no longer exclusive. Naturalistic approaches, as opposed to ‘direct’ teaching methods, may sometimes be included within this framework (Figure 2).



**Figure 2. Learning model of student with autism in the classroom.**

### *Statement of the problem*

The purpose of this study is to give parents, support staffs and teachers information on autism spectrum disorder and to find out the best two effective strategies in teaching a student with ASD in the mainstream class. It will help students with ASD to access learning better and play an active role in class during the teaching and learning process.

This research will answer the following questions:

- What is the profile of the teachers in terms of: a) age; b) gender; and c) educational qualifications?
- What is the profile of the pupils (Identify what profile would you be able to get to differentiate these students?)
- What are the difficulties experienced by the autistic students such as: Difficulty in understanding complex language difficulty in tolerating mistakes academic difficulties and others?
- Is there a significant difference in the difficulties experienced by the students when grouped according to profile?
- What are the strategies used by teachers to overcome these difficulties experienced by teachers?
- Is there a significant difference in the strategies used by teachers to overcome these pupils' difficulties when teachers are grouped according to profile?
- What intervention program may be proposed to improve teaching of students with ASD?

### *Hypothesis*

- There is no significant difference in the difficulties experienced by the students when grouped according to profile.
- There is no significant difference in the strategies used by teachers to overcome

these pupils difficulties when teachers are grouped according to profile.

### **Materials and Methods**

This study applied the descriptive method of research. As widely accepted, the descriptive method of research is a fact finding study that involves adequate and accurate interpretation of the findings. Descriptive research describes a certain present condition. Generally, the method is appropriate for this study since it aims to describe the present condition of inclusion of ASD students in a mainstream class. The technique that was used under descriptive method is the descriptive survey approach and evaluation, which is commonly used to explore opinions according to respondents that can represent a whole population. The survey is appropriate in this study because it enables the researcher in the formulation of generalizations. Generally, two types of direct data survey are included in this study. These are questionnaire survey and interviews. Interviews with parent and teachers in Star international school Bangkok were conducted to provide further insight about the results of the survey. The direct data type survey is a reliable source of first hand information because the researcher directly interacts with the participants. The questionnaire survey respondents were given ample time to assess the problems faced by high school teachers in teaching students with ASD in mainstream classes. Their own experiences in teaching students with ASD in mainstream class are necessary in determining the effective intervention strategies that teachers can be used in five most common problems in teaching students with ASD.

The purpose of utilizing the descriptive method is to describe the nature of a condition, as it takes place during the time of the study and to explore the cause or causes of a particular condition. The researcher opted to use this kind of research considering the desire to acquire first hand data from the respondents so as to formulate rational

and sound conclusions and recommendations of the study. According to Creswell, the descriptive method of research is to gather information about the present existing condition. Since this study focuses on the best two effective intervention strategies that can be applied in each problem to help to improve the academic success of students with ASD in mainstream class, the descriptive method is the most appropriate method to use.

Two types of data were used: The primary and the secondary data. The primary data were derived from the answers respondents gave in the self-administered questionnaire prepared by the researcher. In addition, the information gathered from the interview also provided primary research data that supported the study. The secondary data on the other hand, were derived from the findings stated in published documents and literatures related to the research problem. These were based from the recent literatures related to autism.

In terms of approach, the study utilized both qualitative and quantitative approaches. The quantitative approach focused on obtaining numerical findings was used with the survey method. The interview on the other hand, made up the qualitative approach of the study as this focused on personal accounts, observations, description and individual insights of the respondents. This study employed the combined approach so as to overcome the limitations of both approaches.

#### *Research environment*

The study was conducted in one of the international schools in Bangkok. We will call it Star international school Bangkok to ensure the confidentiality of the school and the respondents. Star is Bangkok is committed to being creative in how we provide opportunities for children of all ages to learn in an exciting, meaningful, beautiful environment. And over the past 17 years they have grown into an excellent international school in

Bangkok, focusing on high achievement for every child.

Star international school Bangkok is a truly inclusive school that welcomes students of all abilities. They ensure that your child will have an equality of opportunity, by providing a well resourced learning environment where each child's talents and abilities are recognized and nurtured. They are part of Nord Anglia Education, an organization which is committed to bringing the best of the world's educational practices for your child.

Their ethos emphasizes high achievement within each individual potential. The curriculum has been carefully constructed to incorporate the best practices of both the English national curriculum and more international curriculums, such as IGCSEs and the International Baccalaureate, balanced with academic, creative and physical activities to develop the whole child.

These programs are underpinned by a pastoral programme which seeks to develop the individual skills necessary for students to make the right decisions, take responsibility for their actions and have a broad understanding and appreciation of the cultures that live together in our international community.

In Star international school Bangkok there are more than 950 students representing some 42 nationalities and 65 teaching staff. It has four students with autism spectrum disorder and two students with Asperger's syndrome in learning support high school department. Students with learning difficulties are part of the mainstream class. This school caters students with learning difficulties such as dyslexia, global delay, autism spectrum disorder and slow learners. This school year 2012-13 there are 31 students that are in the high school learning support registry with 16 staffs within the department. It is the biggest learning support department in all international schools in Bangkok.

