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Impact of Special Education on Children with Autism in Bangladesh

Nazneen, Afroza

University of Rajshahi

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**IMPACT OF SPECIAL EDUCATION ON CHILDREN WITH
AUTISM IN BANGLADESH**



**A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of
Doctor of Philosophy in Education.**

PhD Thesis

Session: July 2011-2012

Submitted by

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Dedicated

To

My Dearest Daughters

Fatima Rashed (Tammeen)

And

Rubaba Rashed (Nuha)

Declaration

I do hereby declare that the thesis entitled “Impact of Special Education on Children with Autism in Bangladesh” submitted to the Institute of Education and Research (IER), University of Rajshahi, Bangladesh, for the Degree of Doctor of Philosophy in Education is an original work. No part of this thesis, in any form, has been submitted to any other university or institution for other degree or diploma.

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Certificate

Certified that the thesis entitled “Impact of Special Education on Children with Autism in Bangladesh” submitted by Afroza Nazneen to the Institute of Education and Research (IER), University of Rajshahi, Bangladesh, for the Degree of Doctor of Philosophy in Education has been done under my supervision. I recommend its submission for examination.

November 2015

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Abstract

The present study is an empirical investigation on the impact of special education on children with autism in Bangladesh. The researcher investigates the existing study contents of special education for children with autism and compares the effect of special education on life status of children with autism and their pair groups. Five schools of Rajshahi Division were selected purposively. Three schools were within the Rajshahi City Corporation area, one school was in Sirajgang and the other one was in Bogra district. For the purpose of the study, the researcher selected two groups as respondents. One of them has taken special education at least for three years and the other one has never taken special education. Both groups were selected purposively. Then each group of children was divided as borderline, mild and moderate. Forty respondents who have been enrolled for receiving special education and forty respondents who have never been enrolled for receiving special education, all the parents of those children and all the teachers of these schools were the respondents. Data were collected through interview schedule, interview checklist, observation checklist and FGD questionnaires. As an exploratory research, a sequential mixed method design was applied for data collection and analysis. The study found that there is no unified curriculum, screening tool and intelligence scale for children with autism and other disabilities. So, different schools followed their self- developed study contents. It is essential to make a unified special education curriculum, screening tool and intelligence scale and to bring major changes in the teaching techniques to ensure quality education for them. The findings also showed that those who have taken special education they are benefitted from it but progress rate is very slow. Parents' and teachers' collaboration is very essential for their development. So, it is a team effort with parents and teachers for them. The conclusion includes a suggestion regarding the relevance of children with autism.

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Chapter 1

Introduction

1.1. Introduction

Bangladesh is one of the developing countries of the South Asian region. The government of Bangladesh recognizes the need and importance of regional co operation on disability issues. According to World Health Organization, there are approximately 15 million disabled people living in Bangladesh. The government of Bangladesh has signed many national and international Resolutions concerning disabilities. This research paper is about the impact of special education on children with autism in Bangladesh. To build up an autism-friendly society, we need a positive attitude from others towards autistic people. We need to know the number of autistic children and how special education can play an effective role for them.

According to the World Health Organization (WHO) and World Bank (WB) report, 2011 the number of disabled people is 15% of the total population in the world.

Current prevalence rates of Autism are 1 in 160 children in Australia, 1 in 100 in United Kingdom and 1 in 91 in the United States. In India the estimated prevalence rate is 1 in 250. We do not know the prevalence rate of Bangladesh. There will be around 76,000 children with ASD (Autism Spectrum Disorder) under the age of five in Bangladesh. If we consider prevalence rate of India, the number is quite large (Nusrat, 2013, p.8).

In 2002, the Center for Disease Control (CDC) estimated that autism affected about 1 in 150 children. By 2012 the CDC estimate had increased to 1 in 88.

Now, according to the latest revision of the estimate recently released, autism affects 1 in 50 children. That's a phenomenal 300 percent increase in 11 years. It is estimated by the Ministry of

Social Welfare that the total number of persons with Autism Spectrum Disorders (ASDs) that one child in 500 in Bangladesh has autism, meaning that the approximate number of children with ASDs in Bangladesh is no less than 280,000 (Hossain,2013,p.27 -28).

In 2011, the Mental Health Institute, Dhaka and WHO estimated that autism affected children in Bangladesh are among per thousands of eight children have autism who have special needs children. This ratio is near to the developed countries. Autistic children face much discrimination in our society. Their facilities are very limited here (Mental Health Institute, Dhaka and WHO, 2011 .p.5).

The government of Bangladesh is conscious about the need for appropriate policy, laws and plans for the education, training and rehabilitation of the autistic children. Over the decades the government has taken a number of steps. Of late, the Non-Government Organizations have demonstrated their keen interest in the cause of education, training and rehabilitation needs of the children with autism. The autism issue is highlighted both by the Government and by NGOs working in the sector of disability through different means of communications for creating positive awareness towards the autism issue. The government of Bangladesh has included issue of special education of the people with disabilities (PWDs) in the National Education Policy-2010. Bangladesh Government is supporting financially the educational programs of SWID and other NGOs. However, NGOs working for education program for people with disabilities have successfully demonstrated integrated education program and the Ministry of Social Welfare has also expanded its program in the same direction. The Ministry runs National Center for Special Education (NCSE) for human resource development. The government of Bangladesh attaches great significance to international cooperation and exchange of views. The government participates at every level of international conferences, seminars, workshops; and NGOs working

in the sector. Bangladesh Govt. has ratified the Child Rights Convention and UN Disability Declaration and signed disability declaration of Asia-Pacific Region of ESCAP and Universal Human Rights Convention.

In Bangladesh, autism was visually reflected in 1990 in Dhaka Shishu Hospital and other hospitals. Subsequently many other organizations like the Society for the Welfare of Autistic Children (SWAC), Autism Welfare Foundation (AWF), PROYASH and others came forward with their activities for autistic children from the year 2000 and onward. With the establishment of the centre for Neurodevelopment and Autism in Children in the Bangabandhu Sheikh Mujib Medical University awareness for Autism was boosted in Bangladesh. The conference of Dhaka declaration on Autism Spectrum Disorder (ASD) and development obstacles unveils secret health problems of children and creates combined world opinion to prevent it. The Autism resolution - contained enhancement of healthcare, education and training for the autism-affected children in the national and international level. The resolution will play an effective role to create positive social outlook and eradicate disparity towards the children. The objectives of the resolution are to enhance capacity building of autistic affected in healthcare by providing training to parents, professionals and healthcare service providers and innovation of effective treatment, making policy and its implementation and lifelong treatment system through social research. The governments of other countries and international organizations could play a pivotal role to provide treatment to autistic children and improve their standard of living.

In Bangladesh treatment facilities for autistic children are working in child flourishing centers in ten hospitals while more 35 child flourishing centers will be set up in the medical college hospitals and district level hospitals. The South East Asia Autism Network (SAAN) has been formed. The objectives of the SAAN are to identify the regional challenges and increase various

facilities through partnership. In Bangladesh a national steering committee headed by the Senior Secretary of Health and Family Welfare Ministry on Neurodevelopment and Autism has been formed in 2011 (Hasina, 2013, p.1).

These steps have given a new direction to the awareness research and services for autistic children. Now the National Advisory Committee on Autism has been formed and four Task Forces are working under leadership and activities on Autism have gained momentum in Bangladesh. Bangladesh can make a big impact on autism over the globe.

There is a lack of knowledge about ASDs even among doctors. Very often, children are misdiagnosed and given antipsychotic drugs by psychiatrists (Azam et. al., 2012,p.89). In Bangladesh, there are only a few schools for disabled children; all of them are situated in the capital city of Dhaka. According to the MDGs, every child has a right to education. However, the general education system in Bangladesh does not meet the needs of disabled children, especially the ones with autism.

In June 2010, the Center for Neurodevelopment and Autism in Children (CNAC) was inaugurated. It is the first government initiative that is linked to a medical university. In partnership with the Bangabandhu Sheikh Mujib Medical University (BSMMU) it aims not only to provide training to parents, teachers, therapists and all medical professionals, but also to engage in the comprehensive management of services and research on autism and other Neuro Developmental Disorders.

In Bangladesh, only few special education schools are working exclusively with the children with ASDs. These are SWAC (the Society for the Welfare of Autistic Children), AWF (Autistic Welfare Foundation) and PROYASH. All of them are situated in the capital city of Dhaka. Society for the welfare of Autistic Children (SWAC) is the first special school for the children

with autism established in 2000 and later on it has taken steps to make another separate school with other services named 'Autism Welfare Foundation' (AWF). The other schools only for Autistic children are Applied Behavior Analysis (ABA) in Dhaka. Moreover, there are some institutions providing education for children with autism along with intellectual impaired namely Caring Glory, Orchid School, School for Gifted Children, Bangladesh Protibondhi Foundation and Society for the Welfare of the Intellectually Disabled (SWID) Bangladesh. Autism is a fairly recent discovery in Bangladesh. At the beginning of this decade autistic children are 40 screened and identified with autism by the few trained parents of autistic child who learnt to deal with their child in western countries. Yet medical based some diagnosis systems have introduced in the country still many parents do not feel free to screen out their children. Former trained parents and teachers who have training on special education are now operating the special schools. Medical based diagnosis system in Bangladesh has started to identify autistic children by the child development centre of government child hospitals since 2001-2002. It was the only diagnosis centre for the last few years.

Meanwhile 'National Economic Council' (ECNEC), the highest government body has approved to introducing autism diagnosis system into eight government medical college hospitals. Moreover private child hospital and child involved centre of Bangladesh Protibondhi Foundation has the service to identify the children with Autism. Government has taken initiatives to build up awareness about autism throughout the country (Hossain, 2012, p.2-6).

At present, 55 special schools are running by the National Foundation for Development of the Disabled Persons (NFDDP) through two separate Non-Governmental Organizations (NGOs). Among these 48 special schools who are offering special education for children with special needs and autistic children, are running by SWID-Bangladesh (Society for Welfare of the

Intellectually Disabled-Bangladesh) and 7 schools are based on an inclusive model, including the children with special needs in regular classes. All schools under BPF (Bangladesh Protibondhi Foundation) are being financed by the government of Bangladesh through Jatiyo Protibondhi Unnayan Foundation (JPUF). Total number of students is about 8000 of whom about 1500 children are Children with autism.

In these schools assessments of autistic babies, different therapeutic services and training in Activities of Daily Living (ADL), picture exchange communication system, educational and vocational training facilities have been made available (Begum,2012,p.5-6).

Free School for Autistic Children:

Poor families having autistic babies can hardly afford the expenses of education for the autistic children. Considering this the government has opened a free school for autistic children in the campus of Jatiyo Protibondhi Unnayan Foundation (JPUF). In 2011, this school was inaugurated. Number of students of this school is 20 at present. The coverage will be increased in future.

Autism Resource Center:

An autism resource center has been established in the campus of Jatiyo Protibondhi Unnayan Foundation (JPUF), Mirpur-14, Dhaka with a view to rendering assessment, therapeutic services, counseling, training to autistic people including parental group. This center is manned by psychologist, occupational therapist and other relevant professionals.

Centre for Neurodevelopment and Autism in Children:

Centre for Neurodevelopment and Autism in Children' (CNAC) is the first government initiative to establish a nationwide Pediatric Neurodevelopment and Autism related management, training, and research centre in Bangladesh. The centre is located on the premises of Bangabandhu Sheikh Mujib Medical University (BSMMU), where a multi-disciplinary and multi-agency team

provides comprehensive and tertiary level services to children with disability and their families under one roof. In addition to that, it has also established a ‘Day Care Centre’ in a ‘healing and autism friendly environment’. Continuous high quality training, both for the doctors and therapists, is an integral part of this centre. It helps these children to achieve their full potential and to enjoy equal opportunities in all aspects of their lives. CNAC’s aim is to incorporate disability and autism issues into the mainstream national agenda (Begum, 2012, p. 5-6).

Autistic children have difficulties in entering normal schools, even if they are intellectually capable and have relatively “good” behavior; most schools are reluctant to have autistic students as they face many difficulties in handling and teaching autistic children.

There is no curriculum for special schools about special education for children with special needs and children with autism, training for teachers of autistic children by the government and private institutions. Even there is no facility for short – term training for teachers of autistic children. Even many doctors have poor awareness regarding autism, even doctors who are screening children with autism, many of them do not know to whom to refer their patients. The case is more acute for the under – privileged autistic children.

Now, many adolescents who have ASDs that who are not going to school; there is no available occupational training for them. So most of them stay at home and live with their parents which create a big stress for the family. New babies are still being born with autism who get a diagnosis of autism lately. Without knowing the possible causes of autism we cannot stop the autism broom (Tabib, 2011, p.9).

At present, The Government of Bangladesh has composed The Disabled People’s Rights and Protection Act, 2013’ and ‘The Neuro Developmental Disabled Protection Act, 2013’. The laws highlighted the issues related to providing assistance to autistics, their nurture, security and

rehabilitation. Even, 73 service and help centres have been set up in 64 districts of the country for providing “one stop” services to the disabled and autistic people. An autism corner has been launched at every centre; the construction work of a multipurpose complex for the disabled people has started at Mirpur in the capital. There will be arrangements for shelter homes with education and medicare facilities for 275 disabled and autistic people of different classes.

Since, the parents of the autistic and intellectually-challenged children always remain worried about the future of their children, So, the government has taken initiatives for running a trust through the 'Autistic and Neuro-Developmental Disabled Protection Trust Act, 2013' under which some organizations would be set up to ensure life-long accommodation for the autistic persons. In addition, Social Service Department is conducting a survey to identify the persons with disability. They work on registration and providing identity cards to the disabled (Karim, 2013, p.8). These are the new hope and directions to make a friendly environment for them.

1.2. Statement of the Problem

At present, the number of children with special needs is increasing day by day in Bangladesh. According to the World Health Organization (WHO) and World Bank (WB) report, 2011 the number of disabled people is 15% of the total population in the world. It is estimated by the Ministry of Social Welfare that the total number of persons with Autism Spectrum Disorders (ASDs) that one child in 500 in Bangladesh has autism, i.e. the approximate number of children with ASDs in Bangladesh is not less than 280,000 (Hossain,2013,p.27 -28). This statistics may vary in different considerations.

Autistic children who are in the borderline, few of them are going to mainstream education. Special education is essential for enhancing the capability of self dependency of those who are

not able to go to the mainstream education. In Bangladesh, special education program for children with special needs started in 1977 through private initiatives (Zulfiqar, 2010, p.1) and autism was visually reflected in 1990 in Dhaka Shishu Hospital (Hossain, 2013, p.27 -28). At present, it is run by both government and private initiatives. Children who are identified at early age as autistic, their guardians are aware of the necessity of early identification and importance of special education. So those children are going to special schools at early age and they are improving gradually. In contrast, children who are not diagnosed at early age, their guardians do not know where they should go first for diagnosis; those children are coming late in special schools. So, the improvements of these children are lower than those who start school at early age. On the other hand, children who are not getting special education, they are not self-reliant. It creates a huge mental stress on their guardians. If the guardians were aware of the symptoms of autism and other disabilities, importance of early detection and the importance of special education, they might have noticed the abnormality of their children and might have gone to doctors or pediatricians and special schools to admit their children. If they are identified at early age and take special education in proper time, they can become self dependent. The present study tries to investigate the impact of special education on children with autism in Bangladesh. As, autistic children are given better chance of having appropriate help, support and better will be the prognosis.

1.3. Definition of the key concept

Definition of Special Education

Special education is direct instructional activities or special learning experiences designed primarily for students identified as having certain disabling exceptionalities in one or more aspects of the cognitive process or as being underachievers in relation to general level or model

of their overall abilities. (Warnock, 1985, as cited in Williams, 1991, p.387) Special education programs are designed and implemented for the children with the following conditions:

- Down Syndrome
- Cerebral Palsy
- Autism
- Attention Deficit Hyperactivity Disorder (ADHD).
- Fragile X
- Tuberous sclerosis
- Cretinism
- Mentally challenged
- Physically handicapped
- Visually impaired
- Hearing and speech impaired
- Behavior disorders
- Multiple handicapped

Education of the gifted children is also included in special education.

All of the points are included in the definition of special education: Classroom instruction; Instruction in physical education; Instructional services such as preprimary, teacher consultant, speech and language, home based and hospitalized, and juvenile detention facilities. Ancillary and other related services such as occupational, physical, recreational, music, art or other therapy, mobility and orientation, school psychological and school social work services are also included in special education.

Special education programs are designed to meet special learning needs of the students with disabilities. Specially designed instructions are given to meet the unique needs of individual students with disabilities. Thereafter, in special education programs children with physically or mentally handicapped whose needs cannot be fulfilled in an ordinary classroom are given special attention.

Under integrated special education programs, also known as special education refers to the teaching of students with learning disabilities. Services such as speech and language therapy, occupational therapy, physical therapy, etc are provided within the mainstream class (i.e. inclusion) or in a separate classroom if this is decided appropriately for the given situation. Students receive individualized services to meet their goals, and these services are outlined in each child's Individualized Education Plan (IEP). The IEP is a detailed description of the educational goals, assessment methods, behavioral management plan and educational performance of a student requiring special education services. It only addresses those educational needs resulting from the child's disabilities. If a child needs special education support throughout the school day, for all activities, the IEP will cover all these needs (Zulfiquar, 2006, p.3-7).

With the help of special education, the children with special needs to acquire the following skills:

- Literacy skills
- Behavior skills and communicative skills
- Life management skills/activity of daily living skills/self – help skills/independent work skills
- Motor (gross and fine moter) skills
- Social skills
- Vocational skills

Focus is given in literacy skills like how to identify, read and write alphabet, word, number, joint words as well as how to read and write paragraphs of books, paragraphs without books, letters and short compositions. In mathematics, children with special needs learn how to identify, read and write number, measurement, counting and mathematical solution. Hence, they learn about the name of week, months, seasons, years, period of day, how to see calendar and watch, values of money, calculate or estimate of money and shopping etc.

In behavior and communicative skills emphasis on the children with special needs learn how to respond with stimulus of vision, hear and physical, call his/her name, exchange greeting, joy and sorrow, play others etc. Teachers try to change the problematic behavior of the child by rewarding verbal prompt.

In the highlight on the life management skills of children with special needs learn about how to express the need of food, toileting, washing face and hands, brushing one's teeth and hair, self - feeding, wearing on and off clothes, bathing, cleaning and arranging table – chair, bed, room, clothes and utensils, cooking food, dressing and serving food, using instruments of switch, lock, television etc.

In motor (gross and fine) skills, impress on the children with special needs learn about how to move parts of the body, running and jumping, how to read and write with chalk and pencil, cutting with scissor, sewing etc.

In social skills draw attention to the children with special needs learn about how to interact with socially, playing with others, exchanging opinion, view and greeting , how to make phone call , shopping, counting money, behaving on the vehicles/transport etc.

In vocational skills children with special needs learn the following activities:

- Making handicraft (handiwork).

- Working in any cafeteria as a service man, management and cooking etc.
- Making envelope, packet etc.
- Photo copying.
- Laminating.
- Packaging.
- Making things with wood and wax.
- Ironing clothes.
- Sewing, doing embroidery, block and batik printing.
- Working as an assistant of office or a shop.
- Working as a computer operator etc.

Autism

Autism is a life-long brain disorder that is normally diagnosed in early childhood. Autism is also known as a complex developmental disability. People with autism have difficulties in communicating, forming relationships with others and find it hard to make sense of the world around them. Autism is not an illness or a disease. Autism is a spectrum disorder varying in severity and impact from individual to individual, ranging from those with no speech and severe learning disabilities to people with IQs in the average range who are able to hold down a job or start a family. People with autism may also have unusual patterns of language development, narrow interests and engage in repetitive and sometimes challenging behaviors. Autism spectrum disorder includes Autism, Asperger's syndrome is a form of autism in which speech development and IQ are normal, but in which disability can be compounded by depression and mental health problems. Some people with autism demonstrate significantly challenging

behavior; most need specialist support and care. Autism affects people of all racial, ethnic and socio- economic backgrounds.

Autism is the most common of the Pervasive Developmental Disorders, affecting an estimated 1 in 100 births (Autism Society of America, 2009). Due to the dramatic increase in cases of autism in recent years amplified attention has been given to the disorder. Research has found that children with autism typically display problems with communication and social skills. Due to the variability in severity of those problems as well as the variety of other issues that can accompany these deficits autism can look very different from person to person (Tabib,2011,p.9) .

