

**Effectiveness of the present process of teaching productive skills to children
with Asperger Syndrome in Bangladesh**

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Abstract

The research is an attempt for taking a deeper look of the present teaching process of productive skills concerning Autistic children mainly children with Asperger Syndrome and measure its effectiveness in Bangladesh. Behaviorism is a popular theory applied on these children to teach every skill along with using some of its branches. However the country is quite backward in the field of special education. Insufficient certified teachers and speech therapist, lack of implementation of technological aid, early intervention, no distinct curriculum, lack of funding and benefits, unawareness of parents and society are vital reasons for its ineffectiveness. The research on writing is much lesser than speaking. Using both qualitative and quantitative method the research was conducted. The paper was concluded with some suggestion for making the present special teaching process more effective and developed.

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Chapter 1: Introduction

1.1 Introduction:

Autism Spectrum Disorder (ASD) is the third largest occurring disorder of the world. It has been classified into five categories like Classic Autism, Asperger Syndrome (AS), Pervasive Developmental Disorder not otherwise specified (PDD-NOS), Childhood Disintegrative Disorder and Rett Syndrome. Among these Asperger Syndrome is a High Functioning Autism (HFA) meaning that the signs and symptoms are comparatively less severe than other kinds of autism. The paper tends to focus mainly on the teaching process of productive skills (speaking and writing) for children with Asperger Syndrome slightly touching other types of autism. Special education is hardly an unknown topic for developed countries however in Bangladesh this topic is relatively new since the word “Autism” itself is new in this country. It is only after the effort of Putul, Prime ministers daughter the country is slowly taking interest on this issue. As a result the present education system of these special children is also quite outdated. Inadequate institution to provide professional degrees for educating these children is considered a major problem in this field. Besides this unawareness is a hindrance of early intervention which can go a long way to develop these children’s productive skills (speaking and writing) is again considered an issue followed by lack of implementation of technology, absence of parent’s cooperativeness and funding. Therefore the paper will discuss the present teaching process of productive skills of children with Asperger Syndrome in Bangladesh.

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1.2 Research question:

To what extent the present process of teaching productive skills to children with Asperger Syndrome at high beginner's level is effective and what should be done for further improvisation of the present process?

1.3 Purpose of the study:

The purpose of the study is to measure the effectiveness of the present teaching process of productive skills (speaking and writing) to children with Autistic Spectrum Disorder more specifically with Asperger Syndrome. Besides this, the paper also aims to find loopholes for further improvisation. This paper can also be used by administrators for further study in the field of education for Autistic Spectrum Disorder and can be used for implementation of further measure in their development process.

1.4 Objective of the study:

This study is conducted having the goal to investigate answers to whether the special teachers appointed for teaching productive skill to children with Asperger Syndrome are successful in their work? Is there a separate curriculum for these children? Also to find out what are the problems that still exist in teaching productive skills to them that needs to be overcome?

1.5 Scope of the study:

This study requires first hand data so there is no question of authenticity in this sector. The questionnaire is designed in a way that it questions the present process of teaching productive skills to children with Asperser Syndrome disorder. Although this study requires time and research but time constrains is a major concern. The paper is composed within six months which

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is not an adequate time for a topic such intense as this. Apart from time, interviewing teachers is another major concern, since enough opportunity in this sector was unavailable.

1.6 Research Methodology:

Mixed method is used to conduct the research having both qualitative and quantitative method. A survey and an interview session was conducted having questionnaire emphasizing on the present teaching process of productive skills and its effectiveness on the children suffering from Autism specially from Asperger Syndrome (AS) in Bangladesh.

1.7 Limitation of the study:

The paper is not free of limitations. It was completed within six months that is inadequate for a topic such vast as this. There are only few Autistic schools in Dhaka, they however were reluctant to give consent for conducting a survey. The present political crisis is another major obstruction that hindered the research. As a result the survey was only conducted on Friday and Saturday in a limited time which is not enough to complete it.

Besides time constraint, uncooperativeness of the authority of the schools, political situation and formal setting was another problem. Interviews conducted in formal setting failed to elicit adequate data and response as a secretary was constantly monitoring the session so teachers did not felt free to share their opinions. Most of the teachers responded to questionnaire only after discussing with their colleagues so one's opinion influenced others. Majority of the teachers were not conscious of the topic as a result they could not understand some of the terms and questions related to the topic, the researcher had to explain those with examples.

Chapter 2: Literature Review

Literature review is an essential chapter of any research paper as it provides insight regarding the research topic. In this chapter different perceptions of authors are shared which gave a deeper insight about the topic. All the elements related to the effectiveness of the process of teaching productive skills are given here for getting a better understanding of the topic. These helped in completing the research systematically. Moreover a deeper understanding of the process of educating a child with Asperger Syndrome Disorder both in and outside the country also helped to better understand the present scenario of Bangladesh. Various sociolinguistics and psycholinguistics theories helped the researcher to understand the language development of ASD children. As Autistic Spectrum Disorder (ASD) is currently one of the highest occurring disorders in the world so insight in this sector for educating children is essential.

2.1 Definition of Autism Spectrum Disorder:

The third most frequently occurring disorder of the world Autism is referred as "developmental brain disorder" that "affects brain areas controlling language, social interaction and language thoughts, (Bridgette, 2005, p.69). Autistic Spectrum Disorder or ASD "is a complex developmental disability that essentially affects the way a person communicates and relates to people," (Autism Working Group, 2002, p. 1). "The term spectrum is used because the characteristics of the disorder occur along a continuum, with severe symptoms at one end and very mild behaviors at the other," (Wills, 2009, p. 81). Dr Leo Kanner in 1940s was the first to identify Autism in US (as cited in Furniss, 2008, p.8). Furniss (2008), states though at first psychopathology was thought to be its cause but now it is thought to have neurological origins (p.8).

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According to Weintraub (2013), CDC (Center for disease control and prevention) classified the three main types of ASD such as Asperger's Syndrome, Pervasive Developmental Disorder not otherwise specified (PDD-NOS) and Autistic Disorder or Classic Autism. Later two rare but severe autistic-like conditions, Rett syndrome and childhood disintegrative disorder were also included (p.1). While defining various forms of Autism he states, Asperger's syndrome is mild compared to other ASD where as Children whose autism is more severe than Asperger's Syndrome but not as severe as autistic disorder are diagnosed with PDD-NOS, (p.2). Willis while talking about PDD-NOS states this "classification allows a child with a few, but not all, of the characteristics of autism to be classified as having autism," (2009, p.2). While describing the characteristics of Classic Autism Weintraub (2013) states that, "Children who meet more rigid criteria for a diagnosis of autism have autistic disorder having severe impairments involving social and language functioning as well as repetitive behavior" (p.2). Rett syndrome "is a degenerative disorder, meaning it gets worse with time" (Willis, 2009, p.2). Most severe autism Childhood Disintegrative Disorder is also rare after a period of normal growth "Social and language skills are lost as well as intellectual abilities" (Weintraub, 2013, p.3).

2.2 Nature of ASD child:

Each child with autism is distinct having various characteristics as Burns mentioned, "some with autism have no usable speech; others have ample speech but use it in atypical ways. Some students struggle to learn to read while others learn to decode and read aloud but are unable to comprehend" while "Some children are passive and self-stimulating while others are aggressive and hyperactive" (2012/2013, p. 9). As Willis mentioned, each child is unique, and no two children with autism have the same strengths and weaknesses (Willis, 2009, p. 2).

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Though each human being with autism differs from one another however they all exhibit same disability in areas such as language learning, communication and motor skills. Common impairments are

1. Ability to interact appropriately and socially.
2. Understanding the language and using it to communicate.
3. Ability to think imaginatively and showing “repetitive and restricted behavior”

(Autism Working Group, 2002, p. 2).

2.3 Educational facilities for children with ASD:

Wilson (2010) states that during the year 1950s and 60s, schools for special children emerged in different parts of the country some established by the parents, frustrated due to the lack of services offered for children with autism. Now almost “two dozen schools” are serving children with ASD with therapists and special teachers to help these special children cope with their individual disorder with ASD across Massachusetts, with dedicated teachers and therapists working to help these kids cope with their disorder and above all educate and teach them to function in this world (p.22).

Children containing ASD do not follow conventional education system since these children with different developmental sequence in literacy have problems in comprehending academic instructions relation to writing, reading, speaking and listening (Kluth and Latham, 2003, p. 533). As a result ASD children follows a separate curriculum than the one offered to children without ASD (cited in Kluth and Latham, 2003, p.534).

Willis (2009) mentioned in developed countries most children diagnosed with ASD are provided with Individual Family Service Plan (IFSP) and Individual Education Program (IEP) by the time

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they are ready to enter the classroom. These plans contain information about each child's strength and weakness that helps in planning their activities and making changes to the curriculum (p. 1).

Along with these, several first world countries provide home school in collaborative home school partnership where both parents and teachers understand better the realities of the child at school and home using a collaborative approach to individual program development and planning by establishing a clear communication plan at home-school (Alberta Learning, 2003, p. 24).

Certified teachers and service providers to these children have access to students IEP and are also informed about when to implement.

2.4.1 Popular theories of ASD:

Different approaches are used to teach ASD children but when "there are several approaches to teaching a child with autism, there is no single method, specific program, or magic cure that can fix autism." "Many programs and methods are successful with some children, yet may not be successful with others," (as cited in Willis, 2009, p.3).

2.4.2 Applied Behavior Analysis:

Most schools apply ABA (Applied Behavior Analysis) the idea of ABA is change of environment for achieving more success with children with autism. This works much better than simply telling a child what needs to be done (Wilson, 2010, p. 23).

Crissey (2009) mentioned in his book that, ABA is an intervention model which is based on Skinner's behavioral theory of operant conditioning that states that behavior can be taught through the process of reward and consequences (p. 30).

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While stating about ABA, Corsello gives an example about the environment of toddlers and young children, the environment offers toys and activities that are appeal to children, and teachers expands on children's wishes (2005, p.74).

2.4.3 Discrete Trail Training (DTT):

Discrete Trail Training (DTT) is a method that breaks down a skill using discrete trails to teach a skill step by step, one at a time (as cited in Cosgrave, n.d.). It is a method of Applied Behavior Analysis (ABA). Cosgrave (n.d.) mentions "DTT is used within Applied Behavior Analysis (ABA)" but "ABA is not DTT. ABA uses DTT as a "method of teaching but there are many other methods used within ABA as well."

She also stated about 6 Parts in the trails such as antecedents, prompt, response, consequence for a correct response, consequence for an incorrect response and inter-trail interval. Antecedent is the first element of the discrete trail that stimulates response. Supplementary teaching aids are prompt of various categories from full gestural form to no prompting used according to the level of students. Response comes after antecedent and prompts that is the target or expected behavior. Through correct response positive reinforcement is gained in the form of reward or verbal praise. On the contrary producing an incorrect response no reinforcement is given otherwise incorrect behavior would be strengthen. The last category is inter-trail interval that comes between the trails and signifies the ending of a trail and beginning of another one.

2.4.4 Verbal Behavior (VB):

Verbal Behavior is a method designed by B.F. Skinner focusing on the idea that the meaning of a word can be learnt through its function. For teaching language to children or adolescents with language delay "one must first teach its function;" teaching the meaning of words. For instance

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opting to teach them how to “functionally apply” the word toilet in times of need, (Special learning, 2011). According to Skinner, echoics, mands, tacts and interverbals are the basic verbal parts of language. Echoics is word to word imitation of the model or speech. Mands is the verbal behavior which is controlled by states of deprivation and aversion and usually specifies its own reinforce. It is demand, request and command that stimulates behavior. “A tact is verbal behavior that is under the control of the nonverbal environment” and thought to be labeling of environment or vocabulary. It is taught only after one mastered echoics and mand. “Intraverbal is verbal behavior that is under the control of other verbal behavior and is ultimately strengthened by social reinforcement; it is considered as conversational language because they are responses to the language of another person” (Autism Community, 2011).