*Respondents of the study*

The data for this study were obtained from the participants from the chosen international school in Bangkok. This includes teachers and parent in Star international school Bangkok. All of these participants were selected through random sampling. This sampling method is conducted where each member of a population has an equal opportunity to become part of the sample. As all members of the population have an equal chance of becoming a research participant, this is said to

be the most efficient sampling procedure. The participants had from 4 to 18 years of teaching experience in the UK and in other Asian countries.

Table 1 shows the teacher’s educational background, including the highest degree held, teaching area and years of experience. Most of the high school teachers who participated in this study had a bachelor degree and the other had either teacher’s college certificate or master’s degree (Table 1).

**Table 1. Respondents of the survey questionnaire.**

<b>Name of the HS teacher</b>	<b>Gender</b>	<b>Age</b>	<b>Educational qualification</b>	<b>Subject being taught</b>
Jonathan	Male	40-50	MSc in environmental analysis and assessment BSc (Hons) in combined studies (earth science and environmental biology)	Science
Leslie	Female	40-50	Master’s degree, bilingual education (Chinese and English) Certificate, proficiency in teaching Chinese as second/foreign language,	Mandarin
Chris	Male	30-40	Engineering, BSc (Hons)	Math
Siona	Female	30-40	PhD chemistry	Science
Gary	Male	30-40	PGCE in history	History
Lyn	Female	30-40	PGDip TESOL	English
Jane	Female	30-40	MA in education	English
David	Male	30-40	BSc computer engineering	ICT
Noke	Female	40-50	PhD curriculum and instruction M.S. in education (special education)	Thai
Mike	Male	30-40	MS in special education	ASDAN and art
Sophie	Female	30-40	PGCE modern languages	French
Richard	Male	20-30	BSc in physics and electronic engineering	Science

**Data gathering tool**

*Direct data survey*

Direct data survey aims on gathering necessary data about the best two effective intervention strategies that teachers can be used in teaching students with ASD in mainstream classes.

Accordingly, direct data survey is used to reveal the status of some phenomenon within an identified class of people, organizations, or regions at a particular time through a questionnaire and interview to directly collect information. The aim of the survey is to collect important data to achieve the research objective. The site of the study was the Star international school Bangkok.

Representative samples were taken using a random sampling approach.

In this study, the chosen respondents will be selected from high school teachers and the parent of diagnosed student with ASD. The interview questions will focus on the research problems and questions. The researcher used self-administered questionnaire as the main tool in collecting data from numbers of respondents.

#### *Data gathering procedure*

The researcher will ask permissions from the school principal or headmaster and the head of the learning support high school department. When permission will be granted, the researcher communicates with the parent and teachers of the profile for the schedule of an interview. The personal interviews, most of the interviewees were given time according to their convenience. Choices were given for the interviewees who will answer the interview questions, through phone, email or personal interview. A copy of the questionnaire will be given in advance to the interviewees. There were only two participants who were willing and/or had the chance to share their time and talk about their in raising a child with ASD and teaching a student with ASD in a mainstream class.

Data gathered from the interviews will be used to formulate a survey questionnaire for the high school mainstream teachers. In order to conduct the random sampling strategy, the researcher defined the population first, listed

down all the members of the population, and then selected members to make the sample. For this purpose, a self-administered survey questionnaire in Likert format was given to the respondents to answer.

Herein, there were 12 participants for the questionnaire survey and two individuals for interviews. The respondents were given 3 days to complete the survey questionnaire upon request. After collecting the questionnaires, the responses will be tallied, computed, analyzed, and recorded.

#### *Instrumentation*

**Content analysis:** Content analysis was done to analyze communications in order to answer two levels of questions the descriptive and the interpretive. Descriptive questions focused on what the communication contains. Interpretative questions focused on what the content was likely to mean. The process entailed searching through one or more communication to answer questions that an investigator brings to the search. Content analysis was used to analyze and interpret the interviews.

**Statistical treatment:** The Likert scale was used to interpret items in the questionnaire. These responses were based on the respondents' judgement on the effectiveness of each intervention strategies that can be used in each situation. There were instances that the respondents were asked to rate their knowledge of autism spectrum disorder. The range and interpretation of the five-point scale are shown in Table 2.

**Table 2. The Five point Likert scale.**

<b>Scale</b>	<b>Range</b>	<b>Interpretation</b>
1	0.01 – 1.00	Strongly disagree
2	1.01 – 2.00	Disagree
3	2.01 – 3.00	Uncertain
4	3.01 – 4.00	Agree

5	4.01 – 5.00	Strongly agree
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Weighted mean was used to measure the general response of the survey samples, whether they agree to a given statement or not.

The formula in computing weighted mean is as follows:

Where: f: weight to each response

x: number of responses

xt: total number of responses

The survey result was analyzed with the use of statistical approach and Microsoft Excel spreadsheets.