Now autism is more commonly referred to as an autism spectrum disorder (ASD) to include people who display deficits in communication and social skills to varying degrees (Zager, 2006, p. 240). People with autism often display symptoms in addition to the impaired social skills and interpersonal relations. These can include problems in behavioral, affective, adaptive and cognitive development such as aggression, stereotypic behaviors, mood instability and learning disabilities (Zager, 2006, 249). Parents can recognize symptoms of ASD in their children at an early age because kids typically begin showing these behaviors between birth and three years of age. Indicators of ASD include lack of eye contact, difficulty expressing needs, resistance to change and sustained odd play, among others (Autism Society of America, 2009). If parents or family doctors notice these symptoms in a child the next step is to get them into a program that implements effective evidence based interventions, in hopes of helping the child overcome difficulties in communication, social and play skills.

Definition of Autism Spectrum Disorder (ASD):

The term autism spectrum disorder (ASD) is a common term nowadays because of the wide range of symptoms and levels of severity presented by individuals with autism. Autism spectrum

disorder is an increasingly popular term that refers to a broad definition of autism and includes the following conditions (Zager, 2006, p.240)

- **Autism:** The classic, often severe, form of autism.
- **Asperger's Syndrome:** A form of autism is characterized by difficulty with social interactions, sensory integration processing, pragmatic language and motor skills.
- **Pervasive Developmental Disorder-Not Otherwise Specified (PDD – NOS):** A collection of features that resemble autism, but may not be as severe or extensive.
- **Rett's Syndrome:** A genetic disorder with hard neurological signs, including seizures that become more apparent with age and that affects only girls.
- **Childhood Disintegrative Disorder:** A disorder found in children whose development appears normal for the first few years, but then regresses with the loss of speech and other skills until the characteristics of autism are conspicuous.

Autism is a lifelong developmental disability that is best described as a collection of behavioral systems that affect verbal communication, non-verbal communication, and social interaction. It is generally evident before age 3, and autism adversely affects educational performance. Characteristics that often are associated with autism include

- Engagement in repetitive activities and stereotyped movements.
- resistance to environmental change or daily routines, and
- Unusual responses to sensory experiences (klin,Lang,Cicchetti,& Volkmar,2000).p.30,163-167.

Autism was first identified as a category of disability in the federal legislation, IDEA, in 1990. Before 1990; autism was included in the category of other health impaired and before that in the category of emotional disturbance. Autism is also identified in the DSM-IV- TR

(American Psychiatric Association, 2000).The forms of autism range from severe to mild. In severe autism, the difficulty appears during the first 3 years of a child's life.(Lerner,J.,&John, B.,2009,p.240)

Causes of Autism

ASD stands for Autism Spectrum Disorder and can sometimes be referred to as Autistic Spectrum Disorder. In this text Autism and ASD mean the same. It is a wide spectrum disorder. This means that two people with autism will not have exactly the same symptoms as well as experiencing varying combinations of symptoms; some people will have mild symptoms while others will have severe ones. Below is a list of the most commonly found characteristics identified among people with an ASD.

- **Social skills**

The way in which a person with an ASD interacts with another individual is quite different compared to how the rest of the population behaves.

If the symptoms are not severe, the person with ASD may seem socially clumsy, sometimes offensive in his/her comments, or out of synch with everyone else. If the symptoms are more severe, the person may seem not to be interested in other people at all.

It is common for relatives, friends and people who interact with someone with an ASD to comment that the ASD sufferer makes very little eye contact. However, as health care professionals, teachers and others are improving their ability to detect signs of autism at an earlier age than before eye contact among people with autism is improving.

In many cases, if the symptoms are not severe, the person can be taught that eye contact is important for most people and he /she will remember to look at people in the eye. A person with autism may often miss the cues we give each other when we want to catch somebody's attention.

The person with ASD might not know that somebody is trying to talk to them. They are also being very interested in talking to a particular person or group of people, but do not have the same skills as others to become fully involved. To put in more simply, they lack the necessary playing and talking skills.

- **Empathy**

Understanding and being aware of the feelings of others, a person with autism will find it much harder to understand the feelings of other people. His/her ability to instinctively empathic with others is much weaker than other people's. However, if they are frequently remind of this, the ability to take other people's feelings into account improves tremendously. In same case- as a result of frequent practice- empathy does improve, and some of it becomes natural rather than intellectual. Even so, empathy never comes as naturally for a person with autism as it does to others.

Having a conversation with a person with autism may feel very much like a one way trip. The person with ASD might give the impression that he is talking with people, rather than with or to them. He may love a theme, and talk about it a lot. However, there will be much less exchanging of ideas, thoughts, and feelings than there might be in a conversation with a person who does not have autism.

Almost everybody on this planet prefers talking about himself/herself more to other people; it is human nature. The person with autism will usually do so even more.

- **Physical contact**

A number of children with an ASD do not like cuddling or being touched like other children do. It is wrong to say that all children with autism are like that. Many will hug a relatives- usually the mother, father, grandmother, grandfather, teacher, and or sibling(s) and enjoy it greatly.

Often it is a question of practice and anticipating that physical contact is going to happen. For example, if a child suddenly tickles another child's feet, he will most likely giggle and become excited and happy. If that child were to tickle the feet of a child with autism, without that child anticipating the contact, the result might be completely different.

- **Loud noises, some smells, and lights:** A person with autism usually finds sudden loud noises unpleasant and quite shocking. The same can happen with some smells and sudden changes in the intensity of lighting and ambient temperature. Many believe that it is not so much the actual noise, smell or light, but rather the surprising physical contact. If the person with autism knows something is going to happen, he can cope with much better. Even that knowing something 'might' happen and being reminded of it, helps a lot.

- **Speech**

The higher the severity of the autism is more affected the person's speaking skills. Many children with an ASD do not speak at all. People with autism will often repeat words or phrases they hear an event called echolalia. The speech of a person with ASD may sound much more formal and woody, compared to other people's speech. Teenagers with Asperger's Syndrome can sometimes sound like young professors. Their intonation may sound flat.

- **Repetitive behaviors**

A person with autism likes predictability. Routine is his/her best friend. Going through the motions again and again is very much part of his/her life. To others, these repetitive behaviors may seem like bizarre rites. The repetitive behavior could be a simple hop-skip-jump from one end of the room to the other, repeated again and again, page after page. People without autism are much more adaptable to changes in procedure.

A child without autism may be quite happy to first have a bath, then brush his teeth, and then put on his pajamas before going to bed- even though he usually brushes his teeth first. For a child with autism this change, bath first and then teeth, could completely put him/her out, and they may become very upset. Some people believe that helping a child with autism learn how to cope better with change is a good thing, however, forcing them to accept change like others do could adversely affect their quality of life.

- **A child with autism develops differently**

While a child without autism will develop in many areas at a relatively harmonious rate, this may not be the case for a child with autism. His/her cognitive skills may develop fast, while their social and language skills trail behind. On the other hand, his/her language skills may develop rapidly while their motor skills don't. They may not be able to catch a ball as well as the other children, but could have a much larger vocabulary. Nonetheless, the social skills of a person with autism will not develop at the same pace as other people.

- **Learning may be unpredictable**

How quickly a child with autism learns things can be unpredictable. They may learn something much faster than other children, such as how to read long words, only to forget them completely later on. They may learn how to do something the hard way before they learn how to do it the easy way. Although, some regarded autistic children as potentially of normal intelligence, this view has been challenged by a number of investigators who consider most of these children to be intellectually impaired. About three- fourths of autistic children were intellectually impaired. (Prior and wherry,1986,p.156-210).Autistic children are significantly impaired on memory task when compared with both normal and retarded children (Bennetto, Pennington et al.,1996,p.1816-35). The cognitive impairment in autistic children is reflected in greater

impairment in adaptive behaviors than in intellectually impairment children without autism. Whether the frequency observed cognitive impairment in autism is the result of actual organic brain damage or of motivational deficits has not been clearly established (Carpentieri and Morgan 1996, p.611-20). The possibility have raised that the deficits result at least partly from motivational difference; they found that autistic children can learn and perform tasks at a higher level if motivation for a task is found and appropriate reinforcement is provided. (Koegel and Mentis, 1985, p.185-91)

- **Physical tics and stimming**

It is not uncommon for people with autism to have tics. These are usually physical movements that can be jerky. Some ticks can be quite complicated and can go on for a very long time. A number of people with autism are able to control when they happen, others are not. People with ASD who have tics often say that they have to be expressed, otherwise the urge does not stop. For many, going through the tics is enjoyable, and they have a preferred spot where they do them- usually somewhere private and spacious. When parents first see these tics, especially the convoluted ories, they may experience shock and worry.

- **Obsessions**

People with autism often have obsessions. A person with autism feels love, happiness, sadness and pain just like everyone else. Just because some of them may not express their feelings in the same way others do, it does not mean at all that they do not have feelings- **THEY DO!!** It is crucial that the Myth – Autistic people have no feelings- is destroyed. The myth is a result to ignorance, not some conspiracy.

Therefore, it is important that you educate people who carry this myth in a helpful and informative way. (Medicalnesstoday, 2011,p.12-14)

1.4. Research Questions

The aims of the study are to identify the answers of the following questions -

- i (a) . Does the existing study contents used in special schools are effective?
- i (b). Does special education help to improve developmental skills of children with autism?
- ii. Is there any change can be seen in daily, social and school life of children with autism after receiving special education?
- iii (a). Does special education play an effective role for children with autism?
- iii (b). What are the differences between two groups of children with autism; who have taken special education and who did not take special education?
- iii (c). What are the challenges autism children facing in daily, social and school life without taking special education?

1.5. Objectives of the Study

The general objective of the study is to identify the impact of special education on children with autism in Bangladesh.

The specific objectives of the study are

- i. Assessing the study contents used in different special schools for children with autism in Bangladesh.
- ii. Identifying the role of special education on daily, social and school life of children with autism in Rajshahi.
- iii. Assessing the effect of special education for children with autism by making a comparison between special education taken and not taken groups.

1.6. Rationale of the Study

The word ‘Autism’ is newly introduced and it is flourishing in Bangladesh which is differentiated from the other disabilities as spectrum disorder with multiple characteristics of behavior and neurological mechanism.

In Bangladesh, just a few years ago, people were merely aware about disability with autism. Only the parents were mainly concerned about their children with autism. At present, the situation is improving gradually throughout the country. Electronic and print Media plays an important role to build up the awareness on this issue. Non Government Organizations (NGOs) and Foreign Agencies are also working for awareness building on this regard.

Now, the Government of Bangladesh is planning to uplift special education and different social welfare programs including the services for the persons with disabilities (PWDs) such as children with autism. It will be wise to avoid the trails and errors done in the western countries with the persons with disabilities (PWDs) and to introduce such special education programs which will suit the culture, customs, actual needs, and meet the existing resources of the government and other agencies.

At this time, the Government of Bangladesh is preparing a course curriculum for the persons with disabilities (PWDs) including children with autism in accordance with module of WHO. (Suman, Badruddoza, 2012, p.2)

The goals of Education For All (EFA) are currently concerned with equality. Bangladesh is committed to EFA and eliminating all educational discrimination. So, it is important to analyze the role of special education whether its activities are truly effective for children with autism and other children with special needs. A number of researches have already been done on “Special Education” and “Persons with Disabilities (PWDs)” issues separately, but no research has done

on children with autism issue. So, in this study the researcher focused on special education and how special education can play an effective role for children with autism.

The justification for choosing this study was, it is an unexplored area of research in Bangladesh. The researcher wanted to justify the impact of special education on children with autism in Bangladesh. The study reveals, after receiving special education, which skills improve and which types of impact happens on life status of children with autism. Therefore, the opinion of the parents and teachers about special education for children with autism were important to consider for the proposed study.

The findings of the proposed study will help the government to plan and implement suitable special education programs for children with autism in Bangladesh and will also be helpful for other researchers, social workers, policy makers and those who will be interested in working on this issue.

1.7. Limitation of the Study

This study area was only Rajshahi division and sample sizes were not very large. So, it is not possible to generalize the findings for Bangladesh as the study area was only a division. But it can give an idea of the actual scenario.

Autistic children were unable to answer the questions included in the data collection tools. So, respondents of the study were parents and teachers of them. Therefore, it is not impossible to find a gap between the findings and actual situation.

In this study, the researcher compared the effect of special education on children with autism and their peer groups; i.e. one was those who had been enrolled for receiving special education and another was those who had never been enrolled for receiving special education. As, children with autism is a very sensitive issue, so all parents of autistic children were not interested to talk about it.

Chapter 2

Review of Related Literature

Education helps a person to be sophisticated, social and self-reliant. It is also one of the most important fundamental rights. The Constitution of the People's Republic of Bangladesh explains few fundamental principles of state policy, Article 17 of the Constitution is on free and compulsory education, Article 19 of our Constitution stated that the state shall endeavour to ensure equality of opportunity to all citizens, Article 28(3) clearly spelled that every citizen can take admission to any educational institution and Article 29(2) of our Constitution, determines that discrimination should not be shown to any citizen due to caste, creed, colour, gender or birth place and Article 44 is on enforcement of fundamental rights. (Constitution of Bangladesh, 2008, p.5, 7, 8, 13) The aims and objectives of the National Educational Policy 2010 is "to ensure the education of the physically and mentally challenged learners". (National Educational Policy, 2010, no.24, p.2) Even, according to the signature of the agreement of MDG, to ensure Education For All (EFA) before 2015 and to fulfill the declaration, the government of Bangladesh has taken few steps in education sector i.e. all groups of people have to be included in education, emphasis on inclusive education and emphasis on special education for impaired children who are not coming in mainstream education. In Bangladesh, special education program of children with special needs started in 1977 through private initiatives (Zulfiqar, 2010, p.1) and at present, it is run by both government and private initiatives. Those who are achieving special education of them, who are in borderline, it is possible that they may come in mainstream education. For admitting them, the government has taken initiatives and a part of them are getting chance in mainstream schools. But who are not going to mainstream education for enhancing their capability special education is an essential element.

Nowadays in Bangladesh autism is a burning issue. In other countries, huge numbers of research works have already been done and still such researches are being conducted on autism but in Bangladesh, it is comparatively a new field of study. Recently, Bangladesh has started research works on autism issue.

2.1 Challenges Faced by Autistic Children in Bangladesh

In Bangladesh, autistic children and their parents are facing many challenges in every step. Tabib (2013) discussed that due to the lack of trained professionals we are unable to reach the target to help the autistic children. They don't have easy access to a tertiary hospital. Not all doctors at Upazila and district levels are trained on autism. So, misdiagnosis and mistreatment still occur. Education facility is another challenge for the autistic children. Autistic children have difficulties in entering normal schools; even they are capable intellectually and have relatively "good" behavior. Most of the schools are reluctant to have autistic students; they foresee many difficulties in handling and teaching autistic children. Bangladesh has no national curriculum for autistic children and other special needs children; even there is no facility for short- term training for teachers of autistic children. Late diagnosis of autism in children occurs due to poor awareness regarding autism among many doctors and even of those doctors screening children with autism, many of them don't know where to refer their parents. The case is more acute for under- privileged autistic children. Even, many adolescents on the spectrum who are not going to school, there is no occupational training for them. So, most of them stay at home and live with their parents, which create a big stress for the family. It can be said that employment or self-employment generation activities are essential for the economic self- reliance of people with disabilities. Islam (2013) expressed that most of the disabled people are now leading an inhuman life due to the lack of scope of education, vocational training and employment. Zannat (2011)

focused on training for parents of children with autism; where the parents will learn how to handle and teach their child then they can improve their child's proficiency. Banergee(2013) argued:

“Autism may occur in conjunction with mental retardation. Intellectual disability with autism has been found among 65 percent to 75 percent of autistic children. In fact, the figures vary from time to time”(p.11).

Individuals with only mental retardation show relatively even skill development, while persons affected with autism typically display uneven skill development with deficits in certain areas. Nusrat (2012) explained that mental health issue is a major problem for children with autism. Children with autism have emotions like any other person but not express it properly. According to research findings, 30-35% children with autism, after getting early intervention, can integrate with typically developing peer group with or without support. Bringing a child to this level needs relentless work by the family and the special schools or centers providing intervention to these children. When the child is ready to go with his typically developing peer group, he/she goes to the mainstream setup with the diagnosis of autism.

Anything different from his/her peer group is labeled as problematic, and parents often receive complaints about the different behavior of their children. The child can feel that what he/she is doing not accepted by others. Moreover, there is a chance of being bullied by his peer group as children are often very good at picking up on the differences in their friends. As a result, the child may develop associated social anxiety.

This is a real challenge faced by these special children who are developing mental health problems due to lack of proper integration. Many children who only had one diagnosis while leaving their special setups can later develop dual problems like autism with social anxiety

and/or depression. Autism Spectrum Disorder (ASD) is a big spectrum, and children who are on the edge can often survive independently if they get proper support at an early stage. But the associated anxiety may create obstacle in integrating independently into the society.

They can be encouraged to play with others about what they can do in fearful situations. Then parents and teachers can help them to get the exposure in peer groups in a gradual way, which will sensitize them over time. Mainstream schools can also educate the typically developing peer group about how to behave with their special friend.

Schools can play an important role in desensitization. Schools and parents may help rather than teaching, the child to get over her/his emotions, can encourage her/him to express her/his thoughts and emotions. Instead of assuming what is happening in her/his mind, they can be actually asked what situations are difficult for her/him and why. These open discussions about feelings and thoughts can minimize the fears a lot. Regular rating of her/his emotions can reflect her/his improvement and help to build up her/his confidence.

2.2 Importance and necessities of early detection

Identification is the first requirement for obeying rapid improvement of autistic children. It is important for creating public awareness about autism and which types of traits are present in the child how he or she is different from a normal child and where their guardians take them for diagnosing and protection. It is important to note that, early detection provides the best opportunity for early intervention. Nafia (2012) discussed that many parents do not know where to go first with their children. For proper diagnosis, a psychiatrist can help. There is no specific investigation that can confirm autism. Managing children with autism is a multi disciplinary teamwork including psychiatrist, child neurologist, pediatrician, nutritionist, special education teacher, clinical psychologist and the school with special education. Roberts (2004 as cited in

Azam et. al., 2012) added that there is a need to identify strategies that will help families through the experience of diagnosis and assessment and to find the most effective means to provide information about available treatments. Webster and Fieler (2002) addressed that there is no program that will suit all children with autism alike and their families. Research suggests that there are substantial short and long term benefits from early, intensive, family based treatment programs, whatever their theoretical basis, so long as there are appropriately adapted to the child's pattern of strengths and weaknesses and take account of family circumstances. Nusrat (2013) stressed that early detection provides the best opportunity for early intervention, which can maximize the outcomes of affected children and their families. Early intervention can also prevent the loss of skills if the child gets the intervention before losing the skills.

Training of these primary health care workers on typical and atypical development can help in early screening, which will lead to referral for proper diagnosis. Regular visits until age three will increase the contact of the children with primary health care workers, and with training on the early warning signs these professionals can help to pick out the children with signs of autism. Therefore, compulsory and regular visit by a healthy child and the training of primary health care workers can serve as the first step towards early detection of autism in Bangladesh. It will result in getting early interventions. Ultimately, this approach will play a significant role in increasing the functionality of the individuals with autism and thereby decreasing the psychosocial stresses of the individuals and the families. Azam et al. (2013) explained that parental participation in screening and designing intervention programs for children with autism can help to deal with the challenge effectively. Parents seem to be still confused to choose between biological and behavioral approaches as they are tempted to get some medicine for the relief from autism. Most of the people who are involved in teaching and learning process of children with autism in a

dilemma for what therapies or methodologies are effective for better intervention of this kind of children. Even after having much training from different experts, this dilemma getting more complicated as different experts talked about different strategies and most of them claim that their strategies are far better than others which make the parents and educators confused with these theoretical strategies which exert a lot of stress on them in real practice. Mannan (2013) addressed that-

“There are no miracle cures for autism but it is treatable. Above all, early diagnosis and intensive intervention can have a significant, positive and lasting impact on children with autism.”(P.6-9)

2.3 Medication is an important component for reducing some associated characteristic of autism but not main component

Sometimes, guardians discuss the matter with different people and they are hopeful that their children may be cured by the medication. So, they are misled and misguided by false pharmacological agents and expend huge amount of money for treatment but do not get proper cure of autism. Roberts (2003 as cited in Azam et. al., 2012) described that in some characteristics of autism like anxiety and biological nature, medication could be a suitable treatment and even cure autism. Howline (1997) stressed that in case of severe behavior disturbance like aggression, self-injuring behavior, anxiety, sleeping disorder, hyper- activity, medication might be useful. Pfeiffer et.al (1995) explored that some studies reported a favorable response to vitamin treatment although these studies had limited samples; therefore out comings need to be tempered. Azam et al. (2012) concluded that medication can be helpful in reduction of some associated characteristics of autism like aggression, compulsive behavior or self- injuring behavior etc. but cannot cure autism completely. They also described that while the researchers

were working with parents they encountered many queries about biological treatments and realized that parents are misguided by some false pharmacological agents and they are easily cheated because of their high hope of complete cure which is claimed by these agents. Finally, the parents are highly suggested to take advice with a reputed expert in this field before going through biological treatment and they should not believe such kind of claims which do not have any reliable evidence. Banerjee (2013) also argued:

“There are no medicines to treat the core symptoms of autism. Medicines are given only for target behaviors such as hyper- activity and self- injury among others.”(p.11).