2.4.5 Floor time Approach:

Floor time as designed by Dr. Greenspan encourages “parents, teachers and therapists” to get down on the floor with children and engaging them with “gestures and words to build warm relationships and expand their world of ideas,” (Corcoran, 2010). As cited in Corcoran (2010) floor time, “is following the child’s natural interests and affect and emotions to get all this cooking.” In the article Floortime, it is stated that floor time is an approach that creates scopes for adults to engage with their children at each level. Here a child’s lead, interest is followed and communication is developed. It aims to help children reach six developmental stages crucial for the growth in emotion and intelligence, (Autism Speaks, n.d.). They are:

- i. Self-regulation and interest in the world
- ii. Intimacy, or engagement in human relations
- iii. Two-way communication

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- iv. Complex communication
- v. Emotional ideas
- vi. Emotional thinking

2.5 Strategies to teach children with ASD:

Any ASD children need an environment that is structured, providing consistency and clarity; children should be aware of the placement of various things in the classroom and know the expectation from them in a particular situation and also can expect what comes next, (Saskatchewan Education-Special Education Unit, 1999, p. 21). It is very important to provide choices to children with ASD. Hart mentioned, choices in classroom routines and instruction reduces excessive behaviors among these students (2012/2013, p. 25). He also states that this strategy creates scopes to select from limited options offered by teachers and helps in expressing their own preferences exerting few controls on events and classroom variables.

“There should also be a definite end to the work – clearly defined by such things as reinforcement, a special activity or playtime,” (Larkey, 2006, p. 2). She suggested in using students interest for giving activities.

According to Barnhill, visual schedules can help these children to know their daily schedules and also it is the duty of the parents to inform the teachers of children’s obsessive for helping teachers linking the interest with the subjects of class. If the child has writing difficulties teacher can shorten or modify child’s assignments by using word processor of computer. (2004, p. 39).

It is found that Autistic children are mostly visual learners as Grandin mentioned; Pictures are their L1 or first language and words their L2 or second language (2002, p. 1). So result of visual learning strategies is more effective to teach them production skill. Grandin(2002) suggested to

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avoid long strings of verbal instruction since they have problem remembering the sequence (p. 1). In case of writing as cited in Pennington, Ault, Schuster and Sanders (2010) it is seen that “the computer presentation of video clips” showing an adult replicating “correct spelling responses was effective in teaching an 8-year-old female with autism to spell trained and untrained word” (p. 25).

2.6 Teaching Methods:

i. Audio-lingual method:

It is a method that drills students the use of grammatical sentence patterns. Here language is learned through the means of habit formation. When something is repeated more often, the habit is stronger and learning is greater and this habit formation is stronger using positive reinforcement (Freeman, 2000, p. 43). Language forms occur in a context rather than occurring by themselves (Freeman, 2000, p. 42). This method believes that the sole purpose of language learning is to communicate.

ii. Multiple intelligences:

“In the language teaching field” students have attributes “having different learning or cognitive styles,” Gardner suggested individuals have intelligence such as Logical, Visual, Kinesthetic, Rhythmic, Interpersonal, Intrapersonal and Verbal intelligence, (as cited in Freeman, 2000, p.169). So it is important to develop each of these intelligences through different activities in a lesson plan, (Freeman, 2000, p.170).

iii. Total Physical Response:

It aims to develop target language through actions. “Memory is activated through learners response,” (Freeman, 2000, p. 111). Here the “instructor issues commands to

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students, then performs the actions with them.” Then “students demonstrate that they can understand the commands by performing them alone,” (Freeman, 2000, p. 113).

“After learning to respond to some oral commands, the students learn to read and write them” and when they are “ready to speak, they become the ones who issue the commands,” activities expands after begin speaking, (Freeman, 2000, p. 114).

2.7.1 Theory of language learning process and the change of linguistics:

Several theories have been invented explaining the language learning process of the human race. Behaviorism is the oldest yet most common process of learning. Sociolinguistics scales plays a pivotal role in explaining the change of language use according to participants, status, emotion and information.

2.7.2 Behaviorism:

Behaviorism evolved in 1950s ruled as theory of learning for decades. As cited in Alduais, Behaviorists believes that learning process is going to depend on stimuli, response and reinforcement, (2012, p. 114). Stimulus is any object or event causing a response whereas reinforcement, a term introduced by B.F. Skinner, is responses from the environment that increases the number of times or possibility of the behavior being repeated, reinforcement can be both positive and negative, (Mcleod, 2007).

Behaviorist stresses on observation. For instance observing learners behaviors and then deciding what they need to learn, how they can learn it. In other words, we observe our learners behaviors and then we can decide what do they need to learn, how learn it and in what occasion they can may make the most of it (as cited in Alduais, 2012, p. 114). B.F. Skinner believed looking at the

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cause of actions and its consequences is the best way to understand behavior. He named this approach “operant conditioning” (Mcleod, 2007)

Alduais (2012), states about behaviorism, “learning and acquisition occur more and can be achieved by imitation, practice, drills and exercises,” (p. 114).

2.7.3 Sociolinguistics Scales:

According to Holmes (2013), Status again is a significant factor in linguistics. People holding higher status means superior position so the level of respect is higher in speech indicated to them. On the contrary lower status equal to subordinate position followed by less respect. This is the status scale which is concerned with relationship among the participants (p. 13).

He also states “Language can convey objective information of a referential kind; and it can also express how someone is feeling,” referential scale and affective scale, respectively, more referentially orientated an interaction, less it intends to express speakers feelings. Referential scale measures the amount of information being provided whereas affective scale is the measurement of feelings in a speech. Providing an example he illustrated that “Gossip may provide a great deal of new referential information” also providing how the speaker felt about “those referred to,” (p. 14).

2.8 Asperger Syndrome:

According to Corsello (2005), Asperger disorder like Classic Autism includes impairment, reciprocal interaction and stereotype, repetitive and restricted patterns of interest, behavior and activities but unlike Classic Autism or Autism disorder it does not have qualitative impairments in communication field (p. 74). Austrian Hans Asperger in 1944 was the first to identify this disorder, (Barnhill, 2004, p. 37).

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Weintraub states Children having AS are obsessively interested in a particular object or topic and they often tend to have intelligence ranging from normal to above average intelligence as a result, some doctors call it "High-Functioning Autism," (2013, p.2).

There is a debate regarding the language development in children with Asperger Syndrome disorders while some state that "there is no clinically significant general delay in language" whereas "the results from several studies indicate that some children whose symptoms seem otherwise to be consistent with Asperger's disorder have experienced significant difficulties in language development," (as cited in Macintosh and Dissanayake, 2004, p. 423).

While talking about writing of students with Asperger Syndrome Styslinger mentions that students having Asperger face difficulties with hand writing so she suggested "New technologies, especially voice-recognition," might alleviate much difficulties and create scope for them for instance Asperger students writing with their own voice. (2012/2013, p. 44).

2.9 Characteristics of Asperger Syndrome:

Behaviors associated with Asperger Syndrome are:

1. Inappropriate or limited social interactions.
2. Repetitive speech.
3. Difficulties with nonverbal communication like "gestures, facial expression, etc." with "average to above average level verbal skills."
4. Propensity of discussing self than others.
5. Inability to recognize "social/emotional issues or "nonliteral phrases."
6. Absence of eye contact or mutual conversation.
7. Obsession with specific or often unusual topics.

These characteristics are seen in any one individual with varying degree, (Autism Speaks, n.d.).

2.10.1 Speaking, a major production skill:

Speaking is obviously an important skill however despite it, speaking was neglected in schools and universities until recently it came into limelight. Spurr(2001) states that Oral speech covers every aspect of our lives from giving evidence in court, making diagnosis to delivering speech to expressing love, (p. 32).

2.10.2 Teaching speaking to Asperger syndrome children:

Since one of the main characteristics of Autism is impairment in social and communication skill, verbal production is a major challenge for them. “In current practice impairments in verbal and non-verbal communication form an important part of the diagnostic criteria for autism, (as cited in Frith and Happe, 1994, p. 98).

As cited in Frith and Happe (1994):

At one extreme is the child with no language and, strikingly, no compensating gesture or sign-language. Such a child may be aloof in characterization and, because of his/her failure to orient to speech, deafness may be suspected (though subsequently ruled out).

The child may be mute, but need not be silent: odd vocalizations, which do not resemble speech sounds or babbling, may be voiced, and can sometimes be decoded by parents as signals of the child's mood or needs. These cries, however, are idiosyncratic: they are not understood by parents of other autistic children.

Whereas the second type of child, contains some language while having inability to communicate. This type of Autistic children uses words or phrases in ‘idiosyncratic’ way, repeating after hearing a phrase the process is known as Echolalia. As mentioned in Frith and

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Happe (1994), echolalia both immediate and delayed can serve as a self-stimulatory function while others can use this as code like way, (p. 98).

Seven strategies that can help in the language development of nonverbal children with autism are

1. Encouraging play and social interaction- interactive plays or games for helping in language development.
2. Imitating the child's sounds or mimicking.
3. Focusing on nonverbal communication- focusing on gestures and eye contact.
4. Leaving space for the child to talk- giving them time to respond.
5. Simplify your language- since it will be easier for them to imitate.
6. Following the child's interest- utter words that a child is doing, for example, saying "Shape" when he holds any shape.
7. Considering assistive devices and visual support- devices, apps which they can use to produce words, (Autism Speaks, n.d.).

2.10.3 Theory of Mind:

As cited in Frith and Happe (1994), "One recent and influential theory has proposed that children and adults with autism lack a theory of mind," that is specifically the aptitude to attribute independent mental states of others and self for explaining and predicting behavior. This theory has been successful in "predicting impairments in the ability to understand false beliefs, deception, ignorance and knowledge," and also gives an explanation in the lacking of empathy, social understanding and pretend play by children with Autism, (p. 98). In an experiment based on the theory of mind it was seen autistic subjects were impaired where listener's feelings and perspective were to be taken account. From this research one of the major findings was that they

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may have the ability to provide information however not take account “of listeners needs in supplying the relevant missing facts,” (p. 99).

2.10.4 Echolalia:

Echolalia is repeating a word or phrases said by another. As Laura (2008) states “echolalia is actually a positive sign that children with autism may eventually be able to learn to use language to communicate.” It is two types delayed echolalia and immediate echolalia. Delayed echolalia is the inappropriate statement of any speech which the child heard in the past whereas immediate echolalia is called “parrot speech” is repeating a sentence or some phrase immediately after hearing (Charlop, 1983, pg. 111). As cited in Wang (2012) the presence of these indicates “how the child is trying to process the language.”

2.10.5 Speech-Language therapy:

Speech- Language therapy plays a significant part in the treatment concerning autism since “difficulty with communication and difficulty with social interaction,” two of the vital characteristics are addressed with speech language therapy. (Vann, 2010). She also says the therapy is individualized according each child needs and abilities.

Enderby and Emerson (1996) stated about the strategies used in speech therapies:

- i. Assessment and diagnosis of communication or swallowing disorders and identification of retained abilities.
- ii. Advice and support of patient and carer to prevent, maintain, or improve communication and swallowing.
- iii. Therapy to restore and improve impaired speech, language, voice, fluency, or swallowing.

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- iv. Teaching compensatory strategies to improve intelligibility and general communicative effectiveness.
- v. Therapy to improve functional communication by using adaptive techniques, such as augmentative and alternative communication systems.
- vi. Therapy to restore, improve and maintain social consequences of the speech disability.
- vii. Manipulation of the environment for example, by making physical surroundings more conducive to communication by amending carer's communication, (p. 1658).

2.10.6 Sensory therapy:

Often sensory issues “such as textures, sounds, smells, tastes, brightness and movement” hinders information processing obstructing daily functions of life for children and adults with Asperger syndrome and other kinds of autism. Sensory integration therapy includes play activities designed for changing the reaction of brain to “touch, sound, sight and movement.” By changing the way brain process sensation, it helps them to better sense the information received and participate in daily tasks (Autism Speaks, 2013).

2.10.7 Occupational therapy:

In a webpage about Occupational therapy it is stated that it is a healthcare profession aiming to provide help to people for better performing tasks which occupies their time. In case of children it means learning and playing as well as grooming for getting dressed, eating etc. It provides cautiously designed challenges for building up a child’s unique “ strength and interest to build developmental skills such as attention span, sensory processing skills, fine and gross motor skills, handwriting, Visual perceptual skills etc.