## **Results and Discussion**

The researcher who is favored both qualitative and quantitative research design aims to gain the best two effective intervention strategies that teachers can be used in teaching students with autism spectrum disorder in the mainstream class.

To be a parent of a child with autism needs time to accept the reality. Acceptance of the situation will help them in supporting the needs of their child. Raising a child with ASD requires a lot of patience, love and understanding. Supportive members of the family are vital to deal the difficulties that a child is facing. For instance, demonstration, repetition and mastery of daily routines are necessary for the child to function effectively. Reading articles and research related to autism increase your knowledge and understanding.

Teaching student with ASD in an inclusive

setting is faced with the task of determining strategies that will help students with ASD succeed in the classroom. Although the task may seem daunting to teachers, students with ASD can and do learn. The first critical step in this process is to understand the unique characteristics of ASD.

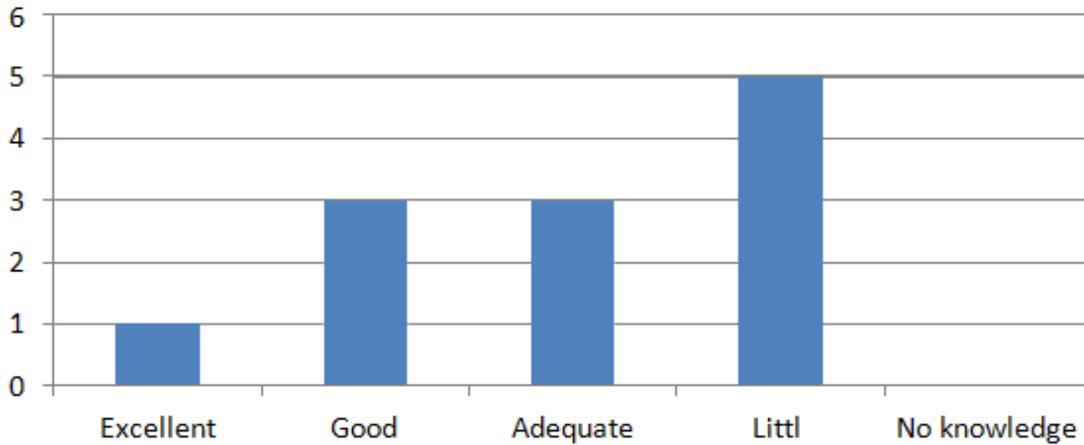
Although knowing the general characteristics of ASD is helpful, teaching strategies for students with ASD still need to be individualized, and it is important for teachers to realize their expectations of their students. Children with ASD often have visual spatial strengths. An effective program is one that reflects the unique combination of strengths and needs of the individual student.

In the diagram shown below, the high school mainstream teachers rate their knowledge of autism spectrum disorder. The table shows that only one high school mainstream teacher in STAR International School has an excellent knowledge of ASD. Three of them have good knowledge and three has an adequate knowledge of ASD. Five of them have little knowledge of ASD.

Therefore, 7 out of 12 high school teachers were knowledgeable of autism spectrum disorders that have a great impact on the effectiveness of intervention strategies

being used in the different type of classroom scenario (Figure 3).

**Knowledge on ASD of the high school mainstream teachers in STAR International School**

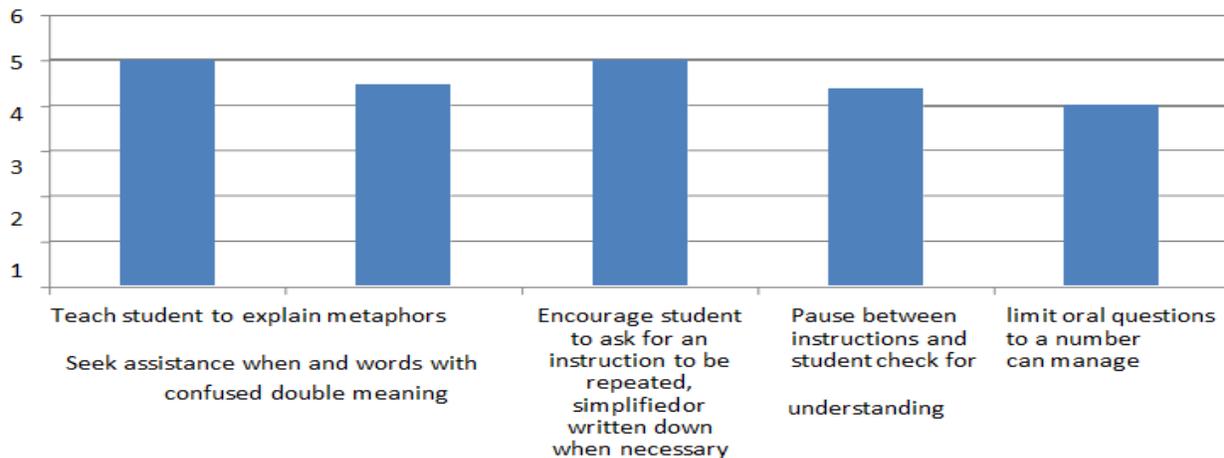


**Figure 3. Knowledge of high school teachers at Star international school Bangkok in ASD.**

In survey questionnaire, the HS mainstream teachers rate the intervention strategies that they using in each situation. The intervention strategies were analyzed and grouped to each scenario

that is believed appropriate and effective to help the student with ASD to overcome the major difficulties that hinder their learning success (Figure 4).