2.4 Effective teaching approaches for improving the proficiency of children with autism

For development these children are needed to admit in any special school. These schools try to practice different skills for developing the autistic child's proficiency so that they may be self-dependent. Banerjee (2013) explained that if these children are admitted to schools, they may benefit themselves from these trainings and may learn specialized approaches for being self-dependent. Landa(2012 as cited in Daniel, J.D. 2012) also argued that the earlier autistic children get proper education, the better they function emotionally, socially and intellectually.

For increasing the proficiency of autistic children in special schools these approaches are being followed. Bear, Wolf and Risley (1968 as cited in Azam et. al., 2012) are considered the founder of ABA (Applied Behavior Analysis) Therapy who define it as ‘the process of applying sometimes tentative principles of behavior to the improvement of specific behaviors and simultaneously evaluating whether changes noted are indeed attributable to the process of application. The target of ABA Therapy is to improve academic skills, social skills, communication skills and adaptive skills including gross and fine motor skills, eating and food preparation, toileting, dressing, personal self-care, domestic skills, time and punctuality etc.

ABA focuses on the objective measurement and change in observable behavior, i.e. before and after intervention. Roberts (2004) added that ABA Therapy is used for children with autism to increase on task behavior or social interaction, teach new skills, maintain behavior, transfer behavior from one situation to another, restrict or narrow conditions under which interfering behavior occur and reduce interfering behavior.

The methodologies used in ABA Therapy are Discrete Trial Training (DTT), Pivotal Response Therapy (PRT), Reciprocal Imitation Training (RIT), Self Management Training (SMT) and Video Modeling (VM). Discrete Trial Training (DTT) is one of frequently used methodologies in ABA Therapy. In this method, at first the trainer explores a suitable reinforcer or stimuli to the autistic child and the nature of interaction and then reward the correct response with the reinforcer while the incorrect response is ignored. Consequently he/she is exposed to new skills with recorded data. In Discrete Trial Training (DTT) the therapist chooses the stimuli to be used in training and the nature of the interaction; only correct responses are reinforced, indirect reinforcers (e.g. tokens, food) are typically used, several consecutive trials on a new task are presented and the therapist initiates trials (Schreibman, Kaneko& Koegel 1991, p.480). Pivotal Response Therapy (PRT) is based upon two ‘pivotal’ behavioral skills, motivation and the ability to respond to multiple cues and development of these skills may result in overall behavioral improvements (Minjarrez, et.al. 2010). PRT involves the following strategies such as;

- Clear instructions and questions presented by the therapist
- Child’s choice of stimuli
- Intervals of maintenance task
- Direct reinforcement
- Reinforcement of reason for purposeful attempts at correct respond

- Turn taking to allow modeling and appropriate pace of interaction (Internet, <http://www.brighttots.com/aba.therapy>). Among all these methodologies the most dominant ABA Therapy is DTT and it is widely used in teaching children with autism. (Dillenburger et.al.2020)

The report on Ontario Ministry of Education (2007) explained that Applied Behavior Analysis (ABA) is an effective instructional approach in the education of many students with autism spectrum disorders (ASD). This memorandum establishes a policy framework to support incorporation of ABA methods into school boards practices. The use of ABA instructional approaches may also be effective for students with other special education needs.

Early Intensive Behavioral Interventions (EIBI) is clearly understandable by its name that EIBI stresses on intensive and comprehensive intervention programs. Roberts (2004) explained the term intensive means one to one treatment for at least 30 to 40 hours a week, 7 days a week for at least two years, because true generalization of therapy effects mean that newly acquired behaviors need expression in a variety of people, behavioral interventions require the expansion of the role of therapy provider to include parents, teachers, siblings and peers. If therapy is consistently provided when the child is with parents, siblings, peers and at school, a complete therapeutic environment is created to support generalization.

Steps followed in EIBI are explained by Wetherby and Rydell (2000) as follows:

- Teaching is well structured with presence of relevant stimuli, the responses targeted and the consequences provided Physical arrangement is predetermined.
- There is a focus on teaching discrete and objectively defined behaviors.
- Traditionally, there has been a focus on speech as a primary communicative mode, beginning with vocal imitation.

- The learning context involves a 1:1 child teacher ratio, with the adult determining the activity and focus of attention and following a prescribed sequenced curriculum.
- Predetermined criteria are provided for correctness of response, Off-task responses are ignored or the child's behavior is redirected.

Mesibov (1993) agreed that intensive interventions result in positive and lasting and especially behavioral approaches have been effective and used with children with autism for many years. Howlin (1997) also confirmed that behavioral interventions are no doubt powerful and bring benefits. However, longer term evaluations with different aspects of normal functioning are needed to make it more cost and time effective.

The Hanen Program was started at the Hanen Centre Canada for children with language and communication disorders. This program recognizes the importance of the parents, siblings, teachers, neighbors and all the other people in the child's life. This program organizes training, workshops, seminars for parents, caregivers, professionals and it also distributes resources such as guidebooks and DVDs to them for early language intervention. This program is based on the social interaction model of language acquisition and heavily emphasizes a family-centered approach to language intervention. Numerous studies in the field of language acquisition and communication disorders have suggested that children learn best from their parents in a naturalistic and familiar environment (Prizant, et al. 1998 as cited in Azam et. al., 2012). Filipek et.al(2006) presented a study on "Intervention for Autistic Spectrum Disorders." They tried to show comprehensive approach to the assessment of any child with autism must be matched specifically to each individual child and family. This premise holds for medical therapies and

special education services as well as psycho-pharmacologic interventions. Behavioral, as opposed to pharmacologic, treatment is the hallmark of effective intervention for autism. Physicians involved in the care of children with autism need to become familiar with educational law and intervention recommendations. Goals should include improved functional verbal and nonverbal communication and social skills, increased engagement in developmentally appropriate activities improved fine and gross motor skills, and the development of independent academic and organizations skills, as well as replacement of problem behaviors with developmentally appropriate behaviors.

Floor Time is based upon Greenspan's theories of the following six functional milestones necessary for a child to succeed in further learning and development. (Greenspan, 1998 as cited in Azam, el al., 2012):

- ❖ The dual ability to take an interest in the sights, sounds and sensations of the world and to clam oneself down
- ❖ The ability to engage in relationships with other people
- ❖ The ability to engage in two-way communication with gestures
- ❖ The ability to complex gestures to string together a series of actions into an elaborate and deliberate problem solving experience
- ❖ The ability to create ideas
- ❖ The ability to build bridges between ideas to make them reality based and logical

Floor Time includes interactive experiences which are child directed, in a low stimulus environment, ranging from two to five hours a day. Greenspan contends that interactive play, in which the adult follows the child's lead, will encourage the child to want to relate to the outside world. According to Greenspan (1998), intervention must transform this perseveration

into interaction. Once this occurs, Greenspan theorizes that the child becomes purposeful and can imitate gestures, sound and play.

Relationship Development Intervention (RDI) is a series of techniques and strategies built upon the typical development processes of social competence. The goal of RDI is to increase motivation and interest in socializing in individuals with autism and provide activities and coaching to assist them to enjoy and become competent in social relationships. (Gutsein & Sheely, 2002) There are six levels in RDI i.e. Novice, Apprentice, Challenger, Voyager, Explorer and Partner which are subdivided into a total of 24 developmental stages. Programming is individualized and based on the Relationship Development Assessment designed by Gutstein. Once a child's relationship level is determined an individualized program is prepared and coaches are trained to implement the program and support the acquisition of skills.

Roberts (2003) defined Developing Social – Pragmatic Model (DSP) with the following characteristics:

- The focus is on enhancing spontaneous social communication within a flexible structure and varied and motivating activities
- There is an emphasis on building multimodal communicative repertoires i.e. speech, gestures, argumentative and alternative communication to enable children to have a range of strategies to express intentions.
- The extent to which possible interactions are characterized by sharing, control, turn taking and reciprocity
- Learning contexts involve meaningful activities or events, chosen for interest and motivation

- The relevance of the child's response is considered in reference to the ongoing context and activities, including acknowledgement of unconventional means or behavior as legitimate attempts to communicate.
- Use of a variety of social groupings is desirable because the child's life experiences will involve increasingly complex social experiences.
- Information about sequences and processes of child development is used to frame the sequence of goals and to measure process in a broader developmental context
- Contextual (visual, gesture) supports are seen as an essential to help children make sense of activities and interactions rather than to 'strip down' learning contexts
- There is a focus on helping children acquire socially acceptable means for social control (protest, to make choice) to preclude behavioral difficulties
- Emotional expression and affect sharing are seen as central to the interactive and learning process.

DSP targets multiple goals within one activity rather than counting isolated behavior and focuses on the interdependency of different aspects of development. It places greater emphasis on enhancing communication abilities within meaningful events and routines. (Roberts, 2003)

Learning Experiences an Alternative Program (LEAP) is developed by Phillip Strain designed for children with autism and typically developing children and for their parents at preschool level. It is a comprehensive program that uses the following instructional components: peer-mediated instruction, incidental teaching, self- management training, prompting strategies and systematic parent training. (Strain, 2002) Social- Communication, Emotional Regulation and Transactional Support (SCERTS) model basically focuses on developing social communication, emotional regulation and transactional support in a manner that addresses the complex

interdependencies. The social communication components of the SCERTS Model directly addresses the core challenges in social communication faced by children with autism while through the process of emotional regulation children strive to maintain an optimal state of arousal that matches the social and physical demands of their environment and that allows them to respond adaptively.(Prizant, et al.2003)

Furthermore, Prizant, et al.(2003) explained that transactional supports are also needed to maximize learning in educational setting and participation in daily living activities and events. These supports are addressed in three major domains i.e. interpersonal support and family support. Roberts, (2003) agreed that the model also emphasizes supporting and educating family members, to best enhance the child's development.

Treatment and Education of Autistic and related Communication Handicapped Children (TEACCH) was established in 1972 by Eric Schopler with the goal of providing services from preschool to adult life and from centre to outreach based (Susan,2001; Roberts, 2003). The major features of Division TEACCH is 'Structured Teaching' that have proven useful in classrooms for students with autism of all ages and levels of functioning to develop skills and minimize behavioral difficulties (Mesibov et al, 1997). Within TEACCH Project, some of the main issues addressed are organizational difficulties, memory problems, difficulties with auditory processing and making transitions from one activity or topic to another. The emphasis is on positive strategies of behavior management and visually rather than verbally mediated teaching strategies (Robberts, 2003). Mesibov (1998) outlines the importance of structured teaching with the statement that Structured Teaching and TEACCH Research is the most effective for intervention of autism due to its environmental organization, work schedules, work system, clear visual

structure and visual cues. That is why it is one of the most ‘widely used approaches in autism’ all over the world (Roberts, 2003).

The major components of Structured teaching are Physical Structure, Schedule, Visual Organization and Teaching Methods (Schopler & Mesibov, 1994; Susan, 2001). Physical Structure Provides environment organization for people with autism to help them in understanding where each area begins and ends and also it reduces visual and auditory directions (Susan, 2001). Susan further describes that visual schedules address the child’s difficulty with sequential memory and organization of time; assist in language comprehension; lessen anxiety level and help in transition from one task to another. Finally, teaching methods allow students to understand what they have to do, when and where to start and when to finish the work, how much work has to be done and what comes next. In all these processes visual structure play critical roles as it accomplish the demands of visual learners like autism (Schopler & Mesibov, 1994).

Adding further caps to the importance of structured teaching Mesibov and Howley (2003) concluded the TEACCH Program ...continues to refine the concept that people with ASD function differently from people without ASD in terms of their thinking and learning and have specialized learning needs, based on these differences. Structured Teaching has evolved as a teaching strategy responsive to these individualized needs that characterize people with ASD. Physically structuring environments, using schedules and work systems and developing visually clear and organized materials are the central components of this approach. Pupils with ASD who use this approach are calmer, more self-assured and are able to work productively and independently for longer periods of time. The use of structured teaching as a method of

delivering the curriculum can enhance and facilitates the teaching and learning process and can improve access to the curriculum for many pupils with ASD.

Susan (2013) also agreed that Structured Teaching Strategies for Supporting Students with Autism. Structured Teaching is a system for organizing their environments, developing appropriate activities, and helping people with autism understand what is expected of them.

Picture Exchange Communication System (PECS) is an alternative communication system (Marjorie et al.2002) for children with autism developed by Bondy and Frost in 1994 (Robberts, 2003). PECS is a pictorial communication system through the exchange of pictures and real objects (Bondy & Frost, 1994) which is the utmost demand of visual learners like autistic people. (Mesibov & Howley,2003).PECS are widely and internationally used with the autistic child because the system requires few motor movements; it is relatively low cost with the use of many interventional methods. Bondy & Frost describe the different phases of PECS including Phase I; Phase II and Phase III. In Phase I a strong stimulus is used with the Physical Prompter (who assist the child) and the communicative Partner (who stimulate the communication) while in Phase II the child is self motivated to reach the symbols/pictures of the required object. In Phase III the communication is extended so that the child can improve his/her ability to work into different settings and with different people (Bondy & Frost, 1994). Although there is scarcity of independent review of assessing the efficiency of PECS (Marjorie et al, 2002) available studies like Schwartz et al (1998), Lovas (1987), Bondy & Frost(1994) highly appreciated the impact of PECS for the development of communication for people with autism (Roberts,2003). Therefore we can conclude that PECS is an important tool which should not be avoided while working with autism.

Koyama (2010) focused on Activity Schedules for Individuals with Autism and Others Intellectual Challenges. The study found that children with autism are visual learners. Visual learners are better at processing visual information through such materials as pictures and texts than processing auditory information. In this research, the researcher was able to prove that activity schedules promote independent, autonomous behaviors in persons with disabilities while they are engaging in various activities such as academic tasks in the classroom and daily chores at home.

Mathewson (2010) presented a study on Benefits of Using an Activity Schedule with a Student with Autism. This study used a single-subject Caucasian male from an autistic classroom in a rural Midwest school to determine the benefits of implementing an activity schedule with a student with autism. The purpose of this project was to determine the benefits of implementing an activity schedule with a student with autism. The results of the study showed that the male subject with autism improved in his ability to transition between subjects, display more appropriate behaviors, and improve on his academic scores after consistent use of the activity schedule. Results of this study supported the existing literature on using a picture activity schedule to increase the desirable behaviors, transitional skills, and academic skills of students with autism.

Groenewoud (2010) presented a study on The Use of Picture Prompts to Generalize Play Skills and Parallel Play for children with Autism. In this study the researcher tried to prove that picture schedules are one intervention proven to improve play skills for children with autism. For example, a teacher would teach their students how to play with a play set using a picture schedule. Then the teacher could introduce new play sets with picture schedules, and little to no teaching would be required. Ideally the child could transfer the use of picture schedule from one

play to the next. In this research, the researcher used observation methods .The researcher was able to prove that the picture schedule is an effective tool for children with autism.

Cranmer (2009) presented a study on The Effect of PECS Training on Symbolic Matching Skills in Learners with Autism. This study evaluated whether picture exchange communication system picture exchange communication system (PECS) training would result in the development of conditional relations among corresponding pictures, objects (reinforcers) and spoken words used in PECS's training with learners with developmental disabilities. Three participants with autism and mental retardation were trained to use PECS. Match-to-sample procedures were used to assess all possible conditional relations among stimuli before, during, and after PECS's training. None of the three participants in this study acquired conditional discriminations involving the pictures, rein forcers, and spoken words used in their PECS training.

Laarhonen et.al.(2010) presented a study on A Comparison of Picture and Video Prompts to Teach Daily Living Skills to Individuals with Autism. This study was conducted to compare the effectiveness of video prompting and picture prompting when used as antecedents for teaching daily living skills to two adolescents with autism. Participants were taught two different skills, and the effects of the instructional conditions were compared and evaluated using an adapted alternating-treatments design. The results can be interpreted to conclude that video prompting was slightly more effective in terms of independent correct responding, fewer external prompts for task completion, and fewer prompts to use instructional materials. In addition, when efficiency scores were calculated by considering the ratio of each participant's growth (from pretest to posttest) to the measured "cost" of minutes required to create instructional materials, video prompting was considerably more efficient than picture prompting.

Various therapies are being used for developing their motor skills proficiency. These are art music, massage, occupational, psycho, physiotherapy etc. Munir (2012) expressed that art therapy in schools is generally used for children with special needs who have difficulty in the school setting as a result of learning disabilities, behavior disorders, emotional disturbances, or physical difficulties which impair gross and fine motor control. Children's art/drawing skills develop through different stages that fall into the predictable age groups which makes possible to distinguish when a child is specifically behind age level, or in rare cases such as with certain type of autism, significantly ahead. All therapy for children can provide kids with an easier way to express themselves since children are more naturally artistic and creative. An initial assessment is a primary part of the process of art therapy, through which a student's strengths and weaknesses are explored. Art therapy assessment involves the therapist's giving the client a series of five or six art tasks, using a variety of media. These tasks relate to the student's perception of self, his or her family, and school, or other aspect of their environment. These drawings and the student's behavior while approaching these tasks are then evaluated along with developmental, family, and academic history. It is important to note that children's progress in drawing differs significantly across the cultural spectrum. A person who uses art as an assessment tool needs to be familiar with the art children are exposed to and the culture they are from, before making an evaluation. It is a useful medium for the students who require more clinical assistance that can typically be provided by a teacher in a large classroom setting.

Hinde(2011) explained that music is a powerful tool that is used in the treatment of children with Autism. Music therapy is the use of music and music based activities to achieve therapeutic client goals- goals which are usually non musical. It helps to improve communication skills, social skills and motor skills. Even these, it helps for improving emotional expression and

speech, attention, self- confidence and motivation. Music therapy interventions by a Registered Music Therapist (RMT) who is usually part of a multi-disciplinary team. Simple music techniques can be used by teachers, parents and therapists to achieve better therapy outcomes for children with autism in everyday life. Using music and singing to engage with a child is a good place to start. By setting up a regular time each day to sing songs or have music listening time with your child you can start to encourage communication and positive social skills in your child. For improving motor skills occupational and physiotherapy are important. Occupational therapy is needed for improving sensory problems and physiotherapy is important for improving muscle weakness. Sensory integration processes that organize these senses from one's own body and the environment and make the work meaningful. Ferdous (2014) discussed that children with sensory processing disorder have difficulty processing information from the senses (touch, movement, smell, taste, vision and hearing) and responding appropriately to that information. These children typically have one or more senses that either over or under react to stimulation. Sensory processing disorder can cause problems with a child's development and behavior. Moniruzzaman (2011) explored that Occupational Therapy involves deep pressure, brushing, massage, vibration, and the use of play. Equipment used includes balls, lights, swings, and tunnels etc. so as to elicit adaptive responses and "train" the child's brain to integrate input from the various senses. Sensory integration therapy is generally well accepted and is appropriate for some children, especially those who over or under react to various environmental stimuli. He also discussed about behavior therapy, music therapy, hand therapy, daily living therapy, group therapy, social skills training. It can be said that occupational therapy is the art and science of enabling engagement in everyday living.

Janet K. Kern et.al. (2006) focused on Examining Sensory Quadrants in Autism. The purpose of this study was to examine sensory quadrants in autism based on Dunn's Theory of Sensory Processing. The data for this study was collected as part of a Cross-Sectional Study that examined sensory processing (using the sensory profile). Sensory Quadrants (Low Registration, sensation seeking, sensation, sensitivity, and sensation avoidance) on the sensory profile are different in persons with autism as compared to community controls with persons with autism engaging in the behaviors more frequently than the controls.

Kaniz (2012) described that children on the spectrum may have low muscle tone, or have a tough time with coordination and sports. These issues can interfere with basic day-to-day functioning with social and physical development. Physical therapists may work with very young children on basic motor skills such as sitting, rolling, standing and playing. They may also work with parents to teach them some techniques for helping their child build muscle strength, coordination and skills. In school settings, physical therapists may pull children out to work with them one-on-one, or "push in" to typical school settings such as gym class to support children in real-life situations. It's not unusual for a physical therapist to create groups including typical and autistic children to work on the social aspects of physical skills. Physical therapists may also work with special education teachers and aides, gym teachers and parents to provide tools for building social/physical skills. Mahabubur (2012) addressed that Motor skills are important for all students in regular and special need schools. Motor skills emphasize on body awareness to regulate their normal activities of daily life and encourage the use of sensory motor strategies to improve their level of functions. Improving motor skills enhance student's ability to learn, interact with others, class work or play within school environment in addition to build self stream, self confidence, and self actualization skills.