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2.11.1 Writing, a fundamental skill of literacy:

Of the four skills writing is considered a vital skill to be eligible of being literate. As Pennington, Ault, Schuster and Sanders (2010), states written expression is a key expertise for individual involved in community and educational contexts (p. 24).

Though writing has different aspects according to level but in beginners level according to Vukelich and Golden (1984), in paper children often has difficulty recognizing “each symbol or cluster of symbols as representing a specific word” (p. 4). They also stated that children normally moves to various stages in writing which is known as ‘renegotiation’”, suggesting that students at this stage moves freely between different types of writing and drawing (p. 5)

2.11.2 Self-Regulated Strategy Development Model (SRSD)

Mastering writing skill is a challenging task. This difficulty is evident among learners having learning problems or disabilities. Their writings are full of errors and brief. So SRSD was designed to enhance writing skill. The major goals of SRSD includes “helping students (a) master the higher-level cognitive pro-cesses involved in composing; (b) develop autonomous, reflective, self-regulated use of effective writing strategies; and (c) form positive attitudes about writing and about themselves as writers” (Graham and Harris, 2003, pg. 170). However students with learning problems face considerable challenges with the “mental operations” and lack adequate knowledge and organizing ideas. “Their approach to revising is superficial: correcting mechanical errors, changing one word for another, and making the end prod- uct neater” so an important goal for these students is developing an “effective strat- egies for planning and revising” (Graham and Harris, 2003, pg. 170). Graham and Harris (2003) while stating about the effectiveness of SRSD for students with learning problems states that Self-Regulated Strategy

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instructions is an effective model for serving the students with learning disability and cognitive problem “because it uses a variety of mechanisms for promoting active involvement, enriching the cognitive resources students can draw on, and altering their beliefs”

2.11.3 Teaching writing to Asperger Syndrome children:

Despite the importance of writing little research has been done in this sector. In case of children with ASD, Researchers suggested that “individuals with autism spectrum disorders (ASD) may have difficulty acquiring writing skills” (as cited in Pennington, Ault, Schuster and Sanders, 2010, p. 24). There was mainly research on “written expression” on “spelling responses” using “computer-assisted instruction (CAI)”

As Grandian mentions many autistic children have difficulties with motor control autistic so neat handwriting is almost unachievable, this frustrates them so in order to reduce their frustration typing on computer is preferable since it is easier (2002, p. 2).

“Students with Asperger Syndrome display more variability in written language performance in standardized test than non-disabled students” produces writings “that are brief” and less complex structures (Delano, 2007, p. 345). She also states that Self-Regulated Strategy Development Model (SRSD) has been evaluated before with students with learning disability where result indicated implementing this model improves both quality and quantity of their writing skill. SRSD involves interactive learning of students with the guidance of teachers and is also structured “so that students gradually learn to select and implement specific writing strategies independently,” (2007, p. 345). This strategy was implied on adolescents with Asperger Syndrome in Delano’s research of SRSD where the outcome was impressive increase in the rate of words with the help of Video Self modeling. Here the students watched a video of

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accomplishing a writing task. As cited in Delano (2007), video may facilitate in acquiring faster academic skills and generalization for individuals with autism (p. 346).

2.12 Educational facilities of children with Autism in Bangladesh:

Bangladesh is not lacking behind in the ratio of autism, it is estimated that one child of every 500 has autism, meaning children affected by ASD is no less than 280,000 in Bangladesh (Zerin, 2015). She also writes “Most of the Government Primary schools directly refused to accommodate the autistic children in their institutions,” furthermore there are only 20 schools for disabled children and all of them are situated in Dhaka. The problem is aggravated with insufficient centers to train trainers or teachers to work with these children. In addition to this these available institutions relating autism children “are not effective and reachable for the people of all classes.”

However some Schools provide different therapies to their students also giving importance to dance and sports. They also arrange counseling programs for parents to educate them ASD and help them to further help their children (Purnata, 2014).

Chapter 3: Research Methodology

Research Methodology is the chapter in which the researcher explains the procedure of the survey conducted for obtaining answers of the research questions. This chapter illustrates the method used for conducting the survey along with describing the respondents of the survey. Besides these, instrumentation, setting and Time frame of the survey are also included here.

3.1 Research Method:

Mixed method was used to measure the effectiveness of teaching productive skills to Autistic children specially children with Asperger Syndrome. Mixed method is a method comprising both Qualitative (data's are subjective and cannot be coded numerically) method and Quantitative (data's that are objective and can be numerically coded) method. Both questionnaire and interview were used for accomplishing the result of the research questions. Five level likert item was used to measure the general agreement and disagreement level. It is not possible to rate every answer using likert item so interview was conducted encompassing subjective questions to get more insights. Since using only quantitative method would not generate reliable data so mixed method was used to get authentic data and finding in depth problem regarding the teaching process of the children with Asperger syndrome. Ratings of the likert item are converted into percentage and Microsoft Excel's bar chart and pie chart are alternatively used to illustrate the data's graphically.

3.2 Respondents:

The survey was conducted on special teachers teaching in special schools for students with Autism. As maximum special schools in Bangladesh are Dhaka based so researcher only conducted survey in Dhaka. In total 30 special teachers attended questionnaire whereas among

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them 13 gave interview. The ratio of teachers giving interview was less since they were packed with make-up classes due to blockade and also since most of the teachers had the responsibility in taking care of their students from the beginning of the shift until the very end. All of them have some elementary knowledge about different characteristics of ASD children and received some training in handling them.

3.3 Instrumentation of research:

i. Questionnaire: the questionnaire contained 17 questions designed in an attempt of measuring the effectiveness of the present process of teaching productive skill to children with Asperger syndrome. The proficiency level of students was high beginners. All the questions included in the questionnaire had to be rated in likert scale containing five points such as strongly agree, agree, somewhat agree, disagree, strongly disagree. They had to fill the questionnaire by simply ticking the appropriate answer according to them.

ii. Interview: the interview was conducted in an informal setting with 13 teachers. They had to answer 7 questions and justify their claim. However enough time was not given by the teachers as they were all in a rush to get back to their ASD children.

3.4 Time Frame:

The survey was conducted within only six days. Some of the schools were not keen in giving permission for survey but later gave appointment. Also due to the prevailing political situation of the country very few schools were able to give time for accomplishing the survey. Instead of two weeks initially allocated for the survey, it was extended to total four weeks. Except in one school only Friday and Saturday were used to do the survey since rest of the week was filled

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with blockades. The questionnaire took more or less 12 minutes to fill. The interview was held after filling the questionnaire which took 6-8 minutes.

3.5 Setting:

Both the survey and questionnaire was completed mostly in informal settings but in some cases interview was taken in a formal setting. Questionnaire was conducted informal settings in the cafeteria of the school. So the setting was relaxed and they felt free to even share further opinion regarding the questions. Help was provided when necessary by the researcher. However it was seen that most of the teachers filled the questionnaire after discussing with other teachers. In spite of reminding them to tick answers appropriated to each of them they choose to give the same answer after discussing. Thus the survey was not free from influence.

Most of the interview was done in a more formal setting. However some interview conducted in informal setting elicited more valid responses as the teachers felt free to share their insights and opinions without being influenced by the setting. Besides this, those interview conducted in a formal setting was short and did not elicited enough data as in most cases a secretary was often there to listen the interview. Thus some teachers avoided giving appropriate answers to avoid getting trouble with the authority for giving accurate information. While talking it was felt that most of the teachers had the same mentality of being criticized however after explaining and clarifying the research topic they soon felt relaxed and encouraged to work in such fields aiming to develop ASD student's education system.

Chapter 4: Finding and Analysis

This chapter shares the researcher's finding through the survey and interview taken on special teachers along with analysis.

4.1 Analysis of questionnaire:

1. Environment does not play a major role for ASD children.

Five level likert item	Number of teachers	Percentage (%)
Strongly Agree	3	10%
Agree	3	10%
Somewhat Agree	4	13.3% Approx.
Disagree	15	50%
Strongly Disagree	5	16.6% Approx.

50% of the teachers disagree that environment does not play a major impact for ASD children followed by 17% of them strongly disagreeing with the statement. On the contrary 20% (strongly agree and agree) of teachers agreed with the statement that environment does not play a major role for ASD children. As a result it is seen that a significant percentage of people who are involved in teaching and taking care of ASD children disagrees with the role of environment not having any impact on the teaching process of ASD children. Thus the role of environment for ASD children does influence ASD children as proven by the result here. The response of the teachers to this question is demonstrated in the bar chart below:

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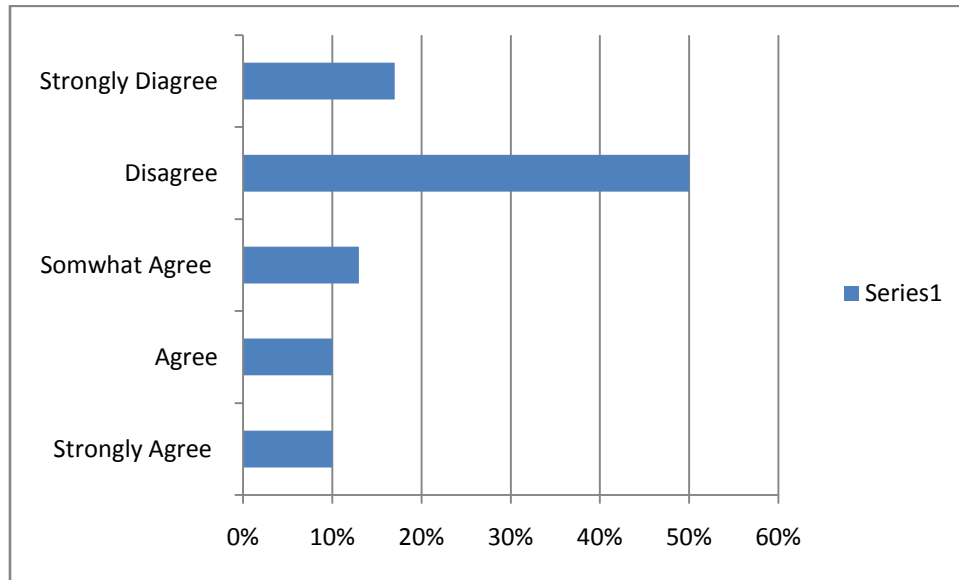


Figure 1: Environment does not play a major role for ASD children.

2. A Certified degree is necessary for teaching in special schools.

Five level likert item	Number of teachers	Percentage (%)
Strongly Agree	17	56.6% (Approx.)
Agree	11	36.6 % (Approx.)
Somewhat Agree	2	6.6% (Approx.)
Disagree	0	0%
Strongly Disagree	0	0%

While teaching in special schools, a special degree or a certified degree on special education emphasizing on the characteristics, these children’s different needs and varies aspects regarding their education and survival, theoretically is essential. Above result also illustrates the point which shows approximately 56.6% strongly agreed and 36.6% of the teachers agreed with the

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statement. Only 6.6% were neutral regarding the statement. The result is shown in pie chart for further understanding.

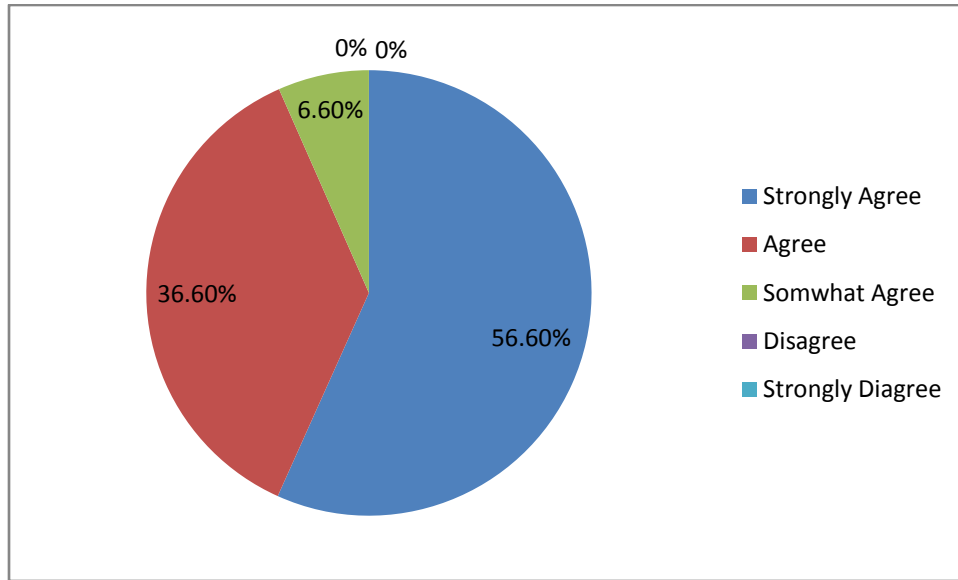


Figure 2: A Certified degree is necessary for teaching in special schools.