**Difficulty in understanding complex language and following directions**



**Figure 4. Difficulty in understanding complex language and following directions.**

In Figure 4, it shows that the best two intervention strategies for difficulty in understanding complex language and following directions are to teach students to seek assistance when confused and to

encourage student to ask for an instruction to be repeated, simplified or written down, when necessary where both of these intervention strategies had got a weighted mean of 5 (Figure 5).

**Figure 5. Difficulty in tolerating mistakes.**

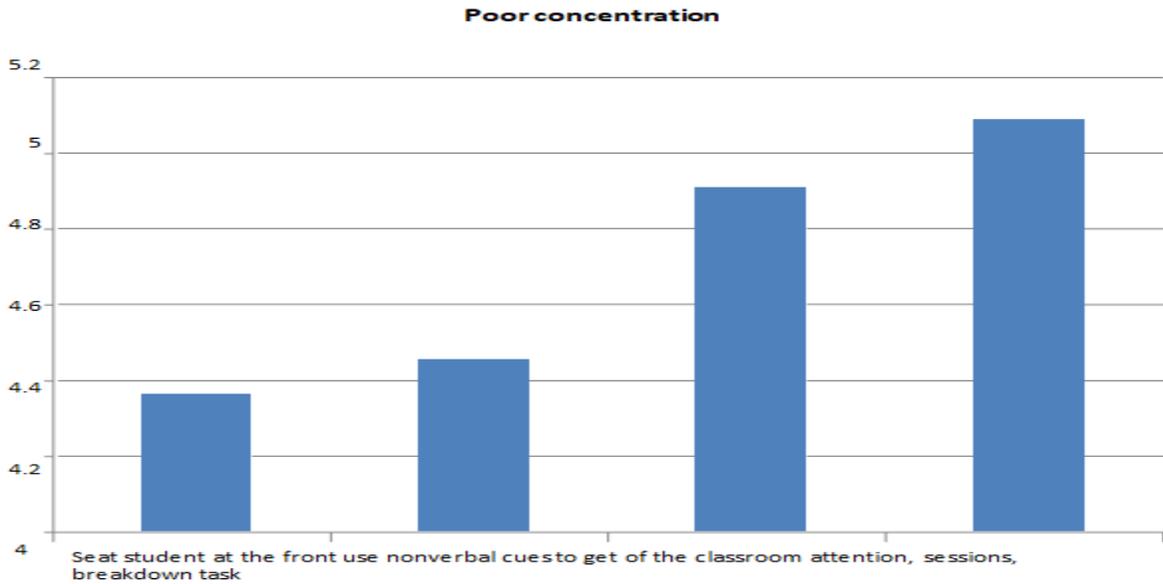
Figure 5 shows that providing positive praises had the highest weighted mean of 5 and to use of peer supports had weighted mean of 4.727 are the best two

intervention strategies that can be used in teaching students with ASD in the mainstream class in a situation with difficulty in tolerating mistakes (Figure 6).

**Figure 6. Academic difficulties.**

In Figure 6, it shows that the best two intervention strategies that can be used in teaching students with ASD in the mainstream class in a situation with

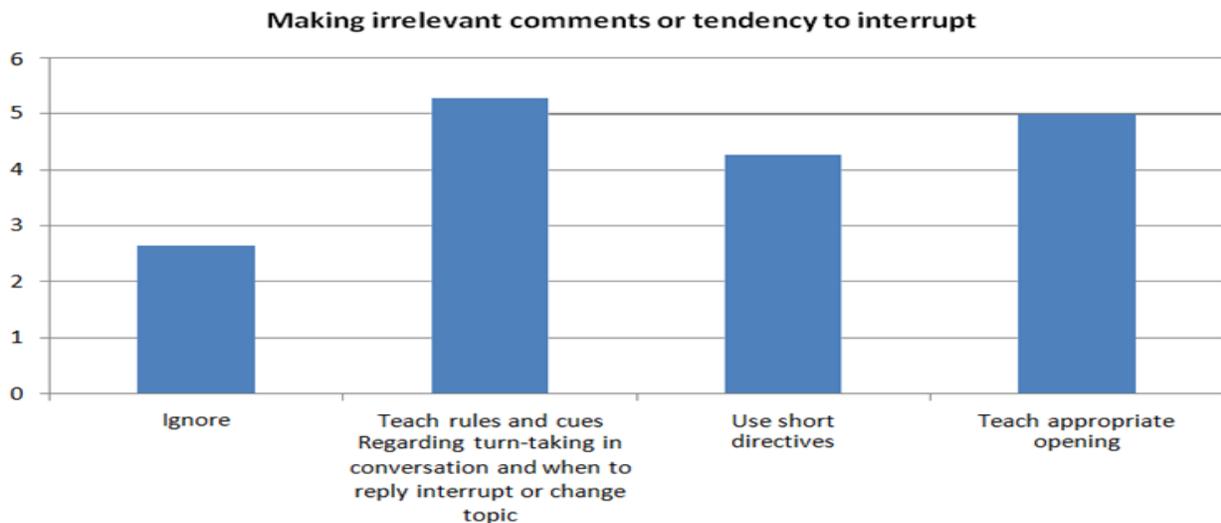
academic difficulties are to show examples of what is required that had the highest weighted mean of 5.182 and to provide direct instruction as well as modeling with weighted mean of 4.818 (Figure 7).