Kaneshiro et al (2010) presented a study on Recommended reading: Therapies for Children with Autism Spectrum Disorders: A Review of the Research for Parents and Caregivers. This guide described about the possible benefits and negative side effects of therapies for children who are between 2 and 12 years old and have and ASD. It was created to help you talk with your doctor, school administrator, social worker, and health insurance representative about programs and therapies.

Ahmed (2013) explained that Massage therapy is an area of Chinese medicine that benefits autism patients. Touch Research Institute (2001) studies found that massage therapy produce improve on-task behavior and social relatedness of autistic children. Twenty children, aged three to six were assigned to either massage therapy or reading attention control groups and observed at school and home. They suggested that the massage group children exhibited less stereotypic behavior and experienced fewer sleep problems. Acupuncture is another area of Chinese medicine. According to the book on Scientific Bases of Acupuncture, acupuncture affects opioids, the central nervous system and neuroendocrine function. Yoga is an ancient healing tool for the multi- dimensional well-being. Autistic kids too could find some peace on the yoga mat. Besides, yoga is an appropriate and enjoyable physical program which improves strength and tone in the muscles, develops balance and increases body awareness. Even fine motor skills will be improved as yoga emphasizes being in tune with the entire body, hands and fingers, feet and toes.

Susan (2013) addressed that Assistive Technology is an effective tool for Children with Autism. Various modes of technology (including technology designed as augmentative communication systems),can be used for children with autism to increase or improve their overall understanding of their environment, expressive communication skills, social interaction skills, attention skills,

motivation skills, organization skills, academic skills. Self- help skills, overall independent daily functioning skills. Supporting technology strategies defined as follows:

"Low" Technology: Visual support strategies which do not involve any type of electronic or battery operated device - typically low cost, and easy to use equipment. Example: dry erase boards, clipboards, 3-ring binders, manila file folders, photo albums, laminated PCS/photographs, highlight tape, etc.

"Mid" Technology: Battery operated devices or "simple" electronic devices requiring limited advancements in technology. Example: tape recorder, Language Master, overhead projector, timers, calculators, and simple voice output devices.

"High" Technology: Complex technological support strategies - typically "high" cost equipment. Example: video cameras, computers and adaptive hardware, complex voice output devices.

Ontario Ministry of Education (2007) published a Resource Guide on Effective Educational Practices for Students with Autism Spectrum Disorders (ASD). This guide focused on the diagnosis of ASD, characteristics of individuals with the disorder, and key principles for planning effective educational programs for students with ASD. This resource guide is designed to support for educators. It contains information, strategies, and practices that can be put to use in the school and the classroom. It also includes a collection of sample materials reflecting current practices in schools, as well as list of references and resources for further reading.

Ilene S. et al. (1998) presented case studies of three children with autism who received educational services in a public-school-affiliated early childhood program during their preschool and kindergarten years and have had positive outcomes. They used a combination of documents and archival records (e.g., assessment results) as data sources. All children made substantial

developmental and academic progress. The three children have entered elementary school in inclusive settings and continue to thrive; one child exited special education. Our purposes in presenting these findings are to suggest that there are multiple means to achieve promising outcomes for young children with autism and to expand the discussion of appropriate early childhood services for children with autism.

Bedford et al, (2012) discussed on Failure to Learn from Feedback Underlines World Learning difficulties in Toddlers at Risk for Autism. This study focuses on children's assignment of novel words to nameless objects, over objects whose names they know (mutual exclusivity; ME) has been described as a driving force for vocabulary acquisition. Despite their ability to use ME to fast-map words (Preissler & Carey, 2005), children with autism show impaired language acquisition.

Diehl, (2010) presented a case study on Anderson: Excitement and Joy through Pictures and Speech. The Communication Symbolic and Behavior Scales Developmental Profile (CSBSDP; Wetherby & Prizant, 1993) was used to determine communication competence. Anderson's team and family members developed communication goals that included spontaneously using a consistent communication system for a variety of communicative functions and initiating and responding the bids for joint attention. Research suggested that joint attention is essential to the development of social, cognitive, and verbal abilities. (Mundy & Neal, 2001)

Wegner (2010) also presented a case study on Trait: Communicating Emotions. The data of Trait was collected in three contexts; school, home, and an intervention session in the Schiefelbusch clinic. After two years, Trait has made many communicating gains. When he is angry, happy, sad, frustrated, sick, and engages in reciprocal exchanges, commenting on the shared object or event of interest. He is able to indicate to his partner what he needs to clam himself when choices

are offered. In addition, he has more communication partners who are responsive and able to provide him with the learning supports he needs.

Hinde,(2011) explained another case study on Joshua, a three year old child with severe autism after music therapy assessment it was discovered that he had extreme sensitivity to certain sounds and musical keys, which included certain tones in his own mother's voice. Whenever Joshua would hear these sounds or a specific tone in his mother voice, it would trigger screaming and crying behaviors where he would hold his hands over his ears and rock backwards and forwards uncontrollably. After many music therapy sessions where Joshua was gradually exposed to such sounds that were disguised in his favorite songs, he was slowly able to tolerate more of these sounds outside of therapy. His mother was also able to alter the pitch of her voice to eliminate the problem pitches.

Susan (2013) also wrote few articles in autism issues. One was Children with Asperger's Syndrome: Characteristics/Learning Styles and Intervention Strategies. This articles focused on ten primary characteristics of children with Asperger's Syndrome and intervention strategies for each, these are social relation difficulties, social relation–intervention Strategies, social communication difficulties, social communication – target skills and strategies for intervention.

Another was Effective Programming for Young Children with Autism (Ages 3 – 5). Effective Programming for Young Children with Autism is based upon the presence of certain fundamental features. Therefore, a “best practice” approach for providing early childhood services for children with autism should incorporate the fundamental features discussed in this article.

Furthermore, Susan (2013) described on Increasing Expressive Skills for Verbal Children and Developing Expressive Communication Skills for Non – Verbal Children with Autism. In this

article she focused on how to increase expressive skills for verbal children and developing expressive communication skills for non – verbal children with Autism.

Islam(2012) focused on ten things for treatments of autism. These are Applied Behavioral Analysis (ABA), speech therapy, occupational therapy, Social skills therapy, Physical therapy, play therapy, behavior therapy, developmental therapies, visually- based therapies, biomedical therapies and given some tips for parents.

Ellen (2004) in his book on Ten Things Every Child with Autism Wishes You Knew focused on Characteristics of autism. The writer discussed which types of problem they faced, which types of attitudes we showed them. This book described the feelings with autism, techniques of handle children with autism.

Another book of 1001 Great Ideas for Teaching and Raising Children with Autism or Asperger's written by Ellen Notbohm and Veronica Zysk. The book discussed about developmental levels, learning styles, and abilities inherent in children with autism or Asperger's. It helps parents and educators with over 1800 ideas for handling children with autism.

The book of A QUEST for Social Skills for Students with Autism or Asperger's written by Joellen Cumpata and Susan Fell narrate that QUEST means Questioning, Understanding, and Exploring Social Skills and Pragmatic Language Together which is a social skills program created to help middle school students with ASD who struggle with pragmatic language and social skills. Developed by a school social worker and speech language pathologist, the program uses an intensive, proactive approach to teaching social skills, combining written instruction with games, activities, and student interaction.

There are six helpful units—School Survival Basics, Understanding and Managing Emotion, Communication Skills, Making Friends and Interacting with Peers, Personal Safety, Vocational

Readiness can be implemented either chronologically or on their own. Evidence-based research supports the methods used and students have a great time learning-by-doing, through role-play and real-world experience. Parents are kept in the loop with email updates and evaluations. Everyone wins with this program. Best of all, the book includes a CD of printable worksheets, letters, forms, and more. QUEST covers on Greetings, Paying Attention, Daily Hygiene, Asking for Help, Understanding Feelings, Getting Angry/Calming Down, Managing Stress, Starting a Conversation, Making and Keeping Friends, Gossip, Bullying, and Teasing, Resisting Peer Pressure, Dating, Internet and E-mail Safety, and many more.

The book Autism er nil jagat (The Blue World of Autism) written by Md. Nazmul Haque and Md. Mahbub Morshed(2011). They discussed about invention of autism, classification of autism, characteristics of autism identification strategies of autism, prevention of autism training and treatment strategies etc. There were fifteen helpful units for understanding autism and other disabilities in this book.

Another book Autism Ki Ebong Koronio (What is Autism and What to Do) written by Marufa Hossain (2009).She also discussed what is autism, developmental skills of autism, behavioral correction strategies of autism, teaching methods, reinforcement, sensory integration for autism etc.

Mulder (2001) presented a study on Guidance about Autism. He suggested that educational materials for health workers to instruct people who take care of an autistic child in Bangladesh. The educational materials support the information's and instructs people who take care of an autistic child. The goal of this material is to improve the guidance about autistic children in Bangladesh for parents and other people who take care of a child with autism.

The whole guidance consists of a written manual and seventeen illustrations. The most important parts are:

- Two plans which will take you step by step through the instructions, a plan for exploring the educational material and a plan for the presentation of the guidance.
- Eight illustrations of features of autism and nine illustrations of suggestions for dealing with features of autism.
- Information about the illustration of the features of autism and suggestions for dealing with these features.

In the literature reviewed so far, the researcher did not find any directly related research or article on the present issue. No comprehensive research was carried out so far in Bangladesh which explores the impact of special education on children with autism. So, it is an important issue of the research and it would be beneficent for the country.

Chapter 3

Methodology

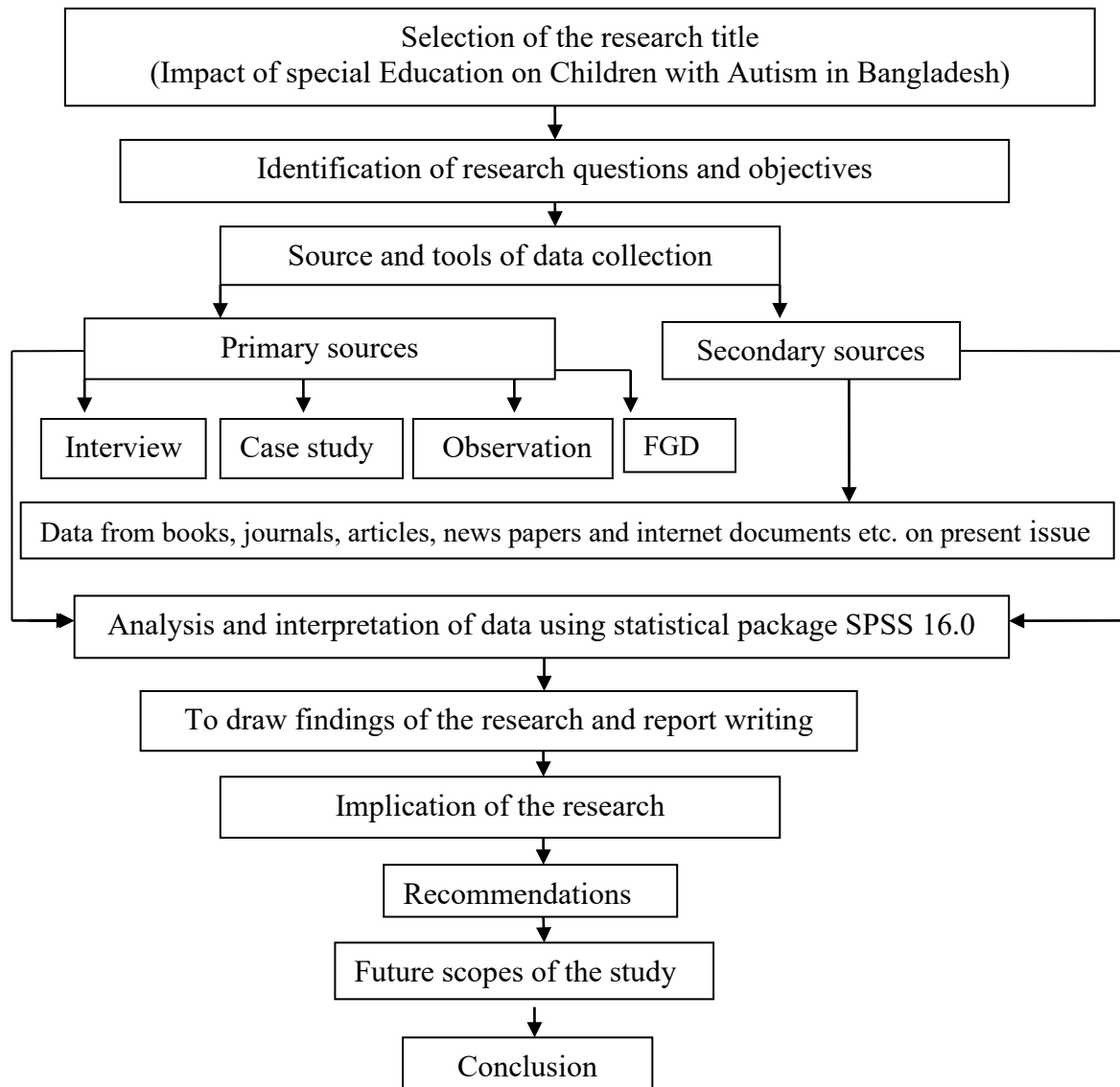
3.1. Nature of the Study

In this study, interview, FGD and case study methods were used for collecting data in order to fulfill the objectives of the study. The data have been collected by using the interview technique and focus group discussion with the help of an interview check list and interview schedule, which consisted of both open ended and closed ended questions. In addition, observation method also has been used. Observation checklist and FGD questionnaires have been applied through observation and interview method for collecting data of used study content (See Appendix A). Six case studies have been made by observation method to find out their improvement on life status by using an interview schedule (See Appendix B). Interview checklist has been used by interview method to find out effect of special education on their life status (See Appendix C). Another interview schedule has been used through interview method to collect data from parents about their child (See Appendix D). FGD questionnaires have been used through interview method for collecting data from teachers about their autistic students (See Appendix E). Severity of autistic children has been measured through interview method by using a behavioral checklist (See Appendix F). This checklist was collected from the thesis of Md. Saiful Islam Khan, (2003, p.161). This is a mixed method research. Both qualitative and quantitative data have been used for satisfying the objectives of the study. It is an educational research which is a part of social research.

Research Objectives	Types of Data/Data Set(Possible Data)	Source of Data	Methods of Data Collection
i. Reviewing the study contents used in different special schools for children with autism in Bangladesh.	Qualitative	Primary Data: I. Teachers II. Parents III. class observation IV. Study contents collected from schools Secondary Data: Related literature	1. Document analysis (study contents). 2. Observation with observation checklist (Appendix A). 3. Focus Group Discussion with parent and teachers (Appendix A).
ii. Identifying the role of special education on daily, social and school life of children with autism in Rajshahi.	Qualitative	Primary Data: I. Teachers II. Parents III. Class observation Secondary Data: Related literature	1. Case study of six selected autistic children (Appendix B). 2. Interview with parents (Appendix B). 3. Focus Group Discussion with teachers (Appendix B). 4. Observation with interview schedule (Appendix B).
iii. Assessing the effect of special education on children with autism by making a comparison between special education taken and not taken groups.	Qualitative and Quantitative.	Primary Data: I. Parents II. Teachers Secondary Data: Related literature.	1. Interview with parents (Appendix C, D and F). 2. Focus Group Discussion with teachers (Appendix E).

Table 1: Research co-ordination matrix

3.2 Framework of the research



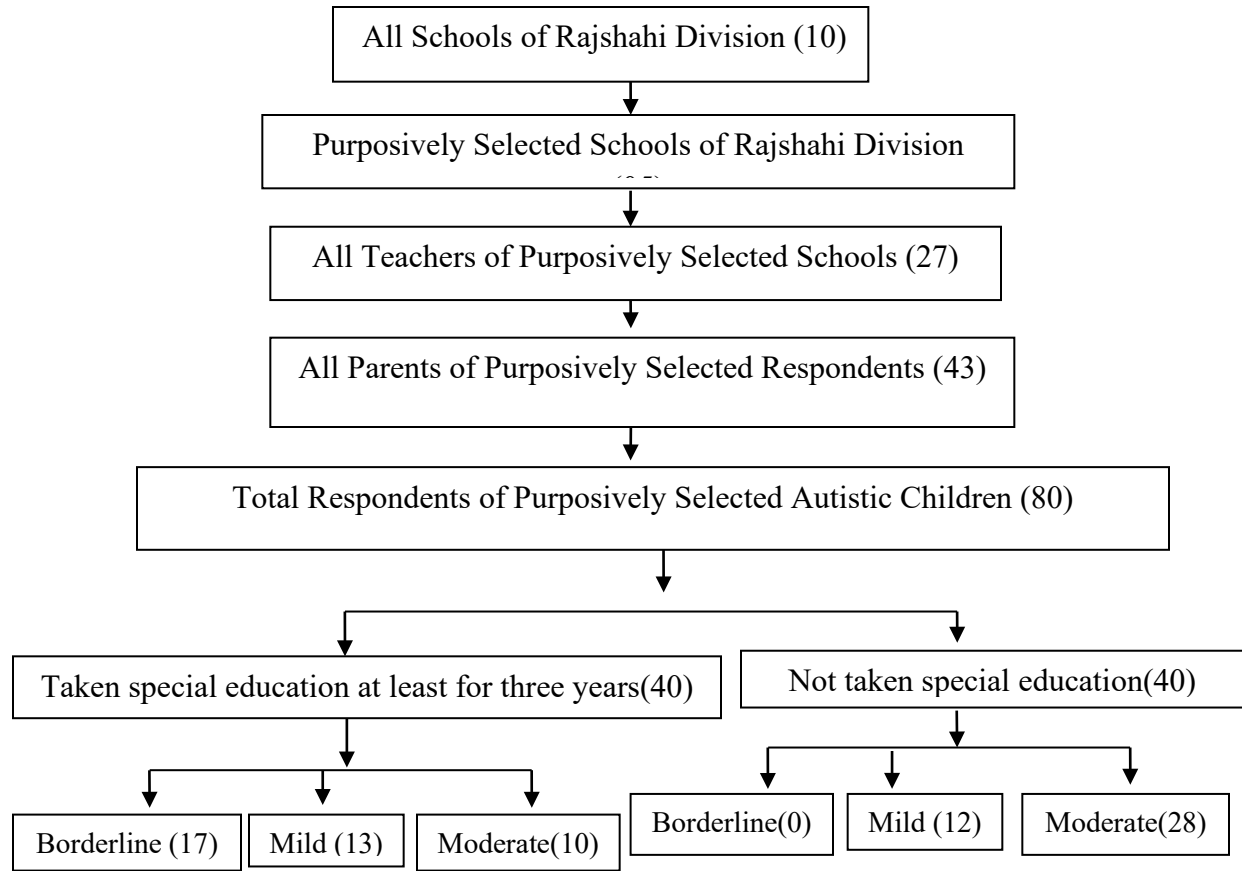
3.3 Study area and Sampling Techniques

Bangladesh consists of seven divisions. Rajshahi division is one of them. It is often referred to as Silk City and Educational City. In the study, the researcher has selected Rajshahi division purposively as, she is living in Rajshahi city. Rajshahi division consists of eight districts. These are Sirajgang, , Pabna, Joypurhat, Bogra, Chapainawabgang, Rajshahi, Naogaon, and Natore. There are special schools in Sirajgang, Pabna, Bogra, Rajshahi, Naogaon, and Natore but there

is no special school in Chapainawabgang and Joypurhat districts. There are special schools for different impaired (physically handicraft, hearing, intellectual and visual impaired) children but there is no separate special school only for children with autism. Among these schools, few schools have a separate classroom for children with autism. The schools of special education in Pabna, Naogaon, and Natore districts have recently started admitting autistic children. But lack of awareness of guardians' of autistic children the number of students is very limited. The schools offering special education in Sirajgang, Bogra, and Rajshahi districts started to admit autistic children since 2007. These schools offering special education for autistic children. These schools were also selected purposively. Then the researcher divided the respondents between two groups. One was those who had taken special education at least for three years and another one was those who had not taken special education. The researcher found out these children who had not gone to special school of each school's waiting list for admission and B.ed trainees of Teachers' Training College, Rajshahi. The purpose of selecting B.ed trainees of Teachers' Training College, Rajshahi was that they came from different districts and upazilas of Rajshahi division. So, it was very easy for them to identify children with autism in their own districts. The researcher took these advantages as she is a teacher of Teachers' Training College, Rajshahi. The researcher selected the trainee teachers' as key informants so that she could easily cover Rajshahi division. It is important to add that there is no authentic statistics about the number of children with autism in Bangladesh. Both groups were selected purposively. The age limits of these children were six to eighteen or above eighteen years. It is important to mention that their mental age was lower than their chronological age. For this reason, their I.Q (Intelligent Quotient) was below their normal range. Some children had lost intellectual balance or their brain was damaged partly or wholly. As a result, they could not do maximum activities in accordance with their age.