3. Teachers should receive training on the characteristics and educational needs of ASD children.

Five level likert item	Number of teachers	Percentage (%)
Strongly Agree	23	77%
Agree	6	20 %
Somewhat Agree	0	0%
Disagree	1	3%
Strongly Disagree	0	0%

Only theoretical knowledge regarding diversified traits and educational needs of ASD children is incomplete without the practical knowledge. Proving this, large proportion of the respondents

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strongly agreed with the statement followed by 20% of them agreeing with the statement. On the contrary only 1 respondent (3%) choose to go against the statement believing training on the different characteristics and educational needs is not necessary for ASD children. Pie chart below shows the responses of the survey graphically.

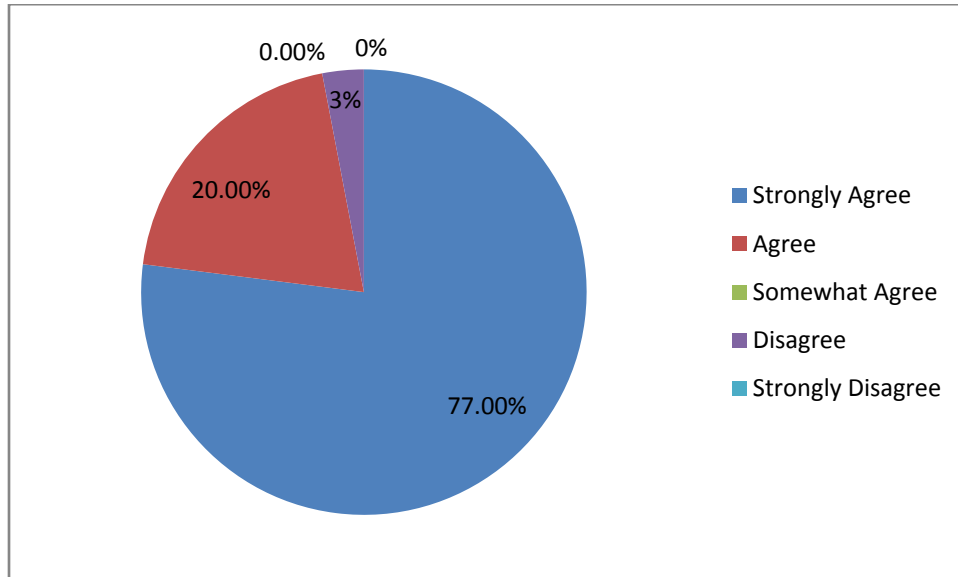


Figure 3: Teachers should receive training on the characteristics and educational needs of ASD children.

4. Children with ASD should not be divided into different sections according to their IQ level.

Five level likert item	Number of teachers	Percentage (%)
Strongly Agree	4	13%
Agree	2	7 %
Somewhat Agree	0	0%
Disagree	19	63%

Strongly Disagree	5	17%
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This question highlights a significant point whether students with ASD should be divided according to their IQ level. 19% respondents disagreed with the statement whereas 5% of the total respondents strongly disagreed with the statement that ASD children should not be divided according to IQ level. Some teachers also stated their school do not divide the students according to their IQ level consequently in a class of 3 students their performance varies to a large extent creating difficulties for the teachers to handle them at the same time. They further added that since the school is dividing the students according to age but not according to IQ hence some students are lacking behind the schedule whereas some are better achievers in the same class. 13% of the respondents had a contradictory view as they strongly agreed with the statement with 7% of them agreeing. The bar chart below demonstrates the result of the respondents:

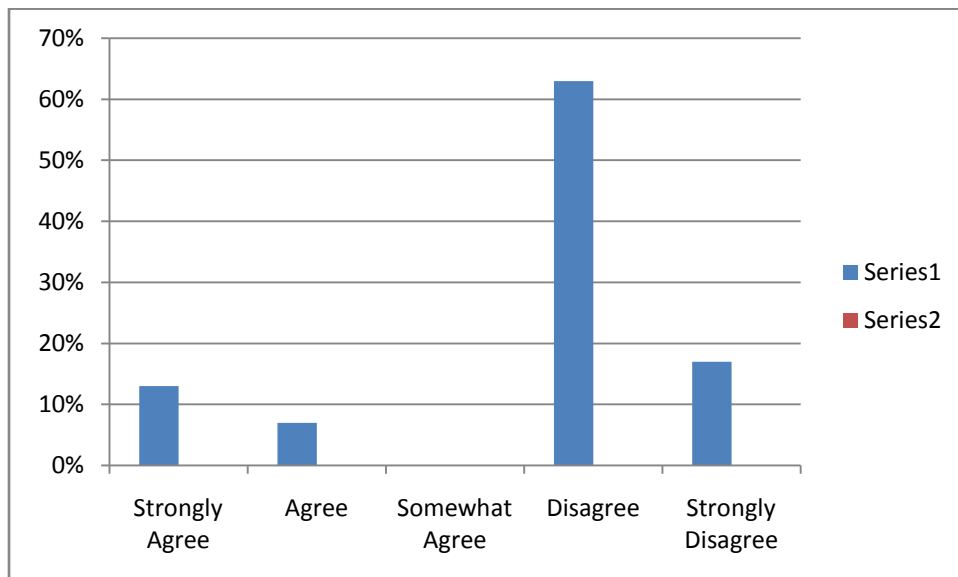


Figure 4: Children with ASD should not be divided into different sections according to their IQ level.

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5. Schools should have Individual Family Service Plan (IFSP) or an Individual Education Program (IEP) for each child with ASD.

Five level likert item	Number of teachers	Percentage (%)
Strongly Agree	22	73.3% (Approx.)
Agree	7	23.3 % (Approx.)
Somewhat Agree	1	3.3% (Approx.)
Disagree	0	%
Strongly Disagree	0	%

As different child varies in traits and needs so IFSP or IEP is essential for every student with ASD. Approximately 73.3% of the teachers strongly agreed with the statement and 23.3% simply agreed. They also added their schools have IEP for each child and they renew the program after 3-4 months with their parents. So the statement of Wills (2009) that developed countries has IEP or IFSP for each child can be mentioned here since although not a developed country but Bangladeshi Autistic schools also provide IEP to each child. Only 3.3% of the respondent chooses to be neutral with the statement. The responses are presented using pie chart below:

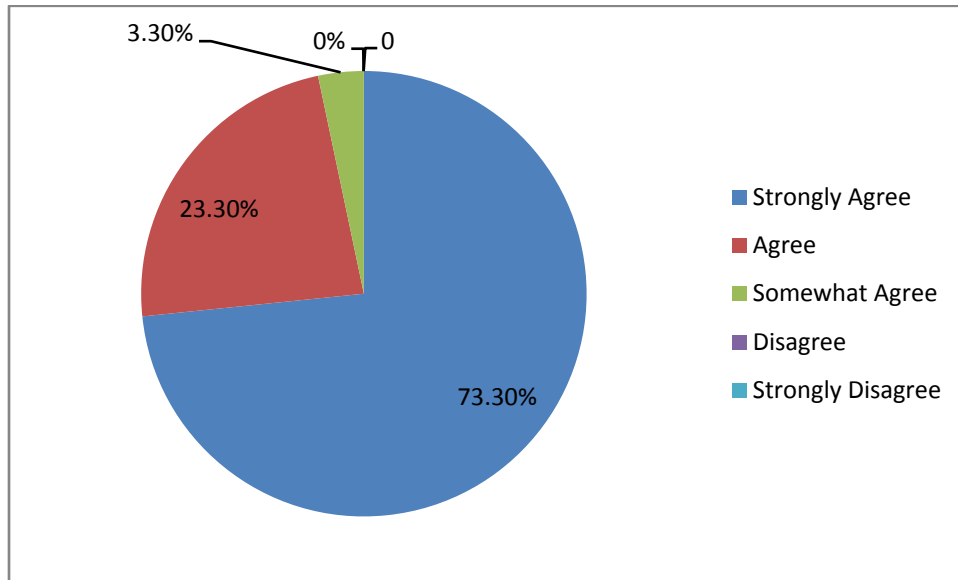


Figure 5: Schools should have Individual Family Service Plan (IFSP) or an Individual Education Program (IEP) for each child with ASD.

6. Schools should not follow a separate curriculum for ASD children.

Five level likert item	Number of teachers	Percentage (%)
Strongly Agree	1	3.3% (Approx.)
Agree	0	0%
Somewhat Agree	1	3.3% (Approx.)
Disagree	15	50%
Strongly Disagree	13	43.3% (Approx.)

50% of the respondents simply disagreed with the statement that schools should not follow a separate curriculum for ASD children whereas approximately 43.3% of them strongly disagreed.

This proves Kluth and Latham (2003) claim that following conventional educational system is challenging for ASD children so they follow a separate curriculum. Only approximately 3.3%

choose to remain neutral regarding the issue. However approximately 3.3% of the respondent had a contradicting view. So since children with ASD are incapable of comprehending conventional curriculum a distinct curriculum is necessary for them. This claim is supported by majority as seen above as they too believe a separate curriculum is essential for them. A pie chart is given below in order to highlight the result.

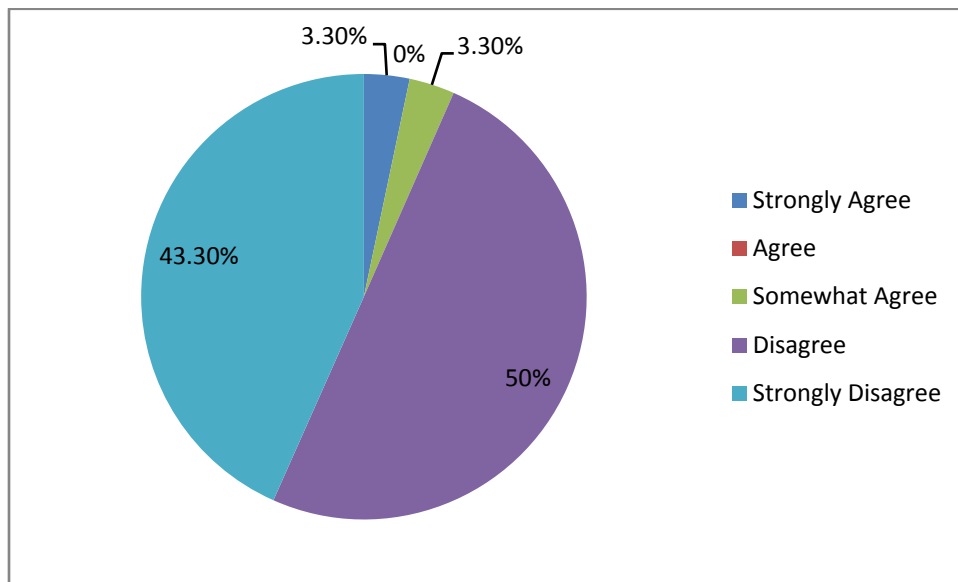


Figure 6: Schools should not follow a separate curriculum for ASD children.