**Figure 7. Poor concentration**

Figure 7 shows that the best two intervention strategies that can be used in teaching students with ASD in the mainstream class in a situation with poor concentration are to

break down task which had the highest weighted mean of 5.091 and to provide timed work sessions with weighted mean of 4.909 (Figure 8).



**Figure 8. Making irrelevant comments or tendency to interrupt.**

In Figure 8 shows that the best two intervention strategies that can be used in teaching students with autism in the mainstream class in a situation on making irrelevant comments or tendency to interrupt are teach rules and cues regarding turn taking in conversation and when to reply, interrupt or change topic that had got a weighted mean of 5.273; and teach appropriate opening comment with weighted mean of 5.

### **Conclusion**

The placement of students with autism spectrum disorders (ASD) in general education classes has increased at a faster rate over the past 10 years than all other disability categories combined. Therefore, as more children with autism are expected to meet the same academic standards as their neurotypical peers there is a demand for effective educational strategies in the general education classrooms.

### **Recommendations**

- What is the profile of the teachers in terms of:  
a) Age; b) Gender; and c) Educational Qualifications

The participants in this study are equally grouped based on their gender and age. Most of the high school mainstream teacher respondents in STAR IS Bangkok, were graduated in the course that is related to the subject that they are teaching and undertook post graduate certificate in teaching and some participants took master's degree in education course with specialization in the subject that they are teaching. The majority of the respondent has more than ten years teaching experience in the United Kingdom and in Asian countries.

- What is the profile of the pupils (Identify what profile would you be able to get to differentiate these students?)

The class is composed of 20 students with varying abilities. Ranging from beyond average to above average intelligence. Where two tenths of the total population have learning needs such as ASD, globally delayed, slow learners, and dyslexia while eight tenths of the students have average and above average abilities.

- What are the difficulties experienced by the autistic students such as: a) Difficulty in understanding complex language; b) Difficulty in tolerating mistakes; c) Academic difficulties and others

Autism is a lifelong developmental disability that affects how a person communicates with, and relates to, other people. It also affects how they make sense of the world around them. Among the difficulties that a student with ASD is experiencing in the classroom are:

**Difficulty in understanding complex language:** People with autism have difficulties with both verbal and non-verbal language. Many have a very literal understanding of complex language, and think people always mean exactly what they say which is interrelated in following classroom instructions accurately. They find it difficult to understand facial expressions or tone of voice, jokes and sarcasm.

**Difficulty in tolerating mistakes:** People with autism usually find it hard to recognize or understand other people's emotions and feelings, and showing their own, which can make it difficult for them to fit in socially. They may not understand the unwritten social rules which most of us pick up without thinking; appear to be insensitive because they have not recognized how someone else is feeling; and not seek comfort from other people. As a result, they find it hard to tolerate mistakes which can lead to tantrums and the worst into meltdown when their emotion was not pacified.

**Making irrelevant comments or tendency to interrupt:** Some people with autism find it hard to understand give-and-take nature of

conversations, perhaps repeating what other person has just said or talking at length about their interests. They often make irrelevant comments or interrupt the class during class discussions. Giving off topic answers to teacher's question is one good example.

**Academic difficulties:** Due to the wide difference of abilities of students in an inclusive setting, student with ASD struggles to cope up with the abilities of the other students. They sometimes cannot access the concept or ideas and fail to do and finished the required task given by the teacher. However, teaching individuals with ASD how to form relationships and understand the feelings of others is likely more important than academic learning when considering the future potential of an individual. Because this is the greatest area of weakness, schools carry an important responsibility to work this into the curriculum, whether the student with ASD is in the regular educational setting or the special education classroom.

**Poor concentration:** Individuals with autism may present with a range of difficulties with attention. Specific deficits in attention have major implications for development in other areas such as communication and social development. Individuals with autism often have difficulty attending to relevant cues and/or information in their environment, and may attend to an overly restricted portion. This is referred to as stimulus over selectivity. There may also be difficulties disengaging and shifting attention from one stimulus to the next, which may contribute to some of the observed rigidity and resistance to change. Another feature of autism is impairment in the capacity to share attention, which is referred to as joint attention. The individual may also demonstrate a short attention span.