For this reason, age factor has got less priority in the study. The researcher also divided each group as borderline, mild and moderate. Selection has been done from the thesis of Md. Saiful Islam Khan, (2003, p.161). It was resolved that score 34-50 was the moderate, and 51-66 was the mild and 67-83 was the borderline level. Society for the Welfare of the Intellectually Disabled, Bangladesh (SWID); Physically Handicraft Training Centre (PHTC) and Foundation for Women and Child Assistance (FWCA); School for Gifted Children (Tauri foundation) are the four special schools situated within Rajshahi city corporation area. SWID Bangladesh, FWCA and School for Gifted children are working for intellectually impaired and autistic children whereas PHTC works for visual and hearing impaired children. One school of special education Society for the Welfare of the Intellectually Disabled, Bangladesh (SWID) is situated in Sirajgang district and two schools of special education Society for the Welfare of the Intellectually Disabled, Bangladesh (SWID) and PROYASH are situated in Bogra district. Children with different special needs are receiving special education in these schools. The researcher collected the names and addresses of these schools from Bangladesh Protibondhi Foundation (BPF) office of Rajshahi City and from those schools who are offering special education for autistic children and other special needs children.

Sampling techniques of the study is given bellow-



The name of the special schools in Rajshahi division and number of the respondents are as follows-

Name of the schools	Students	Teachers
Society for the Welfare of the Intellectually Disabled, Bangladesh(SWID) in Rajshahi	5	4
Foundation for Women and Child Assistance(FWCA) in Rajshahi	10	6
School for Gifted Children (Tauri foundation) in Rajshahi	7	6
Society for the Welfare of the Intellectually Disabled, Bangladesh(SWID) in Sirajgang	10	7
Society for the Welfare of the Intellectually Disabled, Bangladesh(SWID) in Bogra	8	4

Table 2: Name of the special schools in Rajshahi division and number of the respondents

The number of respondents according to the group is shown in the following table-

Categories of respondents	Total respondents
Students who have taken special education	Borderline - 17
	Mild -13
	Moderate - 10
Students who have not taken special education	Borderline - 0
	Mild -12
	Moderate - 28
Parents	Taken special education students - 40
	Never Taken special education students-3
Teachers	27
Total respondents of the study	150

Table 3: Number of respondents according to the group

3.4 Data collection tools and procedures

In this study, the data have been collected through interview technique, FGD and observation. The first objective of the study is reviewing the study contents in different special schools used of special education for children with autism. For the purpose of the study, the researcher has visited many special schools of Rajshahi city and Dhaka city. When the researcher started visiting the schools for collecting data about what kinds of study contents are being followed by special schools to give special education to children with autism in Bangladesh, the researcher found that there is no national curriculum of special education in Bangladesh. So, every school has been followed their self- developed study content. After that, the researcher observed classes, collected some documents from schools and parents about study content and also conducted focus group discussion with parents' and teachers' in special schools to prepare a model of syllabus for autistic children. Then cross-checked the information's and analyzed those

materials. The researcher found that all schools were following some skills for developing the ability of children with special needs. These are academic, behavioral and communicative, self – help, motor, social and vocational skills. Geroll. T. Scholl indicated that these skills were the developmental areas of each child. (Scholl, 2012, p.65-98). For studying the first objective, the researcher organized an observation checklist on school environment and two separate FGD questionnaires for parents’ and teachers’ (See Appendix A). On the basis of class observation, document analysis and focus group discussion the researcher designed an interview checklist (See Appendix C). This interview checklist has been used for the study of the third objective. The second objective of the study is to identify the role of special education on daily life, social life and school life of the autistic children in Bangladesh. For attaining this objective, the researcher applied case study method for collecting detail information’s about autistic children. For this reason, the researcher designed a questionnaire (See Appendix B). This questionnaire is an open-ended question. Twenty questions have been selected for collecting parents’ and teachers’ opinion with cross check the information.

The third objective of the study is assessing the effect of special education for children with autism by making a comparison between two groups. This checklist has three parts. There were five alternative answers for each item. These are daily life skills, social skills and academic skills. Daily life skills have three sections. The first is the behavioral or communicative skill, the second is the life management skill, and the third is the gross motor skill. Thirty nine items include behavioral or communicative skills, nineteen items include life management skills, and thirteen items include gross motor skills. Social skills have no section. There are eighteen items in social skills. Academic skills have three sections. The first is the literacy skill and the second is fine motor skill and the third is vocational skill. There are fifty two items in literacy skills,

there are eleven items in fine motor skills and there are nineteen items in vocational skills. The question pattern of vocational skill was closed ended and the respondents selected which things their children chose or liked to do. For measuring the severity levels (borderline, mild and moderate) of these children; the researcher collected a behavioral checklist from Khan, (2003, p.161), (See Appendix F). There are thirty three items in the checklist. There were five alternative answers for each item. It was resolved that score 34-50 was the moderate, and 51-66 was the mild and 67-83 was the borderline level. In addition, the researcher organized an interview schedule (See Appendix D) and Focus Group Discussion (FGD) questionnaires (See Appendix E). This schedule was organized only for parents' to collect data of those children who are taking special education. Another one was for teachers' who were teaching only autistic children. There were thirteen questions for parents' and ten questions for teachers'. Both the interview schedule and FGD questionnaire were descriptive and open ended. After collecting the behavioral checklist and developing the interview schedule, the researcher went to every school with the tools. For the purpose of taking parents' interview, the researcher collected their contact numbers and addresses from each school. Then the researcher contacted them individually and fixed a date of interview according to their availability explaining the purpose of the interview. When they gave time, the researcher arranged an interview individually and collected data. Before the session researcher built up a rapport with the respondents so that they could share information spontaneously. The researcher took up the same process for collecting data from not taken special education students. The interview process was flexible and the participants could review or change any part of their interview at any time. The duration of each interview session was 30 to 50 minutes. For the purpose of taking teachers' interview, the researcher went to each

school. The researcher also took up the same process for collecting data from them. The duration of each interview session was 20 to 30 minutes. The medium of the interview was Bengali.

Chapter 4

Analysis and Interpretation

Data obtained from the empirical study through different methods are analyzed and presented in this chapter. Data are accumulated to delve in this research about the impact of special education on children with autism in Bangladesh. The data have been collected mainly through interview checklists and interview schedules and observation involving students, teachers and parents. The interview checklists and interview schedules have been organized to collect data from teachers and parents. The gathered data are analyzed and the major results and findings are presented below:

The main characteristics of the classrooms in the observed schools are shown in Table 4.

Items	Characteristics	Comments
Classroom decoration	Well decorated Not decorated	2 3
Seating arrangement	U shape V shape Circle Rectangle Column Others	3 5
Teacher-Student ratio	1:1 $\geq 1:5$ $\geq 1:10$ $\geq 1:15$ $\geq 1:20$ $\leq 1:20$	1 2 2
Teacher –Student interaction	Friendly Not friendly	5
Curriculum followed	NCTB primary curriculum School’s own curriculum Both NCTB and own curriculum Others	5
Textbook Used	NCTB Textbook Other textbook NCTB and other Textbook	5
Teaching methods	Lecture Behavioral modification Applied Behavior Analysis Activity based Individual and group	5 5 5
IEP	Yes No	5
Lesson plan	Yes No	5
Teaching aids	Pictorial Real object Both real object and pictorial None	5
Skill development area	Academic skills Behavior and Communication skills Self-help skills Social skills Gross and Fine motor skills Vocational skills	5 5 5 5 5 5
Yearly Evaluation	Own format According to IEP No specific Method	5
Classroom Evaluation	Daily Weekly	5

Table 04: Observation checklist of school environments.

The above mentioned table depicts the observation of the researcher about school environments. Two of the five schools were found with decorated classrooms; U shape and V shape seating arrangement were not followed in the schools but they followed circles and rectangles seating arrangement. Schools differ in teacher-student ratio; the ratio of school V was $\geq 1:5$, W and Z were $\geq 1:10$ and X and Y were $\geq 1:15$. Friendly interaction was presented in every school; and the schools also showed similarity in teaching techniques. They used behavior modification to reduce negative behaviors; though schools V, X and Z used ABA. All schools used NCTB provided textbooks. Every school prepared IEP for each child. They did not prepare any lesson plan. Every school followed self-developed study contents and six types of skills were mainly included in the study contents, i.e. academic, behavioral and communicational, self-help, social, gross and fine motor and vocational skills. Daily and yearly classroom evaluations were made through IEPs (See discussion later).

Number of question	Statements of parents.
1. How did they diagnose their children?	<p>[According to 100% (40 out of 40) parents have said]</p> <ul style="list-style-type: none"> • All children were identified and labeled by the doctors and the pediatrics.
2. How did they inform to get admitted their children in special schools?	<ul style="list-style-type: none"> • Most of the parents informed from the doctors and the pediatrics. [According to 50% (20 out of 40) parents] • Few parents got the information from other parents. [According to 30% (12 out of 40) parents] • Few parents informed from other sources i.e. neighbors, relatives, friends etc. [According to 20% (8 out of 40) parents]

Table 05: Parents' response on diagnostic procedure and school admission.

The above mentioned table shows the opinion of parents. Forty parents gave these comments about their children. Parents informed that when they noticed that their children lacked normal growth and development they brought their children to the pediatrics. The pediatrics identified and labeled them autistic and suggested to get them admitted in a special school.

Number of question	Statements of parents and teachers.
1. How did they screen these children?	<p>[According to 100%(27 out of 27) teachers]</p> <ul style="list-style-type: none"> • All children were screened and labeled by the doctors and the pediatrics. • After admission teachers observed them at least for two weeks then they prepared IEPs for them.
2. How did they admit these children?	<p>[According to 100% (27 out of 27) teachers]</p> <ul style="list-style-type: none"> • Did not fix time for admission and did not have specific number of seats. So, students could take admission through the whole year.

Table 06: Teachers' response on diagnostic procedure and school admission.

The above mentioned table exposes the comments of the teachers about school admission and diagnosis procedure. Twenty seven teachers gave these comments. The schools have not been able to follow any standardized screening system for autistic children as, in Bangladesh there is no unified screening system. Even, they did not have any fix timetable for admission like general education system.

Behavior and communicative skills included in thirty nine items. There were five alternative answers for each item. These items were- how to respond with stimulus of vision, hearing and

physical, call of his/her name, exchange the feeling of greeting and laughing, express the feeling of joy and sadness, playing and mixing with others, sharing food and other things, ability of doing group works, attentiveness, following instructions, keeping patience, dressing everyday experiences etc. Teachers informed that after acquiring special education most of them could respond with stimulus of vision, hearing and physical, respond to the call of his or her name, exchange the feeling of greeting and laughing, express the feeling of joy and sadness, follow the rules of instructions but very few children also could not acquire the proficiency of playing and mixing or associating with others, sharing food and other things, doing group works, inattentiveness, lack of keeping patience and other activities. Parents also supported the view that after receiving special education their children were improving day by day gradually but the development was very slow. The researcher also found the same result from the scores below.

Age Limits	Number of Respondents	Scores of Taken Special Education	Number of Respondents	Scores of Not taken Special Education
6 to 12 th years old	1	157.0	1	72.0
	2	101.0	2	79.0
	3	142.0	3	70.0
	4	99.0	4	79.0
	5	177.0 (H.S)	5	50.0
	6	130.0	6	64.0
	7	105.0	7	50.0
	8	149.0	8	54.0
	9	68.0	9	59.0
	10	102.0	10	93.0
	11	105.0	11	74.0
	12	86.0	12	82.0
	13	83.0	13	73.0
	14	46.0	14	50.0
	15	87.0	15	78.0
	16	56.0	16	68.0
	17	70.0	17	63.0
	18	57.0	18	51.0
	19	54.0	19	50.0
	20	45.0 ((L.S)	20	40.0(L.S)
13 th to above 13 th years old	21	75.0	21	57.0
	22	105.0	22	93.0 (H.S)
	23	101.0	23	56.0
	24	76.0	24	70.0
	25	54.0	25	71.0
	26	141.0	26	79.0
	27	101.0	27	75.0
	28	115.0	28	71.0
	29	110.0	29	78.0
	30	121.0	30	73.0
	31	128.0	31	60.0
	32	84.0	32	77.0
	33	46.0	33	64.0
	34	66.0	34	92.0
	35	67.0	35	59.0
	36	63.0	36	55.0
	37	99.0	37	70.0
	38	59.0	38	69.0
	39	57.0	39	60.0
	40	75.0	40	94.0

Table 07: Scores of behavior and communicative skills according to the age (6 to above 13) year's children.

Aforementioned table shows scores on behavior and communicative skills between two groups. One of them has taken special education and the other group has not gone to a special school. The age limit of the respondents was 6 to above 13 years. Among the 80 (40+40) respondents, the age limit of the first 40 respondents were 6 to 12 years and left respondents were in the age group of 13 to above 13 years. The table shows that the scores of special education, taken group is higher than the scores of not taken group. It indicates that special education taken group achieved betterment than not taken group. The highest scores of taken group is 177 and lowest is 45. On the other hand, the highest scores of not taken group is 93 and lowest is 40.

Category	Number	Mean	95% Confidence Interval of the Difference		t	Sig.(2-tailed)
			Lower	Upper		
Taken special education	20	95.9500	12.96506	49.03494	3.598	.002
Not taken special education	20	64.9500				

Table 08: Mean and t- test of behavior and communicative skills for (6 to 12) years' children.

The mean score of special education taken group is 95.950 and not taken group is 64.950. It clearly indicates the better performance in behavior and communicative areas of the first group. The t score of the groups is 3.598 at 95% level of significant. The score is significant (0.002) which means significant differences between special education taken and not taken groups for developing behavior and communicative skills.

Category	Number	Mean	95%Confidence Interval of the Difference		t	Sig.(2-tailed)
			Lower	Upper		
Taken special education	20	87.1500	3.02912	28.97088	2.582	.018
Not taken special education	20	71.1500				

Table 09: Mean and t- test of behavior and communicative skills for (13 to 13⁺) years' children.

The mean score of special education taken group is 87.150 and not taken group is 71.150. It indicates that special education taken group has in average done better than the not taken group. The score of t- test is 2.582 at 95% level of significant which means there is a significant difference (0.018) between the two groups for improving behavior and communicative skills of children with autism.

Category	Number	Mean	95%Confidence Interval of the Difference		t	Sig. (2-tailed)
			Lower	Upper		
Taken special education	40	91.5500	12.62941	34.37059	4.373	.000
Not taken special education	40	68.0500				

Table 10: Mean and t- test of behavior and communicative skills for (6 to 13⁺) years' children.

The mean score of special education taken group is 91.550 and not taken group is 68.050. It clearly depicts that those who got special education at early age or older age, both groups got better results than not taken special education children in behavior and communicative skills.

The t score of the groups is 4.373 at 95% level of significant. The score is highly significant (0.000) which means significant difference between two groups in this area.

Nineteen items included in life management skills. There were five alternative answers for each item. For teaching life management skills, these items are included. These were expressing the daily needs of hungering, capacity of toileting, liking, awareness of his/her own cleanliness about washing, hands- mouth, brushing teeth, bathing, arranging hair and clothes, wearing on and off clothes, washing clothes and utensil, cleaning room and table, chair, cooking food, serving food, using family instruments (door, window, lock the key, switch on and off etc). Teachers informed that after receiving special education most of them can acquire the efficiency of toilet training, washing hands and face, brushing teeth, self-feeding, arranging hair, wearing on clothes and taking bath but cannot arrange clothes and bed, wearing off clothes, washing clothes and utensil, cleaning table-chair, cooking of easy food, serving food, cleaning room and using family instruments (door, window, lock the key, switch on and off etc.). These were very difficult to do for them. Parents also agreed that before taking special education their children cannot improve this skill. Self-help skill is very important for doing daily activities. From class room observation, the researcher saw that most of the children were able to do expressing the needs of hungering, washing hands and face, brushing teeth, self-feeding, own self of toileting, but all of them did not do properly these activities i.e., arranging hair, wearing on and off clothes, bathing and other activities. The researcher also found the same result from the scores below.

Age Limits	Number of Respondents	Scores of Taken Special Education	Number of Respondents	Scores of Not taken Special Education
6 to 12th years old	1	64.0	1	59.0 (H.S)
	2	56.0	2	39.0
	3	64.0	3	49.0
	4	43.0	4	34.0
	5	85.0	5	22.0
	6	86.0 (H.S)	6	19.0 (L.S)
	7	53.0	7	39.0
	8	55.0	8	33.0
	9	55.0	9	22.0
	10	47.0	10	25.0
	11	47.0	11	30.0
	12	25.0 (L.S)	12	39.0
	13	83.0	13	24.0
	14	46.0	14	32.0
	15	25.0	15	40.0
	16	29.0	16	25.0
	17	39.0	17	21.0
	18	32.0	18	37.0
	19	31.0	19	30.0
	20	30.0	20	25.0
13th and above 13th years old	21	26.0	21	40.0
	22	51.0	22	23.0
	23	61.0	23	41.0
	24	43.0	24	42.0
	25	59.0	25	50.0
	26	73.0	26	34.0
	27	55.0	27	33.0
	28	64.0	28	49.0
	29	54.0	29	59.0
	30	69.0	30	24.0
	31	67.0	31	25.0
	32	25.0	32	21.0
	33	35.0	33	31.0
	34	65.0	34	30.0
	35	56.0	35	32.0
	36	50.0	36	34.0
	37	49.0	37	35.0
	38	30.0	38	29.0
	39	32.0	39	25.0
	40	36.0	40	40.0

Table 11: Scores of life management skills according to the age (6 to 13⁺) years' children.

Aforementioned table shows scores on life management skills between two groups. One of them has taken special education and another group has not gone to a special school. The age limit of the respondents was 6 to 13⁺ years. Among the 80 (40+40) respondents, the age limit of the first 40 respondents were 6 to 12 years and left respondents were in the age group of 13 to above 13 years. The table shows that the scores of special education, taken group is higher than the scores of not taken group. It implies that special education taken group achieved betterment than not taken group. The highest scores of taken group is 86 and lowest is 25. On the other hand, the highest scores of not taken group is 59 and lowest is 19.

Category	Number	Mean	95% Confidence Interval of the Difference		t	Sig. (2-tailed)
			Lower	Upper		
Taken special education	20	49.7500	6.84045	28.25955	3.430	.003
Not taken special education	20	32.20				

Table 12: Mean and t- test of life management skills for (6 to 12) years' children.

The mean score of special education taken group is 49.750 and not taken group is 32.20. It clearly represents the better performance in this area of the first group. The t score of the groups is 3.430 at 95% level of significant. The score is significant (0.003) which means special education is helpful for developing life management skills.

Category	Number	Mean	95%Confidence Interval of the Difference		t	Sig. (2-tailed)
			Lower	Upper		
Taken special education	20	50.0000	7.35806	22.94194	4.070	.001
Not taken special education	20	34.8500				

Table 13: Mean and t- test of life management skills for (13 to 13⁺) years' children.

The mean score of special education taken group is 50.000 and not taken group is 34.850. It reveals that special education taken group has average done better than the not taken group. The score of t- test is 4.070 at 95% level of significant which means there is a significant difference (0.001) between the two groups for improving life management skills of children with autism.

Category	Number	Mean	95%Confidence Interval of the Difference		t	Sig. (2-tailed)
			Lower	Upper		
Taken special education	40	49.8750	10.02106	22.67894	5.225	.000
Not taken special education	40	33.52				

Table14: Mean and t- test of life management skills for (6 to 13⁺) years' children.

The mean score of special education taken group is 49.875 and not taken group is 33.52. It clearly depicts that those who have received special education at early age or older age, both groups got better results than not taken special education children in life management skills. The

t score of the groups is 5.225 at 95% level of significant. The score is highly significant (0.000) which means there is a significant difference between two groups in this area.

Thirteen items included in gross motor skills. There were five alternative answers for each item. For increasing the performance of gross motor skills these items are included. These were- the ability of moving parts of body (hands, legs, neck, head etc) running, jumping, sitting, walking, standing, crossing road and obstacle etc. Teachers informed that most of the children did not face many problems in gross motor skills because their body movement was normal but few children faced a little problem in this skill. The researcher found that those who did not receive special education they also recovered than received special education children in gross motor skills.

The reason of this was they were able to do normal movement of body. So, did not many differences between two groups. Those who faced many problems for them therapy was very essential. After taking therapy and training, the problems of gross motor skills were decreasing gradually. Games and sports were helpful to develop the skills. Parents' also supported these. The researcher also found the same result from the scores below.