7. Parents have a major role in the teaching process of ASD children.

Five level likert item	Number of teachers	Percentage (%)
Strongly Agree	19	63.3% (Approx.)
Agree	10	33.3% (Approx.)
Somewhat Agree	1	3.3% (Approx.)
Disagree	0	0%
Strongly Disagree	0	0%

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About 63.3% of the teachers strongly claimed that parents do have a pivotal role in the overall teaching process of children with ASD followed by 33.3% agreeing with it. Teaching process does not only include the teachers and environment but it is a collective effort including the parents as well. Thus the above result proves the point that parents have a significant role in the teaching process of the children with ASD. 3.3% of the respondent remained neutral with the statement. The result is demonstrated below with a bar chart.

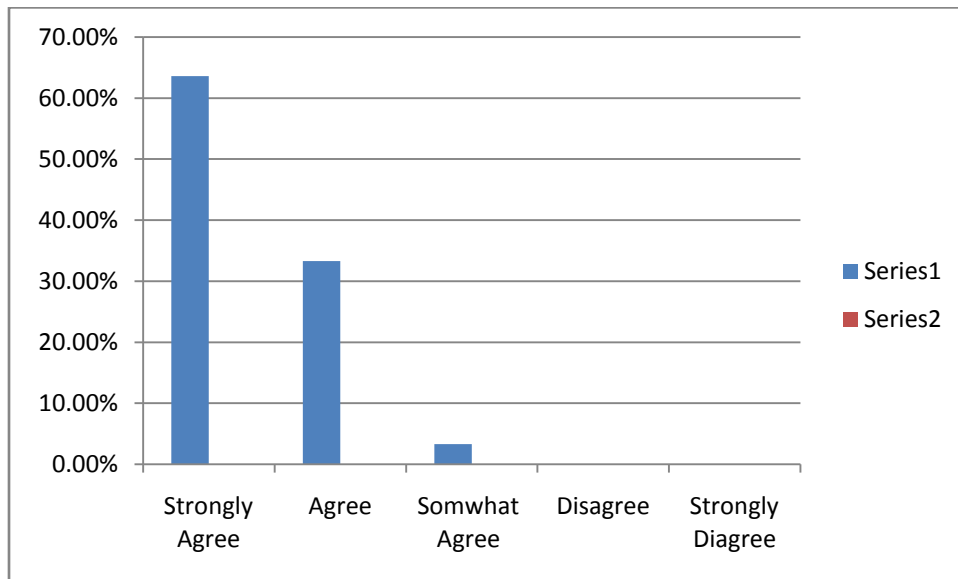


Figure 7: Parents have a major role in the teaching process of ASD children.

8. ABA or Applied Behavior theory (behaviors taught by using a system of reward and through consequences) should be applied in schools to educate ASD children.

Five level likert item	Number of teachers	Percentage (%)
Strongly Agree	20	67%
Agree	10	33%
Somewhat Agree	0	0%

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Disagree	0	0%
Strongly Disagree	0	0%

ABA the most traditional method is also used widely in Bangladesh to teach students with ASD.

All respondents were in favor of the statement. 67% of the respondent strongly approved the claim whereas 10% of them agreed with it. In answering the question some of the teachers shared their insight that the use of reinforcement is essential in their teaching process. Otherwise students do not cooperate or react to any teachings. Teachers mostly use positive reinforcement like applause or giving reward to strength the behavior. The result is illustrated below in pie chart:

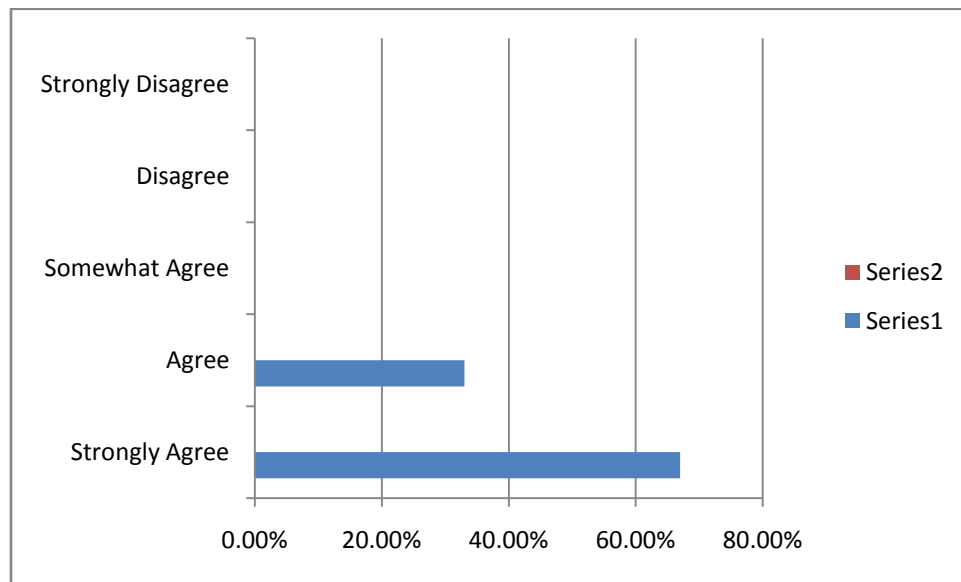


Figure 8: ABA or Applied Behavior theory (behaviors taught by using a system of reward and through consequences) should be applied in schools to educate ASD children.

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9. Technology does not play a major role to teach productive skill (Speaking and Writing) to teach children with Asperger Syndrome.

Five level likert item	Number of teachers	Percentage (%)
Strongly Agree	0	0%
Agree	1	3.3% (Approx.)
Somewhat Agree	1	3.3% (Approx.)
Disagree	24	80%
Strongly Disagree	4	13.3% (Approx.)

As Grandin (2002) mentioned pictures are ASD children's first language and word their second language so most of the children with ASD are visual learners. Thus the role of technology cannot be denied in both the cases of productive skills (Speaking and Writing). Proving this about 80% of the teachers disagreed with the statement that technology does not play a major role in teaching productive skills to Asperger Syndrome whereas approximately 13.3% of the teachers strongly opposed the statement. Only a minor percentage of teachers agreed with statement followed by 3.3% opting for neutrality. The response of the question is shown in a pie chart below:

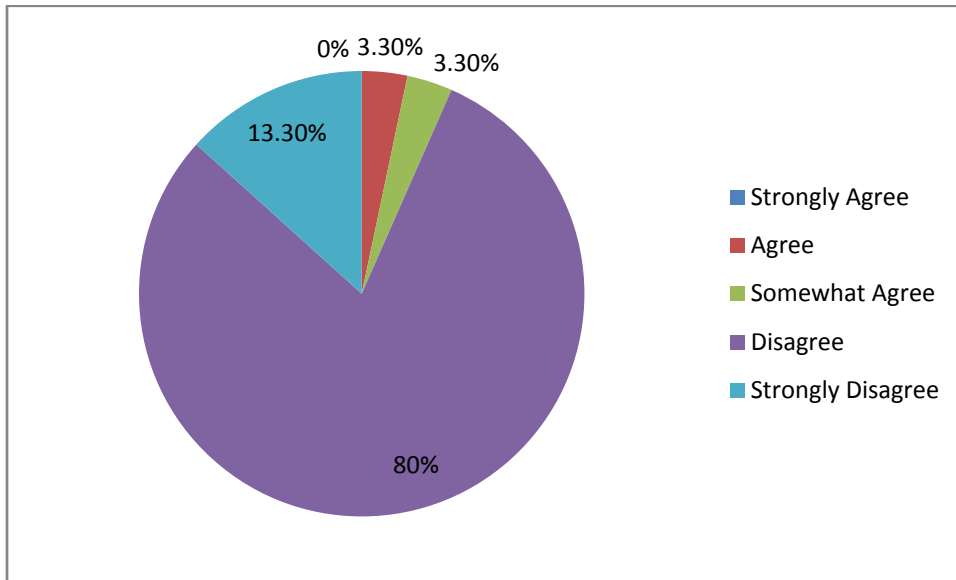


Figure 9: Technology does not play a major role to teach productive skill (Speaking and Writing) to teach children with Asperger Syndrome.

10. Use of computer, mobile etc. devices having keyboard is beneficial for teaching writing to them (children with Asperger Syndrome).

Five level likert item	Number of teachers	Percentage (%)
Strongly Agree	8	27%
Agree	18	60%
Somewhat Agree	4	13%
Disagree	0	0%
Strongly Disagree	0	0%

Since most of the Asperger syndrome children have difficulty in motor control so writing is challenging for them. In order to overcome this challenge developed countries use computers or devices having key board to polish their writing skill. Here majority (60%) of the teachers

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agreed with the statement followed by 27% strongly approving the statement. This response supports Grandian (2002) suggestion that as these children face writing difficulties so it can be achievable by typing in computer. On the contrary 13% of teachers somewhat agreed with the statement. So the use of technology for teaching productive skill cannot be denied in case of Asperger Aynndrome students. A bar diagram is given below to illustrate the responses graphically.

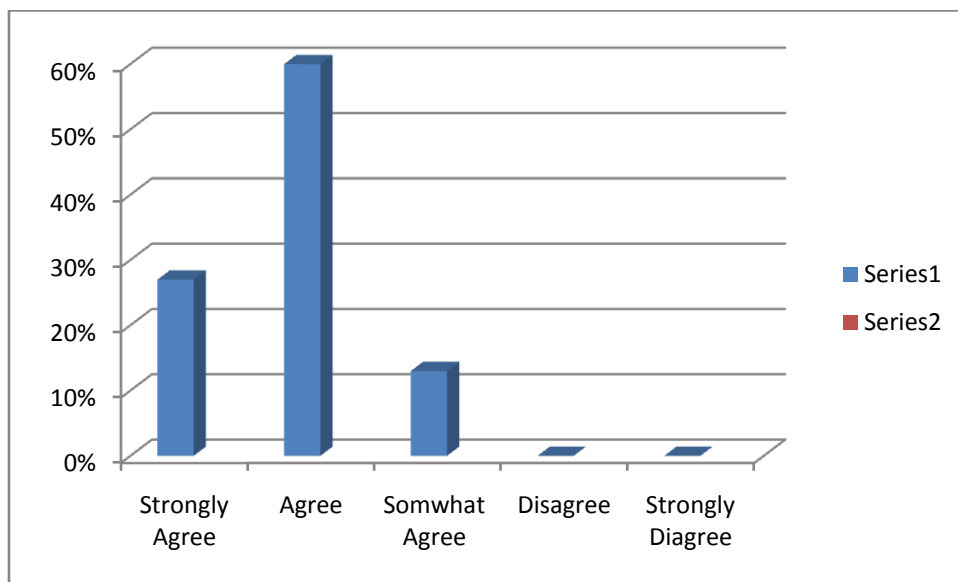


Figure10: Use of computer, mobile etc. devices having keyboard is beneficial for teaching writing to them (children with Asperger Syndrome).

11. Children with Asperger Syndrome do not filter verbal instruction and lesson due to their sensory issues.

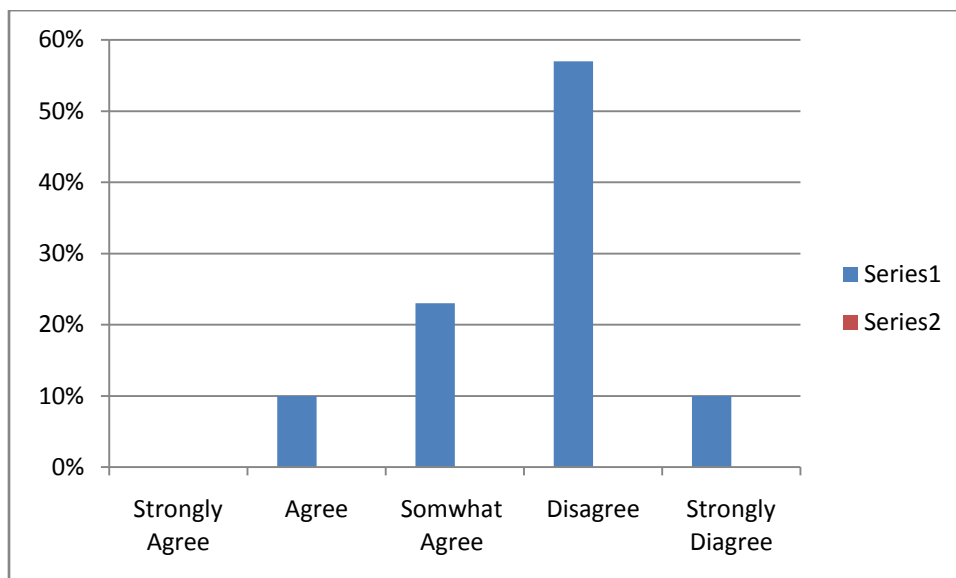
Five level likert item	Number of teachers	Percentage (%)
Strongly Agree	0	0%
Agree	3	10%

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Somewhat Agree	7	23%
Disagree	17	57%
Strongly Disagree	3	10%

Due to vivid sensory issues children with Asperger syndrome often filter most of the verbal instruction indicated to them. Proving this about 57% of the teachers disagreed with the statement that children's suffering from Asperger Syndrome does not filter verbal instruction due to their sensory issues followed by 10% of the teachers strongly opposing the claim. In contrast to that 10% of the teachers agreed with the statement whereas 23% of them choose be neutral regarding the subject matter. Most of the respondents stated since these children's sensory issues are intense so they do not react or respond immediately after providing them an instruction. They need time to process verbal instruction due to slow cognitive development. This also happens due to their vivid sensory issues as a result children with Asperger Syndrome filters oral instruction. The result is show in a bar diagram below:



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Figure 11: Children with Asperger Syndrome do not filter verbal instruction and lesson due to their sensory issues.