- Is there significant difference in the difficulties experienced by the students when grouped according to profile?

There is a significant difference in the difficulties experienced by the students when grouped according to profile. According to Ann

Wheelock, ability grouping does not improve achievement and is harmful to students. Ability tracking is harmful for a number of reasons, Wheelock told Instructor in 'a talk with Anne Wheelock' that tracking leads students to take on labels (both in their own minds as well as in the minds of their teachers) that are usually associated with the pace of learning (such as "slow" or "fast" learners). Because of this, we end up confusing students pace of learning with their capacity to learn. Moreover, once students are grouped, they generally stay at that level for their school careers, and the gap between achievement and levels becomes exaggerated over time. The notion that students achievement levels at any given time will predict their achievement in the future becomes a self-fulfilling prophecy

- What are the strategies used by teachers to overcome these difficulties experienced by teachers?

It is vital for schools to evaluate prospective interventions for a student on an individualized basis, and it is essential for teachers to realize their expectations of their students. Children with ASD usually have visual spatial strengths. Knowing this, teachers can modify their instructional strategies in a number of ways. Moreover, modifying instructional strategies is beneficial for all types of learners because it gives a better understanding of the lesson as teacher discuss and explain in a simple way. The students with high ability connect the gap by supporting the low ability student in peer support. Here are the possible intervention strategies that teachers can use in teaching a student with ASD in different specific situations in an inclusive setting.

Below is the suggestion of possible classroom strategies:

#### **Difficulty in understanding complex language**

- Teach student to seek assistance when confused.

- Use audio taped and videotaped conversations.
- Explain metaphors and words with double meanings.
- Encourage the student to ask for an instruction to be repeated, simplified or written down if he does not understand
- Pause between instructions and check for understanding.
- Limit oral questions to a number the student can manage.
- Watch videos to identify nonverbal expressions and their meanings.

#### **Difficulty in tolerating mistakes**

- Provide positive praise and tell the student what she/he does right or well.
- Teach the student to ask for help.
- Teach techniques for coping with difficult situations and for dealing with stress.
- Use rehearsal strategies.
- Provide experiences in which the person can make choices.
- Help the student to understand his/her behaviours and reactions of others.
- Educate other students.
- Use peer supports such as buddy system and peer support network.

#### **Making irrelevant comments or tendency to interrupt**

- Teach rules and cues regarding turn taking in conversation and when to reply, interrupt or change the topic.
- Use comic strip conversations to teach conversation skills related to specific problems.
- Teach appropriate opening comments.
- Teach conversational skills in small group settings.
- Ignoring the behaviour may be appropriate for minor attention seeking behaviours.

#### **Academic difficulties**

- Do not assume that the student has

understood simply because he/she can re-state the information.

- Be as concrete as possible in presenting new concepts and abstract material.
- Use activity based learning where possible
- Use graphic organizers such as semantic maps, webs.
- Break down tasks into smaller steps or present it another way.
- Provide direct instruction as well as modelling.
- Show examples of what is required.
- Use outlines to help student take notes and organize and categorize information.
- Avoid verbal overload.
- Capitalize on strengths, e.g., memory.
- Do not assume that they have understood what they have read, check for comprehension and supplement instruction; and
- Use visual supports.

#### **Poor concentration**

- Provide frequent teacher feedback and redirection.
- Break down assignments.
- Provide timed work sessions.
- Reduce homework assignments.
- Seat at the front of the classroom.
- Use non-verbal cues to get attention.

- Is there significant difference in the strategies used by teachers to overcome these pupils difficulties when students are grouped according to profile?

There is no significant difference in the teaching program used by teachers to make students succeed when grouped according to ability. Ability grouping between classes has a very small effect on student achievement, as does ability grouping within classes. Particularly for lower achieving students, ability grouping seems to perpetuate below average achievement due to the nature of the tasks being assigned to students and the lower expectations from teachers. Ability grouping can have a seriously detrimental effect

on student equity, especially for lower achieving students. What constitutes an effective teacher is being able to be flexible and to differentiate a lesson using these strategies in order to accommodate to the learning of students with learning needs or varying abilities.

- What intervention program may be proposed to improve teaching of students with ASD?

Children and youth with autism often face particular challenges during their school years. Teachers can play a critical role in helping them succeed at school. The school must provide: a) Training and instructional workshops for principals, teachers, teaching assistants and other educational support staff to increase awareness of ASD. Quality professional learning for teachers and support staff is vital for ensuring that schools are able to meet the needs of their students with disability. It must extend the knowledge and skills of teachers to plan and make adjustments for students in collaboration with students and their parents; and b) Establish a special education support program to aid general teachers in teaching students with disabilities. They must provide support specialist staff for students with learning needs in regular class to aid the students with autism or learning needs to access general curriculum and monitoring regularly the students based on the individualized plan like the student's personal program plan and behavior intervention plan.

ASD is a widespread disorder and a lifelong process. Early intervention is highly recommended to improve the child. The researcher suggests the following to the school administration and teachers:

- Provide teacher training or professional development regularly.