Age Limits	Number of Respondents	Scores of Taken Special Education	Number of Respondents	Scores of Not taken Special Education
6 to 12 th years old	1	57.0	1	59.0
	2	65.0 (H.S)	2	65.0 (H.S)
	3	65.0	3	65.0
	4	65.0	4	65.0
	5	53.0	5	41.0
	6	65.0	6	51.0
	7	65.0	7	65.0
	8	48.0	8	45.0
	9	64.0	9	65.0
	10	44.0	10	65.0
	11	65.0	11	57.0
	12	58.0	12	65.0
	13	60.0	13	33.0 (L.S)
	14	57.0	14	63.0
	15	61.0	15	51.0
	16	52.0	16	65.0
	17	46.0	17	65.0
	18	63.0	18	65.0
	19	63.0	19	65.0
	20	40.0	20	44.0
13 th to above 13 th years old	21	35.0 (L.S)	21	57.0
	22	49.0	22	65.0
	23	63.0	23	59.0
	24	65.0	24	60.0
	25	57.0	25	60.0
	26	55.0	26	62.0
	27	57.0	27	63.0
	28	65.0	28	57.0
	29	65.0	29	60.0
	30	55.0	30	50.0
	31	55.0	31	61.0
	32	57.0	32	64.0
	33	57.0	33	63.0
	34	65.0	34	60.0
	35	62.0	35	62.0
	36	60.0	36	57.0
	37	62.0	37	59.0
	38	44.0	38	60.0
	39	60.0	39	60.0
	40	63.0	40	62.0

Table 15: Scores of gross motor skills according to the age (6 to 13⁺) years' children.

Aforementioned table shows scores on gross motor skills between two groups. One of them has taken special education and the other group has not gone to a special school. The age limit of the respondents was 6 to 13⁺ years. Among the 80 (40+40) respondents, the age limit of the first 40 respondents were 6 to 12 years and left respondents were in the age group of 13 to above 13 years. The table shows that the scores of both groups are similar. It indicates that special education cannot little affect in gross motor skills. The reason of this is that they are able to do normal movement of body. So, do not many differences between two groups. The highest scores of both groups are 65 and the lowest score of taken group is 35. On the other hand, the lowest score of not taken group is 33.

Category	Number	Mean	95%Confidence Interval of the Difference		t	Sig. (2-tailed)
			Lower	Upper		
Taken special education	20	57.8000	-5.32891	5.02891	-.061	.952
Not taken special education	20	57.9500				

Table 16: Mean and t- test of gross motor skills for (6 to 12) years' children.

The mean score of special education taken group is 57.800 and not taken group is 57.950. It clearly indicates taken group did not better performance in gross motor areas than the not taken group. The t score of the groups is -0.061 at 95% level of significant. The score is not significant (0.952) which means there is no significant difference between special education taken and not taken groups according to age.

Category	Number	Mean	95%Confidence Interval of the Difference		t	Sig. (2-tailed)
			Lower	Upper		
Taken special education	20	58.74	-4.85281	1.90544	-.916	.372
Not taken special education	20	60.2105				

Table 17: Mean and t- test of gross motor skills for (13 to 13⁺) years' children.

The mean score of special education taken group is 58.74 and not taken group is 60.210. It indicates that special education taken group has not average done better than the not taken group. The score of t- test is -.916 at 95% level of significant which means there is no significant difference (0.372) between the two groups for improving this skill.

Category	Number	Mean	95%Confidence Interval of the Difference		t	Sig. (2-tailed)
			Lower	Upper		
Taken special education	40	57.6750	-4.42605	1.77605	-.864	.393
Not taken special education	40	59.0000				

Table 18: Mean and t- test of gross motor skills for (6 to 13⁺) years' children.

The mean score of special education taken group is 57.675 and not taken group is 59.000. It clearly depicts that those who received special education at early age or older age, both groups did not get better results than not taken special education children in gross motor skills. The t-

score of the groups is -.864 at 95% level of significant. The score is insignificant (0.393) which means there is no significant difference between two groups in this area.

There were eighteen items in social skills and five alternative answers for each item. These items were- the ability of playing dolls, balls, cricket, badminton, logo, puzzle, ludu, computer games, making toys with papers, watching programs of TV, reciting poems, singing, dancing, scouting, gardening, playing and sharing opinion with others etc. Teachers informed that those who have taken special education most of them can play with others, sharing his or her opinion with others but acquiring the ability of solving puzzle, reciting poems, singing, dancing, skating, gardening are very difficult to do for them. Both teachers and parents were agreed that participation of social programs and activities are helpful to be more socialized. The researcher also found the same result from the scores below.

Age Limits	Number of Respondents	Scores of Taken Special Education	Number of Respondents	Scores of Not taken Special Education
6 to 12 th years old	1	51.0	1	48.0
	2	27.0	2	48.0
	3	45.0	3	52.0 (H.S)
	4	38.0	4	40.0
	5	62.0	5	19.0 (L.S)
	6	83.0 (H.S)	6	25.0
	7	39.0	7	25.0
	8	51.0	8	23.0
	9	41.0	9	22.0
	10	21.0	10	27.0
	11	34.0	11	19.0
	12	43.0	12	32.0
	13	41.0	13	35.0
	14	24.0	14	32.0
	15	30.0	15	26.0
	16	20.0 (L.S)	16	19.0
	17	28.0	17	23.0
	18	23.0	18	23.0
	19	31.0	19	29.0
	20	24.0	20	20.0
13 th to above 13 th years old	21	27.0	21	36.0
	22	40.0	22	23.0
	23	36.0	23	35.0
	24	38.0	24	52.0
	25	31.0	25	52.0
	26	44.0	26	49.0
	27	47.0	27	40.0
	28	55.0	28	35.0
	29	56.0	29	49.0
	30	46.0	30	34.0
	31	46.0	31	28.0
	32	36.0	32	24.0
	33	21.0	33	29.0
	34	32.0	34	24.0
	35	33.0	35	26.0
	36	21.0	36	21.0
	37	20.0	37	20.0
	38	20.0	38	24.0
	39	22.0	39	28.0
	40	31.0	40	33.0

Table 19: Scores of social skills according to the age (6 to 13⁺) years' children.

Aforementioned table shows scores on social skills between two groups. One of them has taken special education and another group has not gone to a special school. The age limit of the respondents was 6 to 13⁺ years. Among the 80 (40+40) respondents, the age limit of the first 40 respondents were 6 to 12 years and left respondents were in the age group of 13 to above 13 years. The table shows that the scores of special education, taken group is higher than the scores of not taken group. It depicts that special education taken group got a better result than not taken group. The highest scores of taken group is 83 and lowest is 20. On the other hand, the highest scores of not taken group is 52 and lowest is 19.

Category	Number	Mean	95% Confidence Interval of the Difference		t	Sig. (2-tailed)
			Lower	Upper		
Taken special education	20	37.8000	.01415	16.88585	2.097	.050
Not taken special education	20	29.3500				

Table 20: Mean and t- test of social skills for (6 to 12) years' children.

The mean score of special education taken group is 37.800 and not taken group is 29.350. It clearly indicates that those who received special education did better than the children who did not receive special education. The t- score of the groups is 2.097 at 95% level of significant. The score is significant (0. 050) which means special education is helpful for developing social skills.

Category	Number	Mean	95%Confidence Interval of the Difference		t	Sig. (2-tailed)
			Lower	Upper		
Taken special education	20	35.1000	-3.14480	7.14480	.814	.426
Not taken special education	20	33.1000				

Table 21: Mean and t- test of social skills for (13 to 13⁺) years' children.

The mean score of special education taken group is 35.100 and not taken group is 33.100. It indicates that those respondents who have taken special education at older age they also became better than those respondents who have not taken special education but very few differences between two groups in this skill. The score of t- test is .814 at 95% level of significant which means there is no significant difference (0. 426) between the two groups in this area.

Category	Number	Mean	95%Confidence Interval of the Difference		t	Sig. (2-tailed)
			Lower	Upper		
Taken special education	40	36.4500	.39780	10.05220	2.189	.035
Not taken special education	40	31.2250				

Table 22: Mean and t- test of social skills for (6 to 13⁺) years' children.

The mean score of special education taken group is 36.450 and not taken group is 31.225. It clearly depicts that those who received special education at early age or older age, both groups got better results than not taken special education children in social skills. The t-score of the

groups is 2.189 at 95% level of significant. The score is significant (0.035) which means special education is influencing for gaining the proficiency of social skills.

There were fifty two items and five alternative answers in the literacy skills. These items were- how to identify the letters, reading and writing the letters, numbering and making words, joint words, sentence making, reading and writing paragraphs in books and other materials, writing ability of paragraphs, letters and short compositions, conception of measuring and numbering (0-9), conception of counting (1-100), multiplication tables above to addition, subtraction, multiplication and deviation, ability of identifying and telling the time of day (day, night, morning, noon, afternoon, evening), telling time according to the clock, telling date according to the calendar, telling name of the day of week, months, seasons and year, indentifying different values of money, shopping according to calculation of money, short calculation etc. Teachers' informed that those who were receiving special education most of them only can identify and write alphabet and numerical numbers but cannot read. Very few children can write joint words but cannot write paragraphs, letters, short compositions, addition and subtraction, multiplication and deviation, identifying and saying period of the day (day, night, morning, noon, afternoon and evening), saying time according with the watch or clock, the name of week, months, seasons and years, the date according with the calendar, identifying different values of money, shopping according to calculation of money, short calculation. These were very difficult to learn for them. Parents' agreed that before taking special education their children cannot improve this skill. The observation of the researcher was similar to both the parents' and teachers' comments. Those who have taken special education their literacy skills were progressing day by day but movement was very slow because their attention level was unsteady and scattered but if both teachers and parents try to do regular practice, their literacy skills can enhance gradually. The researcher also found the same result from the scores below.

Age Limits	Number of Respondents	Scores of Taken Special Education	Number of Respondents	Scores of Not taken Special Education
6 to 12 th years old	1	116.0	1	58.0
	2	68.0	2	53.0 (L.S)
	3	183.0	3	60.0
	4	80.0	4	57.0
	5	217.0 (H.S)	5	53.0
	6	186.0	6	53.0
	7	118.0	7	70.0 (H.S)
	8	71.0	8	53.0
	9	53.0 (L.S)	9	53.0
	10	53.0	10	53.0
	11	77.0	11	53.0
	12	127.0	12	53.0
	13	53.0	13	53.0
	14	53.0	14	53.0
	15	53.0	15	53.0
	16	53.0	16	53.0
	17	53.0	17	53.0
	18	53.0	18	53.0
	19	57.0	19	53.0
	20	53.0	20	53.0
13 th to above 13 th years old	21	53.0	21	53.0
	22	63.0	22	53.0
	23	104.0	23	53.0
	24	53.0	24	53.0
	25	53.0	25	57.0
	26	101.0	26	54.0
	27	82.0	27	59.0
	28	155.0	28	62.0
	29	55.0	29	60.0
	30	53.0	30	53.0
	31	250.0	31	53.0
	32	53.0	32	53.0
	33	53.0	33	53.0
	34	53.0	34	53.0
	35	53.0	35	53.0
	36	57.0	36	53.0
	37	70.0	37	53.0
	38	53.0	38	53.0
	39	53.0	39	53.0
	40	100.0	40	53.0

Table 23: Scores of literacy skills according to the age (6 to 13⁺) years' children.

Aforementioned table shows the scores on literacy skills between two groups. One of them has taken special education and the other group has not gone to school. The age limit of the respondents was 6 to 13⁺ years. Among the 80 (40+40) respondents, the age limit of the first 40 respondents were 6 to 12th years and left respondents were in the age group of 13 to above 13 years. The table displays that the scores of special education, taken group is higher than the scores of not taken group. It shows that special education taken group got a better result than not taken group. The highest scores of taken group is 217 and lowest is 53. On the other hand, the highest scores of not taken group is 70 and lowest is 53. It is important to note that whose score in the top is 217; this child has already gone to government primary school and those who have scores between 186 and 183 they will go to primary school in the next year. Whose score in the top is 250, the age of this child was eighteen years. She was able to read and write Bengali but was not able to read and write English and do Mathematics. So, they could not enter into mainstream school. On the contrary, those who have not taken special education their scores were very low and they could not progress in literacy skills but whose scores were 70, 60 and 57 their parents were trying to develop their literacy skills.

Category	Number	Mean	95%Confidence Interval of the Difference		t	Sig. (2-tailed)
			Lower	Upper		
Taken special education	20	88.8500	10.39990	58.00010	3.008	.007
Not taken special education	20	54.6500				

Table 24: Mean and t- test of literacy skills for (6 to 12) years' children.

The mean score of special education taken group is 88.850 and not taken group is 54.650. It clearly indicates the better performance in these areas of the first group. The t score of the groups is 3.008 at 95% level of significant. The score is significant (0.007) which means special education is helpful for developing literacy skills.

Category	Number	Mean	95%Confidence Interval of the Difference		t	Sig. (2-tailed)
			Lower	Upper		
Taken special education	20	78.3500	1.49532	46.50468	2.232	.038
Not taken special education	20	54.3500				

Table 25: Mean and t- test of literacy skills for (13 to 13⁺) years' children.

The mean score of special education taken group is 78.350 and not taken group is 54.350. It represents special education taken group has in average done better than the not taken group. The score of t- test is 2.232 at 95% level of significant which means there is a significant difference (0.038) between the two groups for improving literacy skills of children with autism.

Category	Number	Mean	95%Confidence Interval of the Difference		t	Sig. (2-tailed)
			Lower	Upper		
Taken special education	40	83.6000	13.38988	44.81012	3.747	.001
Not taken special education	40	54.5000				

Table 26: Mean and t- test of literacy skills for (6 to 13⁺) years' children.

The mean score of special education taken group is 83.600 and not taken group is 54.500. It clearly depicts that those who have received special education at early age or older age, both groups got better results than did not get the opportunity of special education in literacy skills. The t-score of the groups is 3.747 at 95% level of significant. The score is highly significant (0.001) which means there is a significant difference between two groups in this area.

There were eleven items in fine motor skills and five alternative answers of each item. These items were- the ability of sketching and drawing by chalk and pencil, writing by chalk and pencil, drawing in a particular shape, cutting paper by scissor, walking in a particular place, easy sewing etc. Teachers' informed that those who were acquiring special education they acquired the proficiency of sketching and drawing with chalk or pencil, writing with chalk or pencil and drawing in a particular shape, cutting paper with scissor, walking in a particular place and easy sewing but progress was very slow. All children were not able to do all steps at a time of fine motor skills. They were not competent to do all steps at a time. Few children were able to learn quickly and few children were able to learn slowly. Very few children were able to learn all steps. Their improvement of fine motor skills were increasing through training day by day but they did not practice regularly forgot all. So, practice is essential for them. Parents agreed that before taking special education their children could not improve this skill. The observation of the researcher was similar to both the parents' and teachers' comments and the researcher also found the same result from the scores below.

Age Limits	Number of Respondents	Scores of Taken Special Education	Number of Respondents	Scores of Not taken Special Education
6 to 12 th years old	1	27.0	1	20.0
	2	40.0	2	15.0
	3	44.0	3	13.0
	4	44.0	4	15.0
	5	51.0 (H.S)	5	16.0
	6	51.0	6	11.0 (L.S)
	7	51.0	7	11.0
	8	32.0	8	13.0
	9	36.0	9	13.0
	10	17.0	10	16.0
	11	39.0	11	19.0
	12	26.0	12	21.0
	13	16.0 (L.S)	13	29.0 (H.S)
	14	23.0	14	15.0
	15	36.0	15	12.0
	16	17.0	16	14.0
	17	27.0	17	21.0
	18	30.0	18	23.0
	19	23.0	19	20.0
	20	26.0	20	20.0
13 th to above 13 th years old	21	21.0	21	14.0
	22	44.0	22	11.0
	23	37.0	23	14.0
	24	19.0	24	14.0
	25	19.0	25	13.0
	26	17.0	26	15.0
	27	43.0	27	14.0
	28	47.0	28	13.0
	29	37.0	29	16.0
	30	23.0	30	28.0
	31	47.0	31	16.0
	32	19.0	32	21.0
	33	13.0	33	22.0
	34	19.0	34	20.0
	35	18.0	35	25.0
	36	19.0	36	13.0
	37	40.0	37	15.0
	38	18.0	38	20.0
	39	26.0	39	17.0
	40	23.0	40	22.0

Table 27: Scores of fine motor skills according to the age (6 to 13⁺) years' children.

Aforementioned table shows scores on fine motor skills between two groups. One of them has taken special education and the other group has not gone to a special school. The age limit of the respondents was 6 to 13⁺ years. Among the 80 (40+40) respondents, the age limit of the first 40 respondents were 6 to 12 years and left respondents were in the age group of 13 to above 13 years. The table exposes that the scores of special education, taken group is higher than the scores of not taken group. It indicates that special education taken group achieved betterment than not taken group. The highest scores of taken group is 51 and lowest is 16. On the other hand, the highest scores of not taken group is 29 and lowest is 11.

Category	Number	Mean	95% Confidence Interval of the Difference		t	Sig. (2-tailed)
			Lower	Upper		
Taken special education	20	32.8000	9.09433	22.80567	4.870	.000
Not taken special education	20	16.8500				

Table 28: Mean and t- test of fine motor skills for (6 to 12) years' children.

The mean score of special education taken group is 32.800 and not taken group is 16.850. It clearly indicates the better performance in fine motor areas of the first group. The t-score of the groups is 4.870 at 95% level of significant. The score is highly significant (0.000) which means special education is valuable for autistic children.

Category	Number	Mean	95%Confidence Interval of the Difference		t	Sig. (2-tailed)
			Lower	Upper		
Taken special education	20	27.4500	3.58084	17.01916	3.208	.005
Not taken special education	20	17.1500				

Table 29: Mean and t- test of fine motor skills for (13 to 13⁺) years' children.

The mean score of special education taken group is 27.450 and not taken group is 17.150. It indicates that special education taken group has in average done better than the not taken group. The score of t- test is 3.208 at 95% level of significant which means there is a significant difference (0. 005) between the two groups for increasing the efficiency of fine motor skills.

Category	Number	Mean	95%Confidence Interval of the Difference		t	Sig. (2-tailed)
			Lower	Upper		
Taken special education	40	30.1250	8.45594	17.79406	5.686	.000
Not taken special education	40	17.0000				

Table 30: Mean and t- test of fine motor skills for (6 to 13⁺) years' children.

The mean score of special education taken group is 30.125 and not taken group is 17.000. It clearly depicts that those who received special education at early age or older age, both groups got better results than did not get the opportunity of special education in fine motor skills. The t-

score of the groups is 5.686 at 95% level of significant. The score is highly significant (0.000) which means there is a significant difference between two groups in this area.

Categories of respondents	Number of Respondents	Performance of vocational skills
Taken special education	40	Six children could do this
Not taken special education	40	Nobody could do this

Table 31: Performance of vocational skills

The above mentioned table explores that among forty respondents who have taken special education; only six respondents can do any vocational activities. On the other hand, among forty respondents who have not taken special education, no one can do these. The reason of this is that their guardians did not try to take special education or any training in vocational skills anywhere. On the contrary, after taking special education all children are not able to acquire the ability of doing vocational activities. Eye contact, paying deep attention and interest and communicational ability are very much important for acquiring the ability of vocational performance. But autistic children have lower interests, lack of capacity of eye contact and they are engaged in repetitive activities. For these reasons they are unable to show any performance in vocational skills.

Functional levels of the respondents	Taken special education	Not taken special education
Borderline (67-83)	17	Nil
Mild (51- 66)	13	12
Moderate (34-50)	10	28
Total number of respondents	40	40

Table 32: Assessment of the severity levels of children with autism.

The above mentioned table presents the severity levels of children with autism. Those who received special education most of the children were in borderline, 13 were in mild and 10 were in moderate groups. On the contrary, those who did not receive special education most of them were in moderate (28), 12 were in mild groups and none was in the borderline.