12. As most children with Asperger Syndrome have echolalia (the immediate and involuntary repetition of words or phrases just spoken by others), it can be used to develop their speaking skill.

Five level likert item	Number of teachers	Percentage (%)
Strongly Agree	11	37%
Agree	12	40%
Somewhat Agree	6	20%
Disagree	1	3%
Strongly Disagree	0	0%

Majority of respondents approved the statement with 37% strongly agreed that echolalia can be used to develop children with Asperger Syndrome's speaking skill and 40% simply agreed with it. A minimal amount about 3% of the respondent's disagreed the statement and 20% of them opted for neutrality. As believed by majority of the respondents who are involved in the teaching process of ASD children it can indeed be used to develop their verbal production.

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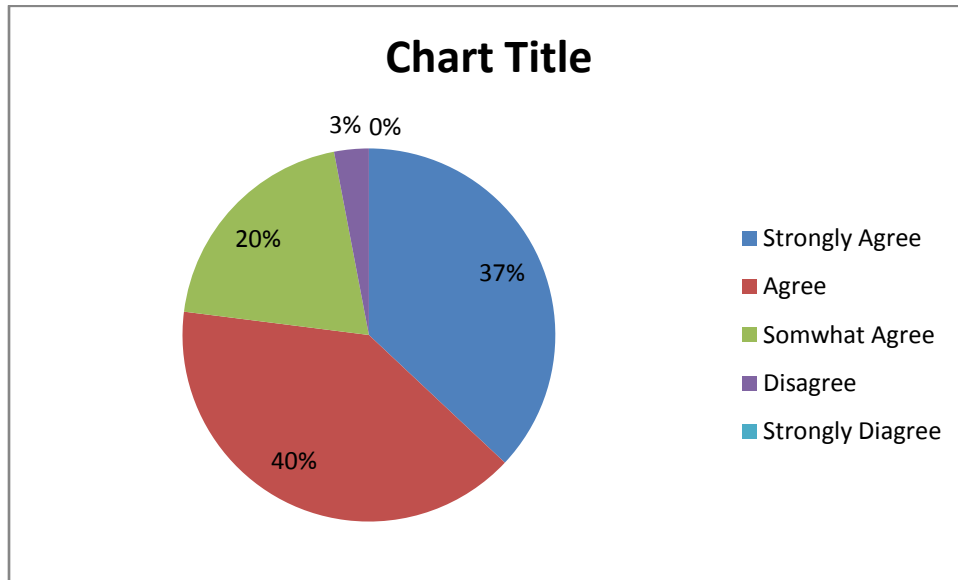


Figure 12: As most children with Asperger Syndrome have echolalia (the immediate and involuntary repetition of words or phrases just spoken by others), it can be used to develop their speaking skill.

13. Curriculum should have activities that aim not only developing their nonverbal communication but also developing their verbal production.

Five level likert item	Number of teachers	Percentage (%)
Strongly Agree	22	73.3% (Approx.)
Agree	4	13.3% (Approx.)
Somewhat Agree	3	10%
Disagree	1	3.3% (Approx.)
Strongly Disagree	0	0%

Curriculum must cover all the skills otherwise it lacks validity. So a sound curriculum should include both verbal production and nonverbal communication skill. This statement is favored by

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almost all the respondents. Approximately 73.3% of the respondents strongly supported the claim and approximately 13.3% of them although not strongly but supported the claim. 3.3% choose to oppose the claim and about 10% of them choose neutral response. The result of the question is shown in a bar diagram.

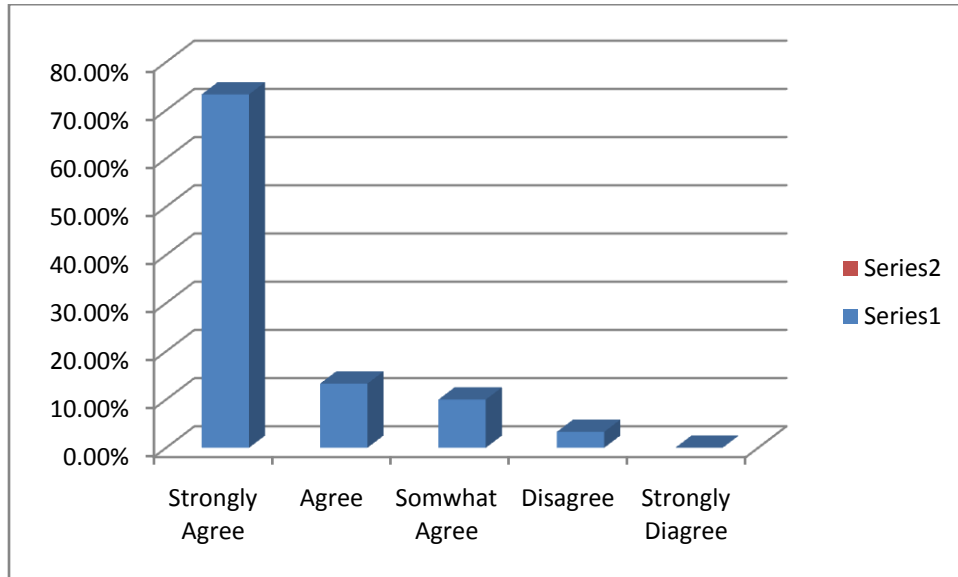


Figure 13: Curriculum should have activities that aim not only developing their nonverbal communication but also developing their verbal production.

14. Instead of teaching social skills first, children with Asperger Syndrome needs to be taught to deal with their sensory issues.

Five level likert item	Number of teachers	Percentage (%)
Strongly Agree	18	60%
Agree	10	33%
Somewhat Agree	2	7%
Disagree	0	0%

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Strongly Disagree	0	0%
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It is a significant issue which highlights the necessity of handling sensory issues of the children with Asperger syndrome. More than half of the teachers (60%) strongly supported the statement and 33% of also agreed with it. While answering most of the respondents stated that since these children have intense sensory issues so without teaching to deal with it first they would not be able to comprehend any of the subsequent teachings. However it was seen that only some schools are providing sensory therapy to students whereas some are not using this professional method to help these special children deal with their sensory issues. However 7% of the respondent opted for somewhat agreeing the statement. A bar chart is given below illustrating the responses to the statement.

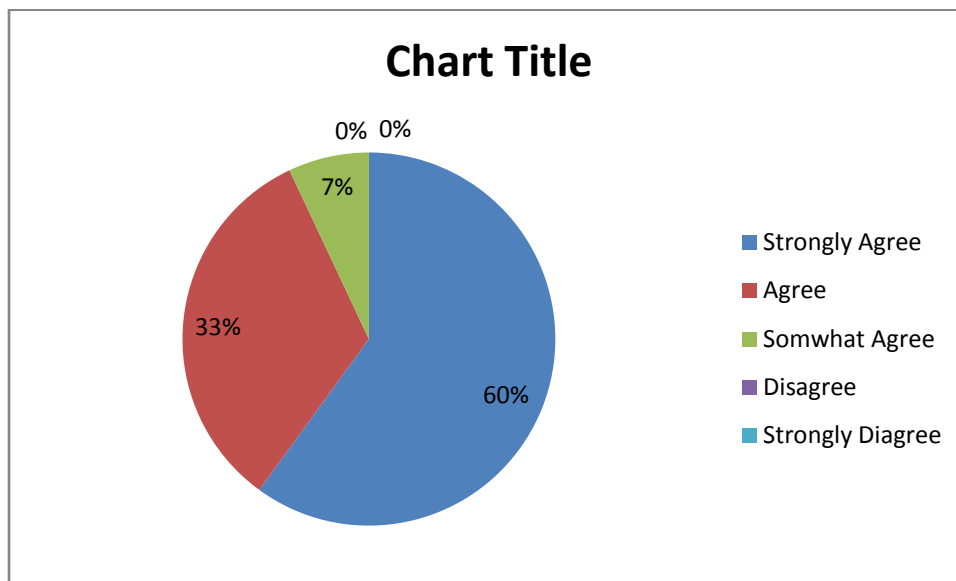


Figure 14: Instead of teaching social skills first, children with Asperger Syndrome needs to be taught to deal with their sensory issues.

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15. Different ECE (early childhood education) technologies, (different electronic technology to teach children such as Word talk of Microsoft to teach speaking) should be used to teach effectively.

Five level likert item	Number of teachers	Percentage (%)
Strongly Agree	11	37%
Agree	15	50%
Somewhat Agree	4	13%
Disagree	0	0%
Strongly Disagree	0	0%

In response to this statement, 37% of the teachers strongly supported the statement whereas about half of the teachers agreed that ECE technologies ought to be used for efficient teaching. Although few but 13% of the teachers somewhat agreed with the statement. In the present world the invention of ECE technologies is a blessing especially in the field of special education. Through innovative ECE software's and apps the task of teaching and learning has becoming easier for both teachers and students in the field of special education. Above result proves this ideology. A bar diagram is given below demonstrating the result of the statement.

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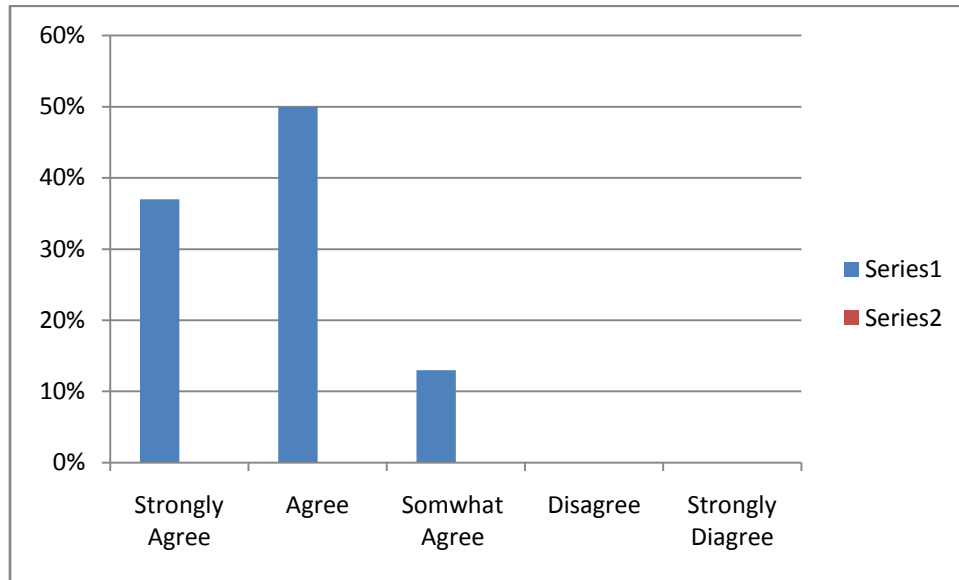


Figure 15: Different ECE (early childhood education) technologies, (different electronic technology to teach children such as Word talk of Microsoft to teach speaking) should be used to teach effectively.