Provide an extensive program of induction training and on going professional learning to support school leaders, specialist teachers, and classroom teachers and support staff. This training will include a focus on supporting a deep understanding of the learning and support framework and accountability for meeting the

needs of every student with disability in consultation with students and their parents. As a result, a teacher workforce that is better equipped to understand and meet the learning and support needs of the full range of students in their classrooms.

- Establish a Special Education Program or Learning Support Program in school

Strengthening opportunities for schools with specialist expertise to collaborate develop and share their knowledge more widely across the school system and between special and mainstream schools. Building learning and support plans through collaborative parent and community partnerships.

Learning support programs like remedial, instructional support, etc. will be beneficial for students with learning needs. Effective practice in supporting successful outcomes for students with disability being identified and shared across the school system. More students benefitting from teachers access to the expertise available in our specialist schools.

Developing materials to support teachers and schools in assessing the impact of disability on the learning of students. This will improve planning to meet the individual learning and support needs of students. Planning for adjustments to support the educational needs of individual students with disability being informed by their functional educational needs, rather than their disability type or label will be an advantage.

- Have open communication and collaboration with the parents.

Schools and families should endeavor to work together. Home school coordination has been shown to result in the more rapid acquisition of target behaviors and increases the likelihood of positive behavior change being maintained over time.

**For teachers:**

- Share information learned from the workshops with the parents and other teachers.
- Apply the strategies learned in the classroom
- Understand the learner and focus on the student's learning needs not on the label.
- Maintain the communication with the parents to meet the targets of the students.
- Know the weaknesses and strengths of the learners with ASD and incorporate tasks in lessons that the autistic students can further explore.
- It may be helpful to educate the peers.

*Proposed intervention program*

**An intervention program to improve teaching of students with ASD:** There are different intervention programs in supporting students with ASD. Some of this program can be done in school based setting; home based or in outsources agencies.

**Developing the personal program plan:**

Children with autism present with differences in learning style, impairments in communication and social skill development, and the presence of challenging behaviors. However, there is considerable individual variability in how these characteristics are manifested. There is no specific curriculum to teach students with autism. Effective programs are individualized and based on the unique needs and abilities of each student. The student's personal program plan will include a combination of objectives from the regular curriculum as well as objectives that are unique to the individual.

Personal Program Plan (PPP) is developed through collaboration by a team of people directly involved with the student. The team includes the parents, classroom teacher, special educator, teacher assistant, speech language pathologist, consultant, educational psychologist and the student, where appropriate.

The written program plan is intended to guide the day to day work of the educators and to

provide information on the types of adaptations and strategies used to accommodate the student.

**Behaviour intervention plan:** Children with autism may present with some unusual and challenging behaviors, and do not always respond to the usual methods of discipline. It is frequently necessary to develop a systematic plan for changing behaviors. A behavior intervention plan must be based on an understanding of the characteristics of autism, as well as knowledge of the strengths and needs of the individual student.

A behaviour plan can be developed through a collaborative problem solving process involving the significant people in the student's life, including the parent(s)/guardian, classroom teacher, special educator, and teacher assistant. It may also include other involved persons such as the principal, consultant, speech language pathologist, and psychologist. The following section outlines the major components of the process to develop a behaviour plan.

- Identification of the problem behaviour

Identify and describe the behavior in observable terms, including where and when it occurs, what usually happens before the behaviour, and the typical reactions of other people.

The student may display more than one challenging behavior. It may not be reasonable to expect to change all behaviors, and priorities for intervention will need to be established.

- Identification of function of behaviour and contributing factors

The function or purpose of a behavior is not always obvious. It is frequently necessary to collect information about the student, behavior, environment, and consequences to determine what purpose the behavior serves and what factors are maintaining the behavior.

Assessment should also include gathering significant information about the student, such as likes and dislikes, fears and frustrations, communication skills, strengths and needs, how the student interacts socially, and the typical responses to sensory stimuli.

Information can be acquired through observation and data collection. Parents, teachers and others involved with the student on a regular basis can provide information.

The information is analyzed to identify patterns, possible reinforcers and anything that may be triggering the behavior. In some situations, a questionnaire such as the motivation assessment scale can assist in determining possible functions of behaviors.

- Identification of an alternate behaviour

Functional analysis of behavior serves as the foundation for developing the behavior plan. Once the possible purpose of a behavior is determined or hypothesized, it is possible to identify an alternate, more appropriate behavior that can serve the same function.

The focus of the behavior intervention is on instruction rather than discipline. The goal is to increase the student's alternate appropriate means of achieving the same purpose. The success of the plan is more dependent on the instructional and proactive components and less influenced by the reactive strategies.

- Identification of strategies for changing behaviour environmental adaptations

Problem behaviours can often be reduced or eliminated by making changes in the environment. The assessment and analysis of the behaviour may indicate that it occurs within specific areas, or during specific times such as transitions. Sometimes the likelihood of the behavior occurring can be minimized by making environmental accommodations. This does not mean that the entire classroom

has to be changed for one student, but there are adjustments that can be made depending on the student's individual needs.