Number of questions	Statements of parents
1. How did they respond when his/her name called before taking special education?	<ul style="list-style-type: none"> • Maximum children responded when called his/her name before the age of two and half or three years but after the age of three years they gave less response. [According to 77%(31 out of 40) parents] • They responded by sound but after the age of three years they gave response when they desired. [According to 95%(38 out of 40) parents]
2. How did they communicate with others in childhood?	<ul style="list-style-type: none"> • Maximum children communicated with others through sound and laughing.[According to 70%(28 out of 40) parents] • Very few children communicated with others using few words. [According to 45%(8out of 40) parents]

<p>3. How did they express their daily (hungering, toileting, and liking) necessary needs?</p>	<ul style="list-style-type: none"> • Maximum children cried when they felt hungry. [According to 90%(36 out of 40) parents] • Maximum children couldn't control the pressure of toileting. So, they did toilet anywhere. [According to 81%(32out of 40) parents] • Maximum children looked at those things they liked. [According to 95%(38 out of 40) parents] • Very few children used few words when they felt the needs of hungering, toileting and any choice.[According to 35%(14out of 40) parents]
<p>4.Which types of alertness of his/her own cleanliness(washing hands-mouth , brushing teeth, bathing, arranging hair, wearing on and off clothes etc.)?</p>	<ul style="list-style-type: none"> • Maximum children did not aware of his/her cleanliness and they couldn't do these works themselves.[According to 90%(36 out of 40) parents] • Very few children were able to do these works themselves. [According to 10%(

	4 out of 40) parents]
5. Which types of toys they liked in childhood?	<ul style="list-style-type: none"> All children liked colourful toys i.e. different types of balls, balloons, dolls, cars, etc. but didn't like logo sets, puzzle games.[According to 100%(40 out of 40) parents]
6. Have they any type of repetitive behavior?	<ul style="list-style-type: none"> All children have repetitive behavior i.e. ordinary sound, wearing particular items of clothe, unexpected noises, throwing any things at outside, playing meaningless games. [According to 100%(40 out of 40) parents]
7. How did they express the feelings of joy and sorrow?	<ul style="list-style-type: none"> Maximum children couldn't express the feelings of happiness and sadness. [According to 90%(36 out of 40) parents] Few children expressed the feeling of happiness by laughing and jumping and the feeling of sadness by crying and anger. [According to 50%(20 out of 40) parents]
8. Which types of behavior expressed when	<ul style="list-style-type: none"> All children expressed negative

they excited?	behavior at the time of excitement by throwing hands-legs and any things, jumping, crying, shouting.[According to 100% (40 out of 40) parents]
9. How did they react at the presence of guests at home?	<ul style="list-style-type: none"> • Maximum children liked guests company and were happy. [According to 85%(34 out of 40) parents] • Few children liked to stay alone. [According to 10%(4 out of 40) parents]
10. Had they eagerness for going outsides?	<ul style="list-style-type: none"> • All children liked for going outsides when they went outside they were very happy and couldn't comeback at home.[According to 100%(40 out of 40) parents]
11. Did they like mixing and playing with peer groups and which types of playing did they like?	<ul style="list-style-type: none"> • Few children didn't like the company of peer group.[According to 15%(6 out of 40) parents] • Maximum children liked the company of peer group but they couldn't interest in play with others because they couldn't understand how to play these

	<p>games. So, they liked to play alone.[According to 77%(31 out of 40) parents]</p>
12. When did they learn reading and writing?	<ul style="list-style-type: none"> • Maximum children couldn't learn reading and writing at the age of three, four or five.[According to 90%(36 out of 40) parents] • Very few children were able to learn reading and writing at correct age. [According to 10%(4 out of 40) parents]
13. Which things are important for giving special education of children with autism?	<p>[According to 100%(40 out of 40) parents have said]</p> <ul style="list-style-type: none"> • How to read and write the subjects of Bengali, English, Mathematics and others must be important. • How to reduce negative behavior and emotion, identify different values of money, estimated of money, shopping, interact with others. • How to be self-independent i.e. washing hands and face, brushing teeth,

	<p>self-feeding, bathing, toileting, arranging hair, clothes, bed and room, wearing on and off clothes, washing utensils, clothes, cooking food, cleaning table-chair, room, serving food, using family instruments (door, window, lock the key, switch on and off etc.)</p> <ul style="list-style-type: none"> • How to develop the efficiency of vocational skill for livelihood.
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Table 33: Parents' Opinion about before and after taking special education of their children.

The above mentioned table presents the opinion of the parents. Forty parents gave these comments about their children. These comments include before taking special education how many challenges their children faced and after taking special education how many improvements had their children attained. Every child faced several challenges. Besides them their family also faced these challenges. So, their parent's opinion is that special education is very much important for recovering and making their children's independency.

Number of questions	Statements of teachers
1. After receiving special education children with autism are enhanced with their academic skills. If you feel yes, why	<ul style="list-style-type: none"> ▪ Progresses of literacy skills are very slow. [According to 100%(27 out of 27) teachers]

<p>and if not, why? Please, describe it.</p>	<ul style="list-style-type: none"> ▪ Few children are able to learn reading and writing. [According to 100%(27 out of 27) teachers] ▪ Those who have not speech and could not hear and speak they learnt by writing. [According to 44%(12 out of 27) teachers] ▪ All children were not able to learn all steps of academic skills. [According to 100%(27 out of 27) teachers] ▪ They were not competent to learn all subjects at a time. Some children were able to learn only Bengali but English and Mathematics was very difficult to learn for them. [According to 63%(17 out of 27) teachers] ▪ Very few (1% or 2%) children were able to learn all subjects. [According to 74%(20 out of 27) teachers] ▪ Training increased their academic skills gradually but did not regular practice they forgot all. So, practice was essential
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	for them. [According to 85%(23out of 27) teachers]
<p>2. After receiving special education children with autism are enhanced with their behavior and communicative skills. If you feel yes, why and if not, why? Please, describe it.</p>	<ul style="list-style-type: none"> ▪ Progresses of behavior and communicative skills were very slow but after taking special education they were able to communicate with others through using language and other techniques. [According to 100%(27 out of 27) teachers] ▪ They were able to control negative emotion and learnt to be socialized. [According to 59%(16 out of 27) teachers] ▪ All children were not able to learn all steps of behavioral and communicative skills. [According to 100%(27 out of 27) teachers] ▪ They were not competent to learn all steps at a time. Some children were able to learn quickly and some children were able to learn slowly but control of negative emotion and behavior were very

	<p>difficult to learn for them. [According to 85%(23 out of 27) teachers]</p> <ul style="list-style-type: none"> ▪ Few children were able to learn all steps. [According to 100%(27 out of 27) teachers] ▪ Training increased their behavioral and communicative skills day by day but if they did not regular practice they forgot all. So, practice was essential for them. [According to 100%(27 out of 27) teachers]
<p>3. After receiving special education children with autism are enhanced with their life management skills. If you feel yes, why and if not, why? Please, describe it.</p>	<ul style="list-style-type: none"> ▪ Progresses of life management skills were very slow but after taking special education they were able to do completing daily activities for themselves through using many other techniques. [According to 100%(27 out of 27) teachers] ▪ Verbal prompt was very important for developing this skill. [According to 85%(23 out of 27) teachers] ▪ All children were not able to learn all

	<p>steps of life management skills.</p> <p>[According to 92%(25 out of 27) teachers]</p> <ul style="list-style-type: none"> ▪ They were not competent to learn all steps at a time. Some children were able to learn quickly and some children were able to learn slowly. [According to 77%(21 out of 27) teachers] ▪ Very few children were able to learn all steps. [According to 85%(23 out of 27) teachers] ▪ Training increased their life management skills day by day but if they did not regular practice they forgot all. So, practice was essential for them. [According to 100%(27 out of 27) teachers]
<p>4. After receiving special education children with autism are enhanced their gross motor skills. If you feel yes, why and if not, why? Please, describe it.</p>	<ul style="list-style-type: none"> ▪ Maximum children did not face many problems in gross motor skills because their body movement was normal but few children have faced a little problem in

	<p>this skill. [According to 100%(27 out of 27) teachers]</p> <ul style="list-style-type: none"> ▪ Therapy is very essential for developing gross motor skills. [According to 89%(24 out of 27) teachers] • After taking therapy and training, the problems of gross motor skills decreased. [According to 63%(17 out of 27) teachers] ▪ Games and sports are helpful to develop this skill. [According to 55%(15 out of 27) teachers]
<p>5. After receiving special education children with autism are enhanced their fine motor skills. If you feel yes, why and if not, why? Please, describe it.</p>	<ul style="list-style-type: none"> ▪ Progresses of fine motor skills were very slow but after taking special education they were able to do the activities of this skill by using many other techniques. [According to 100%(27 out of 27) teachers] ▪ All children were not able to do all steps of fine motor skills. [According to 100%(27 out of 27) teachers] ▪ They were not competent to do all steps

	<p>at a time. Few children were able to learn quickly and few children were able to learn slowly. [According to 100%(27 out of 27) teachers]</p> <ul style="list-style-type: none"> ▪ Very few children wear able to learn all steps. [According to 89%(24 out of 27) teachers] ▪ Training increased their fine motor skills day by day but if they did not regular practice they forgot all. So, practice is essential for them. [According to 100%(27 out of 27) teachers]
<p>6. After receiving special education children with autism are enhanced their social skills. If you feel yes, why and if not, why? Please, describe it.</p>	<ul style="list-style-type: none"> ▪ Progresses of social skills were very slow but after taking special education they were able to do the activities of this skill by using many other techniques. [According to 100%(27 out of 27) teachers] ▪ All children were not able to do all steps in social skills. [According to 89%(24 out of 27) teachers] ▪ They were not competent to do all steps

	<p>at a time. Few children were able to learn quickly and few children were able to learn slowly. [According to 100%(27 out of 27) teachers]</p> <ul style="list-style-type: none"> ▪ Very few children were able to learn all steps. [According to 77%(21 out of 27) teachers] ▪ Training increased their social skills day by day but if they did not regular practice they forgot all. So, practice is essential for them. [According to 100%(27out of 27) teachers] ▪ Participation of social programs and activities are helpful to be socialized. [According to 81%(22 out of 27) teachers]
<p>7. After receiving special education children with autism are enhanced their vocational skills. If you feel yes, why and if not, why? Please, describe it.</p>	<ul style="list-style-type: none"> ▪ Vocational skill is essential for livelihood. It is created opportunity for doing job in different sectors. [According to 100%(27 out of 27) teachers]

	<ul style="list-style-type: none"> ▪ All children were not able to do it but few children were able to do by training and practice. For this reason, it was important to identify their interest which things did they like. [According to 100%(27out of 27) teachers] ▪ As, their functional level is not normal so they make that commodities these finishing were not perfect. When for selling these commodities, they could not get good prices.[According to 100%(27 out of 27) teachers] ▪ For doing vocational work eye contact and communication with others are essential. [According to 100%(27 out of 27) teachers]
8. Which classes are more attractive of them and which classes are not more attractive of them?	<ul style="list-style-type: none"> ▪ Maximum children liked music, dancing, drawing, rhymes and sensory classes. [According to 100%(27 out of 27) teachers]

	<ul style="list-style-type: none"> ▪ Maximum children were not interested reading, writing and vocational classes[According to 100%(27 out of 27) teachers] ▪ Most of the children were interested in games classes. [According to 85%(23 out of 27) teachers]
9. For teaching which methods and techniques try to follow in classroom?	<ul style="list-style-type: none"> ▪ Teachers try to follow these teaching methods i.e. ABA (Applied Behavior Analysis), PECS (Picture Exchange Communication System), Art therapy, Music therapy .Verbal Prompt etc.
10. Which types of facilities are needed for enhancing quality education in special school?	<ul style="list-style-type: none"> ▪ Every school has to set up a separate sensory room, a gymnasium and a canteen. [According to 89%(24 out of 27) teachers] ▪ Each school has to recruit a speech therapist, physiotherapist and psychologist. [According to 55%(15 out of 27) teachers]

	<ul style="list-style-type: none"> ▪ For staying trained teachers in school have to deliver sufficient salary.[According to 100%(27 out of 27) teachers] ▪ Continues professional developing training should be arranged for developing teachers' proficiency. [According to 100%(27 out of 27) teachers]
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Table -34: teachers' opinion of special education on autistic children.

The above mentioned table discusses the comments of the teachers of special education for children with autism. Twenty seven teachers gave these comments about special education. In special education, the teachers try to apply many teaching techniques for developing these skills. So, students are benefitted from it. When they took special education, these skills developed but as they did not practice regularly at home they forgot it. So, exercise and parents' attention are essential for developing all skills. None was able to adopt all steps of all skills at a time. Somebody could adopt an skill quickly and somebody could adopt an skill slowly. Both teachers and parents agreed that for developing all these skills there is the need of teachers' and parents' co-operation and regular practice. So, participation and co operation of family members are also very important for the improving of children with autism.

Chapter 5

Findings and Discussion

For conducting the study, the researcher has applied different tools of data collection and then cross- checked the information and thematically discusses these in this chapter.

5.1. Study Contents Used in Special Education for Autistic Children

For the purpose of the study, the researcher has visited many special schools of Rajshahi city and Dhaka city where the autistic children are studying. The researcher had started school visiting for collecting data about the school environment, diagnosis of severity of autistic children, admission procedure, study contents, examination and evaluation system, teaching techniques as these are the parts of a curriculum of autistic children. So, these items are given priority to review the study contents. The researcher found that Bangladesh does not have any unified national curriculum of special education. Every school follows their self-developed study contents. The researcher also observed the classes, collected some documents from schools and parents of autistic children. The researcher conducted Focus Group Discussion (FGD) with teachers in special schools and found that some skills had common for all schools for developing the ability of special needs group among the autistic children. It is important to note that, special education curriculum for autistic children should be different from general education curriculum as the autistic students have different learning needs. As Bangladesh does not have a unified curriculum for special education, different special schools are following their self-developed study contents. The study attempts to review these study contents used in different special schools for autistic children. Identifying the study areas, it also aims to analyze the effectiveness of those study contents to fulfill the special learning needs of the autistic students.

5.1.1. School Environment of Autistic Students

School is one of the most valuable parts of human life cycle; autistic children and other special needs children are not an exception. It is found that school is their favorite place; they love to come and stay at school. The researcher also found that the classrooms of two schools among five schools were decorated with teaching aids like colorful charts, pictures and posters. Even, one room of every school was covered with mats; these rooms were used for vocational training. The rooms of three schools were furnished with desks; which were arranged in circles. Teachers informed the researcher that sometimes they arrange the desks in rectangular shape to bring variation. All classrooms of the school were furnished with big tables surrounded by many chairs. Sometimes, teachers change the seating arrangement for giving a new look. Schools differ in teacher-student ratio; the ratio of school V was $\geq 1:5$, W and Z were $\geq 1:10$ and X and Y were $\geq 1:15$. Friendly interaction was found in every school; and the schools also showed similarity in teaching techniques. They used the behavior modification approach to reduce negative behaviors; besides schools V, X and Z used Applied Behavior Analysis (ABA) techniques to guide their teaching-learning activities (See table 3).

All of the five schools used NCTB provided textbooks. They also use other supportive books. Every school prepares Individualized Education Plan (IEP) for each child; but the researcher was not able to judge the quality, appropriateness and proper use of these IEPs. None of the teachers of those schools prepared any lesson plan.

Though there was no unified curriculum for special education of autistic and other intellectually impaired students, every school prepared self developed study contents and included different skills in these self-developed study contents. Present study found that these schools mainly included six types of skills in the study contents, i.e. literacy, behavioral and communicative,

self-help, social, gross and fine motor and vocational skills. Daily and yearly classroom evaluations were made on the basis of IEPs.

5.1.2. Study Contents

These five special schools did not differ much in the teaching, developmental and literacy skills. Mainly, they try to teach several items in literacy skills like reading, writing and arithmetic. Some behavioral and self-help skills are also taught. The study content also covers social, motor and vocational skills.

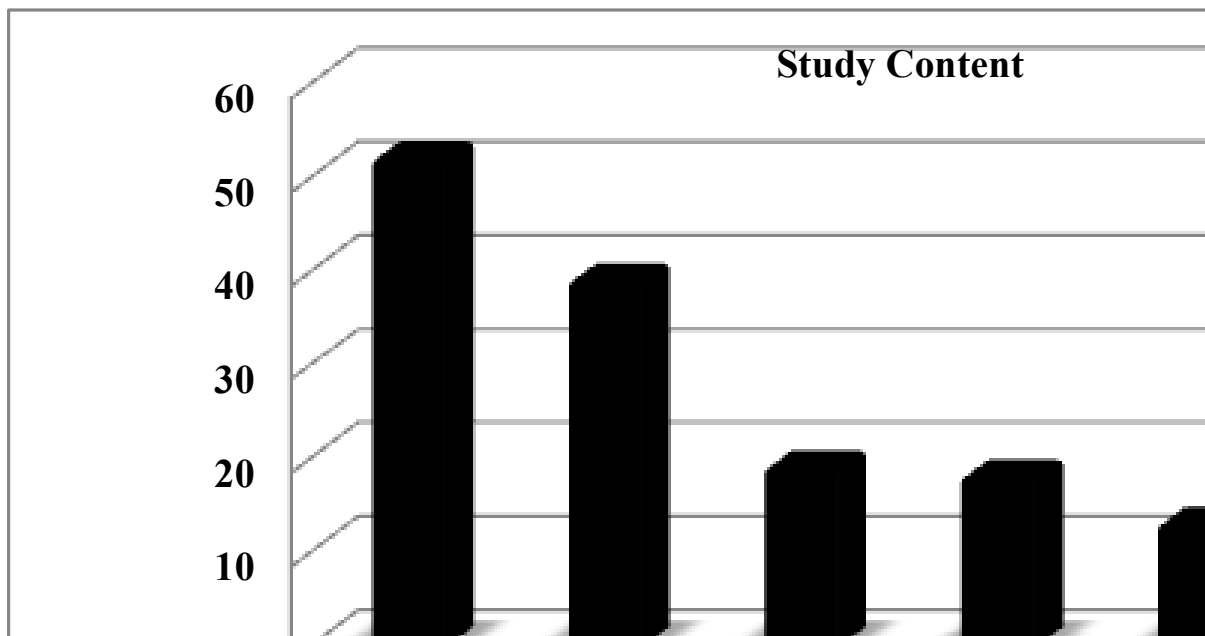


Figure 1: Average distribution of items of study content used in special schools.

Figure 1 represents the average items based on literacy skills, behavior and communicative skills, self-help, vocational skills and social skills. Very few items based on gross and fine motor skills.

The study found that the schools followed their self-developed study contents as Bangladesh does not have unified special education curriculum. Even, all the observed schools did not have a specific written syllabus. Schools arrange their classes considering the above mentioned six areas i.e. literacy, behavioral and communicative, self-help, social, gross and fine motor and vocational skills.

Literacy skills include fifty two items. First the students are taught letters, then small and simple words. Besides, they are also taught counting, easy and simple subtraction, addition, multiplication etc. As, these students cannot remember much and forget because of irregular practice, generally it was not possible to teach them big and complex words and sentences and more complex numeracy skills. Their learning was circulated in limited learning areas. Parents generally demand that their children should be taught more literacy skills; as a result schools give emphasize on teaching literacy skills and design the class routine focusing on this. One of the teachers of those schools described parents' demand like:

“As students generally go to school for academic education, parents wish to see special schools in that style. They consider this a matter of prestige. Moreover, they believe academic education will bring more benefits, which is a misconception, since most of the students cannot do much better in literacy areas and other areas are important for their own well-being.”

There are thirty- nine items in behavioral and communicative skills. This area covers expressing the feeling of joy and sorrow, playing and mixing with others, exchanging food and other things, ability of doing group work with attention, following instructions, keeping patience etc. The teachers informed that they tried to teach them for reducing negative behavior with various applied teaching techniques like ABA, PECS, and Verbal Prompt etc. The study found that

School V, X and Z used Applied Behavior Analysis (ABA) techniques for correcting negative behavior. School W and Y emphasized observation of students and tried to reduce repetitive behavior by diverting children to different activities.

Another area of concentration to develop in autistic children is self-help skills. Nineteen items covers this area. These are doing personal works without taking help of others like eating, dressing, toileting, sleeping, walking, brushing, combing, washing hands, bathing etc. Teachers informed that the progress is very slow and doing these activities depends on the level of severity of the particular student but they improve. After taking special education they become able to accomplish these daily activities by themselves. Parents also agreed with teachers. "My child is becoming more independent after starting school."- One of the interviewed parents commented like this.

Schools offer different types of games in the class routine to increase interaction among the students, which was very helpful to develop social skills of them. Both teachers and parents agreed that participation in various social activities and programs help them to become social; but outside the school they do not get such opportunity. Most of the students can play with others and share their views with their play-mates. They learn to play football, cricket, badminton, suduko, ludo, puzzles solving, play with dolls, logo, and different types of computer games. But, they mostly lack the ability of puzzles solving, suduko and other types of thought related games. Students also participate in reciting, singing, dancing, drawing skateboarding and gardening; but these also seemed very difficult for them.

In fine motor skills autistic students are taught eleven items. The teachers explained that autistic students are taught skateboarding and drawing, writing with chalk and pencil, drawing a

particular shape, cutting paper with scissor, walking in a particular place and sewing which are easy. But the progress of doing these activities are very slow. They are not competent to do all activities at a time. Moreover without regular practice they forget all. So, regular practice is essential for them.