16. The ratio of teachers to teach children with Asperger Syndrome productive skill is adequate in Bangladesh.

Five level likert item	Number of teachers	Percentage (%)
Strongly Agree	0	0%
Agree	0	0%
Somewhat Agree	0	0%
Disagree	22	73%
Strongly Disagree	8	27%

Bangladesh is relevantly new to the concept of ASD consequently the ratio of teachers in the field of special education is lesser than the convention education field of the country. Proving

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this fact all the teachers disagreed with the claim that Bangladesh has adequate number of teachers to teach students with Asperger Syndrome productive skills. 73% of the teachers disagreed with the statement and 27% strongly opposed the claim. They also added that even if teachers are coming to this field they do not teach them for long, they lack patience. It was also found that ratio of teacher to student in Autistic schools are rarely 1:1. It is a serious deficit in the field of special education as 1:1 is the most appropriate way for teaching them as each child with ASD and Asperger Syndrome vary in their characteristics, development and educational needs. They also added government should take initiative to encourage teachers to teach in special schools so that more individuals are motivated to educate ASD children.

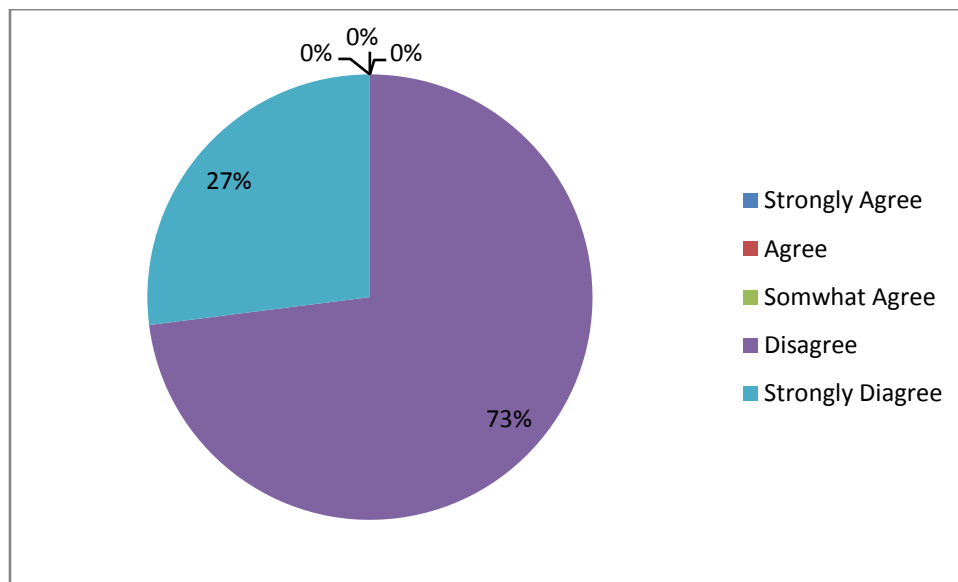


Figure 16: The ratio of teachers to teach children with Asperger Syndrome productive skill is adequate in Bangladesh.

17. The ratio of speech therapist is adequate in special schools in Bangladesh.

Five level likert item	Number of teachers	Percentage (%)

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Strongly Agree	0	0%
Agree	0	0%
Somewhat Agree	2	7%
Disagree	19	63%
Strongly Disagree	9	30%

About 63% of the teachers disagreed that Bangladesh has adequate speech therapist followed by 30% strongly opposing the statement. Autism is becoming a growing problem in our country with its number on the increase. Compared to the number of individuals born with it each year, the number of speech therapist in the country is inadequate. Teachers also showed concern that due to inadequate speech therapist ASD children are suffering specially students with high functioning Autism like Asperger syndrome as they with the help of speech therapist can overcome many of their speech difficulties. Almost all the schools surveyed for this paper consists of two speech therapists that are scarce compared to the number of students in the school. Thus Bangladesh has insufficient speech therapist which is affecting the speech development of these students.

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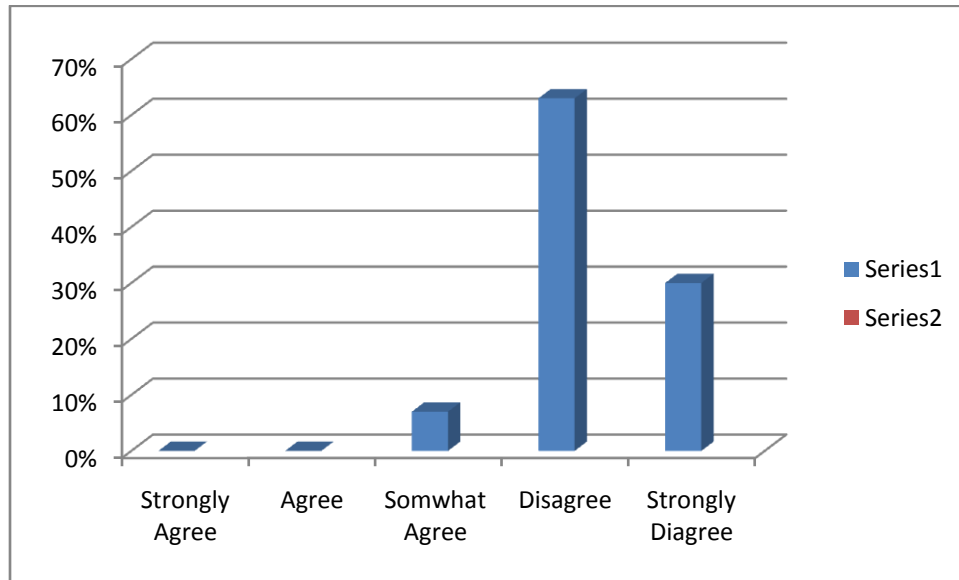


Figure 17: The ratio of speech therapist is adequate in special schools in Bangladesh.

4.2 Analysis of Interview session:

1. Does the school provide counseling session or training sessions to teach parents how to deal with their children with Asperger Syndrome?

In answer to this question teachers gave mixed opinions. It was found that some of the schools arrange workshops and training session for parents. In these workshops through demonstrating practical examples parents learn to take care of their child in various circumstances. However some of the teachers admitted that their school do not held any formal training program for parents but guide them to deal with their children. All the teachers mentioned that in times of renewing Individual Education Plan (IEP) they sit with a child's parents in order to evaluate the progress and add new lesson. When further asked about home work they admitted that parents are given guidance to teach homework lesson effectively however the result varies. They admitted that parents do not always succeed in teaching the same way a lesson has been taught at school.

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The teaching process of special education is not complete without the role of parents as Asperger syndrome children only spends five to six hours in school which is not enough to teach them various lessons. So parents should be more involved in the process. Respondents also added that there exists a lack of awareness among the parents and also they lack patience. Learning will only occur when the result is same at school and home for the children. In order to do so, parents need to be cooperative with the teachers and should be concerned about the overall development as well which will contribute in these children's teaching process as well. So for fast cognitive and productive skill development cooperation is necessary from both sides. Schools should hold practical workshops and training programs for making knowledge and resources accessible for parents regarding their children with Asperger Syndrome.

2. Does the school follow a separate curriculum to teach children with ASD?

Out of 13 respondents, not a single one agreed to the question. They all admitted that currently in Bangladesh there is an absence of distinct curriculum for ASD children. However they mentioned having individual lesson plan for each child. Those students who go to the academic line follow conventional educational curriculum of Bangladesh. So they follow the books issued from educational board of the country for general students. Kluth and Latham (2003) mentioned in their journal that traditional educational system is challenging for these students as they face difficulties in comprehending them unlike general students so they follow a separate curriculum. On the contrary in our country no distinct curriculum exists which will meet their educational needs and assist their cognitive development. Traditional educational curriculum serves less to special children than any other children without ASD. However sadly

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the government of our country is neglecting special education field where the number of students are growing with the passage of time.

Imparting knowledge does not only involve practical skills and certified education but also delivered through teaching aids. It was found that most of teachers use traditional teaching aids to teach special children like board, posters, chalk, etc. but in their case the use of pictures and visual elements like posters, visual schedules are mostly used. However it was found that there is absence of books. It is not necessary to design separate books for these children, books having pictures consisting of characters, used for general children can be used for them too. Some of the teachers claimed they use different types of teaching aids like flash cards, different types of games like puzzle etc. The use of different aids is limited to only some special schools.

3. Does the school use different computer technology to teach children with Asperger Syndrome?

In recent years the use of technology has vastly upgraded special education. Innovative apps and software's, computer technology improved children with Asperger Syndrome's performance around the world as well as the development of other ASD children. However in our country the prevalence of technology of any sort is much less compared to the developed countries.

Respondents mentioned they have computer classes where students use computers in a period. However it was found only one school use computer technology effectively to teach them productive skills. Teachers of that school mentioned a group of PHD candidates working in Bucket Engineer created an app that is in preliminary stage to teach autistic children writing English characters as a process of their research. Besides this use of video clips are also used moderately. It is the scenario of one school; the rest of the limited number of special schools still

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does not implement this technology compared to its necessities. The answer to further question regarding the reasons behind the limitation to assessment of technology were that implementation of technologies requires huge expense which is not affordable for the schools. The government also does not provide adequate funding in the special field as a result there is a lacking in the implementation of computer technology for teaching children with Asperger Syndrome children productive skills.

4. What are the methods applied in this school to teach them productive skill?

ABA is the traditional method which is at present used in all the schools to teach them not only productive skill but any skills. Respondents added that without using positive reinforcement it is impossible to teach them any element. Positive reinforcement not always in the form of reward but in the form of applause or compliment such as “very good” or “clapping” are used to strengthen the learning. Discrete Trial Training or DTT and verbal behavior or VB are other popular methods to teach them behavior and strengthen their learning. Developments using these are occurring but they stated that for these children it is a lengthy process no matter what method is followed. However the use of Floor time method is not seen in Bangladesh which is another popular method in developed countries that requires the involvement of parents. So it can be said in case of methods Bangladesh is still using traditional methods.

Besides these Total Physical Response (TRP) is mostly used to teach them. Multiple intelligence is also used however all the intelligences are not developed such as, musical or rhythmic intelligence is comparatively less emphasized, and others are emphasized according to student's level. Audio-lingual is less used only with them who have some speech however students take

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much time to respond as they process the words slowly and repeats the last word uttered by the teacher and also opts to no respond.

5. How the verbal production of children with Asperger syndrome is developed in this school?

Mainly speech therapist through various speech therapies develops Asperger Syndrome's children's speech. In this country teachers develop their verbal production through a series of stages. Respondents mentioned that at first oral motor imitation through different types of exercise like lip exercise and many other exercises stimulates their oral motor. After that vocal imitation is taught with five sounds. First vowel sounds are taught then slowly moving to consonants and then moving to two sounds up to five-six words together in a sentence.

Besides in all schools speech therapist use tongue exercise, done using a spoon as a tool to practice their tongue movement. This exercise is considered playing a vital role for developing their speech. However the ratios of speech therapist are less compared to the number of students in school. It is not possible for only two speech therapist to attend each student individually in a school. Besides these the ratio of sensory therapist is also negligible in these schools. Also due to inadequate training teachers are not always efficient to develop or progress their speech. The ratio of children in most special schools is 3:1 so it is challenging for teachers as well to attend to each child since each child do not have same level of speech development.

Audio lingual method is used but not on everyone only on those Asperger Syndrome children who can produce sounds. Since they have slow cognitive development so a teacher waits after delivering a sound for them to process and utter it. TRP is commonly used to teach speaking skill by demonstrating some of the words uttered. Respondents shared that full physical prompt are

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given example, “chips dao” showing and as well as uttering. Then level of prompt is reduced according to the progress to partial prompt to no prompt. However all the students do not respond to the teaching at the same time. Some even after having speech prefer not to respond to any level. Some of the teachers are creative as they use different ways to elicit speech from these children however not all teachers choose to be creative. Multiple Intelligence method unlike conventional schools is implemented on Asperger Syndrome. Asperger Syndrome children are mostly visual learners so colorful pictures, posters, charts, visual schedules are used in schools to attract their attention. Here however the use of video clips should be extensive since it will develop their verbal production ability rapidly. The use of these methods varies according to different levels.