**Positive program strategies:** Provision of a program that emphasizes the development of communication and positive behaviors in a predictable and rewarding environment can help to reduce the frequency and severity of problem behaviors.

Components of a positive program include:

**Teach communication skills:** The appropriate form and content will vary depending on the abilities of the student. Consideration of the use of augmentative systems is done in collaboration with the parents and a speech language pathologist.

**Teach social skills:** Remember that children with autism have difficulty reading social cues and will not simply, pick up social skills from watching others. When a child displays an inappropriate behaviour, we can't assume that they have the appropriate skill in their repertoire, or that they know when to use it. Social skills need to be taught for each situation.

Use social stories to teach behaviour for situations which pose a problem. Social stories can also be used to prepare the student for new situations and activities.

Provide clear expectations for behaviour. Post rules and use appropriate visual aids to help the student to understand what is expected.

Provide a clear schedule. Go through the schedule with the student, and involve him/her in referring to the schedule. Use the schedule to prepare the student for transitions between activities and to prepare for any changes that may occur.

Teach the student to make choices and provide opportunities for choice within the schedule.

**Reactive or consequence based interventions:** Positive programming strategies which focus on increasing student competence and making the necessary accommodations to the physical

setting, materials and instruction, will be the most successful in facilitating long term behavioural change. However, it is sometimes necessary to design a plan for the immediate reaction to behaviour in order to maintain safety. It is essential that everyone involved with the student is prepared to react to specific behaviours in a consistent way. In general, there are three major types of reactive techniques: Ignoring the behaviour, redirection, and removal from reinforcements.

Ignoring the behaviour may be appropriate for minor attention seeking behaviours. However, it is often difficult to implement in a classroom setting. It is important to make sure that the student is not being reinforced by other sources, such as peers.

Redirection is a vital component of any behaviour intervention plan. If behaviour is unacceptable, the student needs to know what is expected instead, and this needs to be communicated clearly. Assistance and support may be required. The use of a visual aid, such as a pictograph, is often helpful.

Redirection is used in combination with positive programming strategies. The student will need to be taught the alternate behaviour, and provided with opportunities to practice and rehearse.

- Developing the behaviour plan

Once the team has identified the problem behaviors and contributing factors, the alternate behaviors, and the strategies for instruction and management, the specific interventions and approaches should be specified in the student's personal program plan.

Written plans clearly outline the environmental adaptations, positive program strategies and reactive strategies, so that all people involved with the student can maintain a consistent approach. This is particularly important in maintaining consistency between home and school and environments throughout the school.

In addition, timelines need to be established, and a process should be in place to evaluate the effectiveness of the plan.

- Evaluating the behaviour plan.

Factors to consider in evaluating the effectiveness of the strategies identified in the student's personal behaviour intervention plan are: Is the intervention being implemented consistently?

Does it need to continue for a longer period of time? Do minor adjustments need to be made?

Is the behaviour being maintained through other factors that were not accounted for?

Do the reinforcements need to be modified? Are alternate strategies needed?

Apart from personal program plan and behaviour intervention plan, consulting other professional therapists like ABA, occupational therapy, physical therapy, sensory integration therapy and speech language therapy to support students with ASD in home based or outsource agency based setting will help the students to improve better.

ABA based services and supports to help children and youth with autism develop skills in the following areas: Behavior management/emotional regulation; communication; social/interpersonal; and daily living. ABA uses methods based on scientific principles of learning and behavior to build useful mode of behavior while reducing problematic ones.

Occupational therapist brings together cognitive, physical and motor skills to enable the individual to gain independence and participate more fully in life. For a student with autism, the focus may be on appropriate play, fine motor and basic social and life skills such as handwriting, independent dressing, feeding, grooming and use of the toilet. The OT can recommend strategies for learning key

tasks to practice in various settings.

Physical therapist focuses on problems with movement that cause functional limitations. Students with autism frequently have challenges with motor skills such as sitting, walking, running and jumping, and PT can also address poor muscle tone, balance and coordination. An evaluation establishes the abilities and the developmental level of the child, and activities or supports are designed to target areas of need.

Sensory integration therapy addresses disruptions in the way an individual's brain processes sensory input, developing strategies to help process these senses in a more productive way. A sensory integration trained OT or PT begins with an evaluation, and then uses research based strategies to plan an individualized program for the child, matching sensory stimulation with physical movement to improve how the brain processes and organizes sensory information.

While speech language therapy pathologist uses a variety of techniques to address a range of challenges for children with autism. SLT is designed to address the mechanics of speech and the meaning and social value of language. For students unable to speak, SLT includes training in other forms of communication, or oral exercises to promote better control of the mouth. For those who seem to talk incessantly about a certain topic, SLT might work on expanding the conversational repertoire, or reading social cues and adjusting conversation to the needs of the listener. An SLT program begins with an evaluation by an SLP and therapy may be conducted one on one, in a small group or in classroom/natural settings.

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