6. How writing skills are developed in this school?

In contrast to speaking or speech development, emphasize was less given on developing their writing skills in these special schools. Respondents mentioned compare to speech development, development in writing is a lengthy process. At first finger movement exercise is used to develop their fine motor skill, and then pre writing stage is mastered for example, drawing a circle. After that in the next stage writing letters are taught. Writing is again developed through different types of prompt like holding their hands to join dots to form a character, then partial prompt holding their arms up to only touching their prompt. Since these children normally cannot generate words on their own so teachers help's them when necessary to produce writing in the advance stage. Therefore it is seen that the use of prompt is the most used way to cultivate their writing skill in Bangladesh.

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Some of the students with Asperger Syndrome and other high functioning Autism are candidates of JSC exams those who has been efficiently developed their writing skill. A school has already proposed for extending the exam time to 4 hours since these children have slow cognitive development and writing skill. The education board still did not responded to the request but they believe the answer will be affirmative.

While giving answer to the development of writing skill in our country, all respondents agreed that importance has been given to other skills than writing skills. It was found that some of the teachers could not even answer regarding children's development in this skill. It was also found that Occupational therapist is almost nil in these schools, teachers are providing these therapy without having professional knowledge in this sector. So it was seen that compared to speaking skill, writing skill is less emphasized in special schools. Also it is such a skill that again depends on the level of Asperger Syndrome. Since Asperger Syndrome is high functioning autism so generally after a certain level and through continuous guidance development in writing skill is possible. However due to lack of importance, development is not much seen in this field. Development is expected through using traditional approaches but not using technology.

7. What are at present the challenges in the field of special education which are affecting the overall development process of children with Asperger Syndrome that are further affecting their teaching process?

In answer to this question regarding the problems in special education field in Bangladesh, majority of them stated that the education system itself is defective having no separate curriculum or books for these children. Appropriate Environment is another factor which effects the development of these children as most of these schools are situated at the road side where the

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sound of horns and people hinders the teaching process. The society's prejudice regarding these children are major factors further delaying their developmental process. Holmes (2013) statement about Status scale can be mentioned here since these children holds the position of lower status. Their speech lacks emotions and information so in affective and referential scale the measurement is low as well. They also do not think for themselves, lack of empathy towards others and they normally do not understand others point of view. So theory of mind is relatable here. Hence, people often avoid conversing with them as a result their development remains slow which affects the teaching process. The Lack of awareness of parents is considered a major issue. They also believe that effort of the people involved in this field is less comparatively than in other fields. Besides this, patience is another factor influencing the development in the field of education of these children's since both parents and teachers lack it consequently affecting their process of teaching.

Special schools of Bangladesh are all Dhaka based as a result access to these schools by other parts of the country is nil. When asked about the cost of the school. It was found that these schools have much higher fees therefore it is difficult for Autistic children from middle and lower class families to admit their children here. Appropriate environment for children with ASD is a must but sadly in this country two schools are providing appropriate environment for developing their cognitive process and various skills. Early intervention can go a long way in helping a child with Asperger Syndrome; they can be even admitted to conventional schools of the country. However due to lack of awareness and consciousness of parents early intervention is hardly observed in this country due to this their development is hampered. Also as stated by most

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respondents most of the parents choose to be in denial even after being confronted. This again is an obstacle of early intervention hindering both their cognitive and skill development.

Therefore the present teaching process of productive skills to children with Asperger Syndrome in our country is outdated and ineffective compared to the developed countries.

Chapter 5: Conclusion

5.1 Conclusion

The role of parents, environment, teachers and education system have a significant impact on the overall development of a child with Asperger Syndrome. Sadly parents are not conscious about their role regarding their children's development hence they are not active in their development and teaching process. Suitable environment and setting of the school is another factor obstructing their progress. Autistic schools are less cooperative having a mentality that they are being criticized. When it comes to special schools, teachers are considered knowledge providers but in Bangladesh these special teachers lack adequate knowledge needed to educate these children. Most of them through practical experience learn their characteristics neglecting theoretical knowledge in this field. The ratio of speech therapist in the country is comparatively lower than the ratio of teachers consequently development of speaking skill for these children is less. Cost of the few Autistic schools of Dhaka is much higher for middle class and lower class families so not all children diagnosed with autism are enjoying the privilege of learning in these schools. On the top of that, these schools are all Dhaka based which is an indication of less consciousness and awareness.

Comparative to the speaking skill, research and emphasizes on writing skill is significantly less. Unfortunately consciousness in this field by the teachers or care takers is very less. Inadequate speech therapist, professional sensory therapies and occupational therapist is again a problem. Technology is another hindrance to the development of their production skill as its use is limited comparative to western countries. Lack of funding and benefit from the government is considered a major reason of its limited implementation. Patience in this sector is

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a must; unfortunately caretakers and teachers involved in this sector are altering their profession due to lack of patience. Separate curriculum that is considered an essential element for these children are absent in the country. So age old regular curriculum followed by general students is implemented in these schools too. Besides this, parents and others are less conscious about autism.

On the bright side in Bangladesh although slowly but people are becoming conscious about this sector. There is IEP for each child in these schools. Two schools are taking teachers having professional degrees and provide training sessions to their parents. Teaching methods used are effective enough however schools should expand their knowledge of educating these children. Use of prompt is effective. One of the schools is even using different types of teaching aids rather than only limiting to books, copies and black board. Another school took initiative for appealing to extend board examination time to four hours for these children.

So in Bangladesh the present process of teaching productive skill to children with Asperger Syndrome is not effective due a number of reasons. Even though measures are being taken to improve in this field but sadly the rate is slower than developed countries.

5.2 Recommendation:

i. Special schools should be established more not only in Dhaka but around the country as the number of Autistic children are on the rise.

ii. Autistic schools should lessen their fees to admit more students.

iii. Special teachers must have a certified degree or a diploma on special children. Along with this they should be properly trained before appointed. Not only special schools but regular

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schools should appoint special teachers as well since high functioning students also pursue regular education parallel to their special education.

iv. Institution providing professional degrees and trainings on special children should be established more for ensuring quality education. Besides this, special schools should hold routine counseling sessions and practical training programs for parents as well.

v. Every School special and regular should have speech therapist for developing language delays of Autistic children. Special schools should have at least five speech therapists since the number of Autistic children is on the rise in Bangladesh. Encouragement in this sector is much needed to motivate more people to pursue the career of speech therapist. Besides this, sensory and occupational therapy should also be provided more professionally.

vi. Special schools should be more cooperative.

vii. Government should encourage teachers and as well as others involved in special field to work for the development of these children by providing various benefits.

viii. Schools should provide a proper setting for these children with minimal obstruction of sensory issues.

ix. Children should be divided according to their IQ level rather than age in special schools otherwise in a class of two, one will be progressive than another.

x. Implementation of technology should be increased more as the learning process will be easier. It is also essential for the government to provide adequate funding to these schools for the implementation of advanced technology.

xi. Advanced research is needed in order to develop children with Asperger Syndrome's writing skills side by side with the research on their speaking skills.

xii. Designing separate curriculum for students with Autism Spectrum Disorder is a must having proper books.

xiii. More effort and promotion is needed in this field to raise consciousness of citizen around the country. Propaganda should be made to raise consciousness of the citizens towards these children so that people do not hesitate in conversing with them and behave appropriately this will help in their developmental process consequently in their teaching process as well.

5.3 Future Prospect:

Bucket Engineer, an institution of the country aiming to change the pathway of education being delivered to autistic children through computer aid is currently along with the help of Harvard University developing a curriculum for students suffering from autism. They are even planning to set an Autistic school for these children. Hopefully with the establishment of a new curriculum change is bound to come in the field of special education.

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Appendix 1: Survey on teachers

The following questions are on Autism Spectrum disorder or ASD children (specifically Asperger Syndrome)

Level: High beginners

1. Environment do not play a major role For ASD (Autistic Spectrum Disorder) children
 - a. Strongly agree
 - b. Agree
 - c. Somewhat agree
 - d. Disagree
 - e. Strongly disagree
2. A certified degree is necessary for teaching in special schools.
 - a. Strongly agree
 - b. Agree
 - c. Somewhat agree
 - d. Disagree
 - e. Strongly disagree
3. Teachers should receive training on the characteristics and educational need of ASD children.
 - a. Strongly agree
 - b. Agree
 - c. Somewhat agree
 - d. Disagree

- e. Strongly disagree
4. Children with ASD should not be divided into different sections according to their IQ level.
- a. Strongly agree
 - b. Agree
 - c. Somewhat agree
 - d. Disagree
 - e. Strongly disagree
5. School should have Individual Family Service Plan (IFSP) or an Individual Education Program (IEP) for each child with ASD.
- a. Strongly agree
 - b. Agree
 - c. Somewhat agree
 - d. Disagree
 - e. Strongly disagree
6. Schools should not follow a separate curriculum for ASD children.
- a. Strongly agree
 - b. Agree
 - c. Somewhat agree
 - d. Disagree
 - e. Strongly disagree
7. Parents have a major role in the teaching process of ASD children.

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- a. Strongly agree
 - b. Agree
 - c. Somewhat agree
 - d. Disagree
 - e. Strongly disagree
8. ABA or Applied Behavior Analysis theory (behaviors are taught by using a system of reward and through consequences) should be applied in schools to educate ASD children.
- a. Strongly agree
 - b. Agree
 - c. Somewhat agree
 - d. Disagree
 - e. Strongly disagree
9. Technology does not play a major role to teach productive skill (speaking and writing) to children with Asperger syndrome.
- a. Strongly agree
 - b. Agree
 - c. Somewhat agree
 - d. Disagree
 - e. Strongly disagree
10. Use of computer, mobile etc. devices having keyboard is beneficial for teaching writing to them (children with Asperger Syndrome).
- a. Strongly agree

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- b. Agree
- c. Somewhat agree
- d. Disagree
- e. Strongly disagree

11. Children with Asperger Syndrome do not filter Verbal instruction and lesson due to their sensory issues.

- a. Strongly agree
- b. Agree
- c. Somewhat agree
- d. Disagree
- e. Strongly disagree

12. As most children with Asperger Syndrome have echolalia (the immediate and involuntary repetition of words or phrases just spoken by others), it can be used to develop their speaking skill.

- a. Strongly agree
- b. Agree
- c. Somewhat agree
- d. Disagree
- e. Strongly disagree

13. Curriculum should have activities that aim not only developing their nonverbal communication but also developing their verbal production.

- a. Strongly agree

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- b. Agree
- c. Somewhat agree
- d. Disagree
- e. Strongly disagree

14. Instead of teaching social skills first, children with Asperger Syndrome needs to be taught to deal with their sensory issues.

- a. Strongly agree
- b. Agree
- c. Somewhat agree
- d. Disagree
- e. Strongly disagree

15. Different ECE (early childhood education) technologies, (different electronic technology to teach children such as word talk of Microsoft to teach speaking) should be used to teach more effectively.

- a. Strongly agree
- b. Agree
- c. Somewhat agree
- d. Disagree
- e. Strongly disagree

16. The ratio of teachers to teach children with Asperger Syndrome productive skill is adequate in Bangladesh.

- a. Strongly agree

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- b. agree
- c. somewhat agree
- d. disagree
- e. strongly disagree

17. The ratio of speech therapist is adequate in special schools in Bangladesh.

- a. Strongly agree
- b. Agree
- c. Somewhat disagree
- d. Disagree
- e. Strongly disagree

Appendix 2: Questions for the interview of the teachers

1. Does the school provide counseling session or training sessions to teach parents how to deal with their children with Asperger Syndrome?
2. Does the school follow a separate curriculum to teach children with ASD?
3. Does the school use different computer technology to teach children with Asperger Syndrome?
4. What are the methods applied in this school to teach them productive skill?
5. How the verbal production of children with Asperger syndrome is developed in this school?
6. How writing skills are developed in this school?

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7. What are at present the challenges in the field of special education which are affecting the overall development process of children with Asperger Syndrome that are further affecting their teaching process?

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