For improving gross motor skills, schools give limited therapeutic services for autistic children. The researcher found that maximum children face few problems in gross motor skills because their body movement is normal. But few children face problem in this skill. So, schools spent few time to develop gross motor skills among them.

The study also found that the schools also spent few time to offer vocational education. Teachers mentioned that parents are not interested to spend a long time in vocational education. Most of the parents required the schools teach vocational education like computer composing, photo copy, laminating works etc. But the schools cannot provide such supports. So, parents are not so much interested to receive vocational education for their children. Vocational skills are essential for autistic, intellectually impaired and other impaired people to live independently. It creates an opportunity for engaging in works of earning money. Schools informed that they teach the students making envelopes, simple handicrafts, packaging, making things with wood and wax, ironing clothes, sewing and embroidery, block and batik printing, making mosquito coils etc. It was found from the opinion of parents and teachers that they can do very little works perfectly, as they lack in doing such works. As a result, while selling these commodities, they fail to get good prices.

The study also found that most of the classes are engaged to teach autistic students in literacy skills, then behavioral and communicative skills, self-help, and social skills. In Very few classes gross and fine motor skills and vocational skills are taught.

5.1.3. Diagnosis Procedure of Autistic Students

It is found that parents brought their children to pediatrics when they notice that their children lack normal growth and development. Pediatrics identifies and labels them as autistic and suggests admitting them in a special school. 50% parents claimed that they came to know about the school from doctors and pediatrics. 30% parents said they got information from other parents and the rest 20% mentioned about other sources like neighbors, relatives, friends etc. The parents analyzed the information and considered distance, cost and reputation of school in making their choice. It was also found that none of the five schools had any standardized screening system for children with autism and other intellectual impairment; the students are treated in the way they have been identified and labeled by doctors. The schools informed that a few Persons With Disability (PWD) organizations are working with National Forum of Organizations Working with the Disabled (NFOWD) to develop a standard screening scale.

5.1.4. Admission Procedure of School

Schooling is very effective for autistic students; if they take admission in schools, they can develop their condition and reduce their degrees of severity. (Benerjee, 2013) Considering this, many parents bring their children in special schools. Generally there was no fix time for admission and the schools did not have specific number of seats. Students can take admission through the whole year if the school can provide seating facilities. One of the five schools reported that they keep applicants in the waiting list, if a child cannot be admitted immediately. The age range of the students was found to be from 3 to 18 years.

Though the schools did not have a standardized system for determining severity of impairment and level of intelligence of children, they keep the child under observation for two weeks. The teachers try to identify their capabilities, strengths and weaknesses. Considering their capabilities

and also after talking with parents, teachers prepare an Individualized Education Plan (IEPs) for each child for 4-6 months. Teachers fix some learning outcomes in the IEPs which they try to attain in this time period, before a new IEP is prepared.

5.1.5. System of Evaluation

There is no final or terminal examination system in the special schools. The teachers informed that each student has different learning needs and differs in learning speed; it is not possible for schools to arrange combined examination system. They evaluate the children according to the IEP. After the time span of an IEP, the school identifies the progress of the individual child and makes a new one.

5.1.6. Teaching Techniques

In special education, the teachers try to apply many teaching techniques for developing the ability of autistic children. These are ABA (Applied Behavior Analysis), PECS (Picture Exchange Communication System), Art therapy, Music therapy, Verbal Prompt etc. So, students are benefitted from it. All teachers agreed that after taking special education the efficiency of children in those areas the skills improve gradually. When they take special education these skills improve but without practicing regularly at home they forget soon. So, exercise and parents attention are essential for developing the skills. No autistic children can adopt all steps of all skills. Somebody can adopt a skill quickly and somebody can adopt a skill slowly. Both teachers and parents agreed that for developing all skills children need teachers' and parents' co operation and regular practice. Moreover, co-operation of family members is also very important for improvement of children with autism.

The main findings of the objective are shown in Table 35

Research Objective	Methods of Data Collection	Findings of the study
i. Reviewing the study contents used in different special schools for children with autism in Bangladesh.	1. Document analysis (study contents).	<ul style="list-style-type: none"> There is no unified national curriculum of special education in Bangladesh. Every school follows their self-developed study contents.
	2. Observation with observation checklist (Appendix A).	<ul style="list-style-type: none"> Six types of skills mainly followed in the study contents, i.e. literacy, behavior and communicative, self-help, social, gross and fine motor and vocational skills. Daily and yearly classroom evaluations were made on the basis of IEPs.
	3. Focus Group Discussion with parents and teachers (Appendix A).	<ul style="list-style-type: none"> All children were identified and labeled by the doctors and the pediatrics. Most of the parents informed about special schools from the doctors and the pediatrics. Few parents got the information from other parents. Few parents informed from other sources i.e. neighbors, relatives, friends etc. After admission teachers observed them at least for two weeks then they prepared IEPs for them. Did not fix time for admission and did not have specific number of seats. So, students could take admission through the whole year.

Table 35: Findings of study contents used in different special schools for children with autism in Bangladesh.

5.2. Effectiveness of Special Education

The effects of special education on school going autistic children are discussed here. Autistic children who are studying at least for 3 years in special schools and receiving special education till now is the target group for the study. For discussion, their developmental areas of the target group are divided into three parts. These three parts are - daily life skills, social skills and academic skills.

5.2.1. Daily Life Skills

Daily life skills are essential for a person for doing daily activities perfectly. Ability of doing daily life activities is the most important part for assessing the effectiveness of special education on autistic children. There are three sections in this part. These are behavior and communicative skills, life management skills and gross motor skills.

5.2.1. a. Behavior and Communicative Skills

Behavior and communicative skills are the most important part of daily life skills. The t- score was 3.598 of these children. They were 6 to 12 years old. The value indicated that those who were taking special education they were getting advantages from it in behavior and communicative skills. Another t- score was 2.582. These children were 13 to above 13 years old. The value represented that special education was helpful for them. The t- score was 4.373 of the two groups, those who were in the age between 6 to above 13 years old. The value depicted that those who were receiving special education they were acquiring benefit from it in behavior and communicative skills (See table, 7, 8, 9 and 10).

According to the opinion of parents' and teachers' of autistic children can do better in behavior and communicative areas, if they get early intervention and special education. The t- score is 4.373 of the two groups in these areas also support it. The t- score implies that there is a positive relation between special education and behavioral and communicative skills. It is also found from the t-score that age of students is not a factor rather the year of schooling is a factor in this respect. Those who are staying in school for a long time they did better than those who are starting to attend school. From the case study the researcher found that those who have taken special education they are given advantages from it. Those who have taken special education their scores expanded from 45 to 177. One student scored 177; this child's time of schooling was long. As a result, he/she obtained good scores in behavioral and communicative areas

(See table 7).

5.2.1. b. Life-Management Skills

Life- management skills are the second section of daily life skills. The t- value was 3.430 for life-management skills of those who were in the age between 6 to 12 years old. The value indicated that those who were accepting special education they were getting support from it. Another t- value was 4.070 of those who were in the age between 13 to above 13 years old. The value represented that those who were obtaining special education they were getting advantages from it. The t- value was 5.225 in both groups of those who were in the age between 6 to above 13 years' old. The value depicted that special education was a blessing for them in life-management areas (See table 11, 12, 13 and 14).

According to the opinion of parents' and teachers' of autistic children can do better in life management areas, if they get early intervention and special education. The t- score is 5.225 of the two groups in this area also supports it. The t- score implies that there is a positive relation between special education and life management skill. It is also found from the t-score that age of students is not a factor rather the year of schooling is a factor in this respect. Those who were staying in school for a long time they did better than those who were starting to attend school. From the case study the researcher found that those who received special education they got support from it. Those who have taken special education their scores varied between 25 from 86. One student scored 86; this child's year of schooling was long. As a result, he/she obtained good scores in life management skills (See table 11). Strain (2002) explained that Learning Experiences an Alternative Program (LEAP), and Social- Communication, Emotional Regulation and Transactional Support (SCERTS) are effective teaching methods for teaching self- help skills and Laarhonen et.al (2010) emphasized on Picture and Video Prompts are effective in term of children with autism, the best mentioned techniques were found to apply in the classrooms of Bangladesh.

5.2.1. c. Gross Motor Skills

Gross motor skills are the third section of daily life skills. The t-value was -.061 of those who were in the age between 6 to 12 years old. The value indicated that special education cannot add bonus support for developing gross motor skills. Another t- value was -.916 of those who were in the age between 13 to above 13 years' old. The value showed that special education did not make any significant change between two groups in this skill. The t- value was -.864 both groups of those who were in the age between 6 to above 13 years old. The value depicted that special

education was not found helpful for developing the proficiency in this skill (See table 15, 16, 17 and 18). The researcher found that special education does not make significant changes between two groups in these skills. When the researcher observed in classroom situation, she found those who do not face many problems in gross motor skills; it is blessed for them because schools give limited therapeutic service for autistic students. So, those who face this problem, the school cannot provide more facilities for them because it is expensive and most of the parents cannot bear extra fees for this.

According to the opinion of parents' and teachers' of autistic children cannot do better after receiving special education in gross motor areas, if they get early intervention and special education. The t- score is -.864 of the two groups in this area also support it. The t- score implies that there is a negative relation between special education and gross motor skills. It is also found that age of students is not a factor rather providing more therapeutic services is essential for improving this skill. From the case study the researcher found that special education can add bonus support for developing the proficiency in these skills.

5.2.2. Social skills

Social skills are the second part for assessing the effectiveness of special education on autistic children. There is no section. The t- value was 2.097 of those who are in the age between 6 to 12 years old. The value indicated that those who were getting special education in early age they were benefited from it. Another t- value was .814 of those who were in the age between 13 to above 13 years old. The value showed that those who were getting special education in older age they were not much benefited from it. The t- value was 2.189 in both groups of those who were in the age between 6 to above 13 years' old. The value depicted that special education can

influence gaining the proficiency in social skills (See table 19, 20, 21 and 22). The researcher also found the similar results about it from the interview with parents, teachers and classroom observation. Parents also agreed with teachers that special education is helpful for improving this skill.

According to the opinion of parents' and teachers' of autistic children can do better in social areas, if they are identified early and are given special education properly. The t- score is 2.189 of the two groups in this areas also supports it. The t- score implies that there is a positive relation between special education and social skills. It is also found that age of students is not a factor rather the year of schooling is a factor in this respect. Those who were staying in school for a long time they do better than those who were starting to attend school. From the case study the researcher found that special education is influencing for gaining the efficiency in social skills. Those who have taken special education their scores expanded between 20 from 83. One student scored 83; this child's time of schooling was long. As a result, he/she obtained good score in social skills (See table 19). For increasing social competency, Developmental Social-Pragmatic Model (DSP), Learning Experiences Alternative Program (LEAP) and Social-Communication, Emotional Regulation and Transactional Support (SCERTS) are effective tools. Developmental Social-Pragmatic Model (DSP) is emphasized on enhancing communicational abilities within meaningful events and routines. (Roberts, 2003 as cited in Azam et al.2012) Learning Experiences Alternative Program (LEAP) is developed by Phillip Strain (2001), designed for children with autism and typically developing children and for their parents at preschool level and Social- Communication, Emotional Regulation and Transactional Support (SCERTS) is developed by Prizant et Al. (2003) but these techniques are not properly followed in the special school of Rajshahi.

5.2.3. Academic skills

Academic skills are divided into three parts for assessing the effectiveness of special education on the autistic children. These are literacy skills, fine motor skills and vocational skills.

5.2.3. a. Literacy skills

Literacy is the first section of academic skills. The t- value was 3.008 of those who were in the age between 6 to 12years old. The value indicated that those who are obtaining special education they are getting advantages in this area. Another t- value was 2.232 of those who are in the age between 13 to above 13 years old. The value showed that special education was helpful for them. The t- value was 3.747 in both groups of those who were in the age between 6 to above 13 years old. The value depicted that those who are receiving special education they are acquiring benefit from it in this areas (See table 23, 24, 25 and 26).

According to the opinion of parents' and teachers' of autistic children can do better in this area, if they are identified early and are given special education. The t- score is 3.747 of the two groups in this area also support it. The t- score implies that there is a positive relation between special education and educational skills. So, age of students is not a factor rather the year of schooling is a factor. Those who were staying in school for a long time they do better than those who were starting to attend school. Those who have taken special education their scores expanded from 53 to 217. One student scored 217; this child's time of schooling was long. As a result, he/she obtained good score in educational skills (See table 23). From the case study the researcher found that those who have taken special education they got advantages from it.

5.2.3. b. Fine Motor skills

The second section is fine motor skills in academic areas. The t- value was 4.870 of those who were in the age between 6 to 12 years old. The value indicated that those who are obtaining special education for them it was valuable. Another t- value was 3.208 of those who were in the age between 13 to above 13 years' old. The value showed that special education was influencing the increasing of efficiency in fine motor skills. The t- value was 5.686 for both groups of those who are in the age between 6 to above 13 years old. The value depicted that those who were receiving special education for them it was supporting for constructive change of fine motor areas (See table 27, 28, 29 and 30).

According to the opinion of parents' and teachers' of autistic children can do better in fine motor areas, if they are identified early and are given special education. The t- score is 5.686 of the two groups in these area also supports it. The t- score implies that there is a positive relation between special education and fine motor skills. It also found that age of students is not a factor rather the year of schooling is a factor in this respect. Those who were staying in school for a long time they do better than those who were starting to attend school. Those who have taken special education their scores expanded from 16 to 51. One student scored 51; this child's period of schooling was long. As a result, he/she obtained good score in this area (See table 27). From the case study the researcher found that those who have taken special education they got advantages from it and special education is valuable for them.

5.2.3. c. Vocational Skill

Vocational skill is the third section of academic areas. There are nineteen items in the section. The question pattern of vocational skills is closed ended and the respondents selected which things their children chose or liked to do. These items were making handicraft or handiworks, cafeteria (work of food sell), making envelop, packaging, photo copying and same type of machinary works. leminating, packaging, making things with wood and wax, smoothing clothes, sewing and embroidery block and batik printing, office or shop assistance, computer operator or same type of works, making mosquitos coil etc (See table 31). Teachers informed that these children are taking special education most of them can do any activity after taking special education at least for three years and those who are above 10 years' old, they can include in vocational teaching. Vocational skill is essential for livelihood. It creates opportunity for doing job in different sectors. All children are not able to do it but some children are able to do through training. For this reason, it is important to identify their interest which things they like to do. Since, their functional level is not normal so they make that commodities finishing are not perfect. When for selling these commodities, they cannot get good prices. For doing vocational work eye contact and communication with others are essential. So, few children are able to do this activity.

According to the above discussion and considering parents' and teachers' opinion all of them agreed that before taking special education, their level of performance are not satisfied in these skills but after getting special education they are improving gradually. Their parents informed that after taking special education their children are self- reliant in daily and social life but progressing level of literacy skills are not so good. Very few children are capable to learn and

write Bengali letters, few words and sentences but are not capable to learn many things in English and Mathematics. In English, they can learn capital and small letters, short words but cannot learn sentence making. In Mathematics, they can count the number of 1 to 10 or 20 but cannot learn multiplication table, addition, subtraction and other difficult rules of Mathematics. Even, their parents cannot identify which things they liked and are interested to do. As a result, they cannot find out which training is important for them or not for their livelihood. On the whole, their guardians feel much mental stress and worry about their children's future.

5.3. Comparing Developmental Skills between have Taken and Not Taken Special Education Groups

The comparison between two groups is discussed here. Children who were going to special school and received special education at least for 3 years, many changes have taken place in their developmental areas (behavioral and communicative, life management, gross and fine motor, literacy skills). On the contrary, those children who were not going to special schools, many problems were increasing according to their age in developmental areas.

5.3.1. Behavior and Communicative Skills

Children who have taken special education at early age their mean was 95.9500 and those who have not taken special education at early age their mean was 64.9500. The mean of taken group is higher than the not taken group. In the same way, those who have taken special education at older age their mean was 87.1500 and those who have never taken special education at older age their mean was 71.1500. The score of mean of taken group is higher than the scores of not taken group. Overall, children who have taken special education at early age or older age their mean was 91.5500 and those who have not taken special education at early age or older age their mean was 68.0500. The score of mean of taken group is higher than the scores of not taken group. The

differences between two groups in behavior and communicative skills showed that those who have received special education they did better than those who have not received special education. It was also found from interview of parents that their children were doing better after taking special education. On the contrary, parents of not taken group also said that the progresses of their children are very slow in behavior and communicative areas. Even, the study also found from the case study that the aggressiveness, tendency of beating and heating was lower among the taking special education students. Dillenburger et.al. (2010) also had similar findings that for reducing negative behavior Early Intensive Behavioral Interventions (EIBI) is an effective tool for autistic children. Marjorie et al.2002, Robberts (2003), Ellizabeth Cranmer (2009) also agreed that Picture Exchange Communication System (PECS) is an effective tool for developing communicational skills of children with autism. The study also found from classroom observation that schools are trying to follow different teaching techniques for developing their students' ability but still teachers are not familiar with all terms of teaching techniques in behavior and communicative skills.

5.3.2. Life Management Skills

The children who have taken special education at early age, their mean was 49.7500 and those who have not taken special education at early age, their mean was 32.20. The score of mean of taken group is higher than the score of not taken group. In the same way, those who have taken special education at older age their mean was 50.0000 and those who have not taken special education at older age their mean was 34.8500. The score of mean of taken groups is higher than the scores of not taken group. Overall, children who have taken special education at early age or older age, their mean was 49.8750 and those who have not taken special education at early age or

older age their mean was 33.52. The score of mean of taken group is higher than the score of not taken group. The differences between two groups in life-management skills showed that those who have received special education did better than those who have not received special education. Parents also informed that their children are doing better after taking special education. On the contrary, parents of not taken group said that the progresses of their children were very slow in this area. Researcher's observation was also same that those children who have not the opportunity of taking special education, most of them cannot do properly the activities of life management skills. The study also found from the case study that those children who are receiving special education they are more self-reliant than those who did not receive special education. Both teachers and parents agreed that this development in self-help skills is the result of collaboration of parents, teachers and schools environment which is very much important.

5.3.3. Gross Motor Skills

Mean of those children who have taken special education at early age were 57.8000 and those who have not taken special education at early age, their mean was 57.9500. The score of mean of the taken group is lower than the scores of the not taken group. In the same way, those who have taken special education at older age, their mean was 58.74 and those who have not taken special education at older age their mean was 60.2105. The score of mean of the taken group is lower than the score of the not taken group. Overall, findings is that children who have taken special education at early age or older age, their mean was 57.6750 and those who have not taken special education at early age or older age, their mean was 59.0000. The score of mean of the taken group is lower than the score of the never taken group. The differences in performances between

two groups in gross motor skills showed that those who have received special education were not doing better than those who have not received special education. Both parents' and teachers' of taken and not taken group agreed that therapy is very essential for developing gross motor skills. After taking therapy and training, the problems in performance of gross motor skills decrease. Researcher's observation was similar to both parents' and teachers' opinion. Children who have not taken special education faces any problem in gross motor skills; they cannot get any health service like therapy or training because they did not know where they should go for taking such service. The study also found from the case study that both taken special education and not taken special education groups had not many differences in gross motor skills. Janet K. Kern et al. (2006), Kaneshiro et al (2010), Sk. Moniruzzaman (2011), Kaniz (2012) , Mahabubur (2012), Ahmed (2013) explored that occupational therapy and physiotherapy are important for increasing gross motor proficiency of autistic children.

5.3.4. Social skills

Children who have taken special education at early age, their mean was 37.8000 and those who have not taken special education at early age, their mean was 29.3500. The score of mean of the taken group is higher than the score of the not taken group. In the same way, those who have taken special education at older age their mean was 35.1000 and those who have not taken special education at older age their mean was 33.1000. The score of mean of the taken group is higher than the score of the not taken group. Overall, children who have taken special education at early age or older age, their mean was 36.4500 and those who have not taken special education at early age or older age their mean was 31.2250. The score of mean of the taken group is higher than the score of the not taken group. The differences between two groups in the performance of social skills showed that those who have received special education did better than those who

have not received special education. Parents also informed that their children were doing better after taking special education in this area. On the contrary, parents of the not taken group informed that the progress of their children in the performance of social skills was very slow. Researcher's observation was also same that most of the children who did not take special education cannot do social activities properly. The study also found from the case study that children who were receiving special education were more social than those who have not received any special education. Both teachers and parents agreed that for developing social skills, collaboration of parents', teachers' and school's environment is most important.

5.3.5. Literacy Skills

Children who have taken special education at early age their mean was 88.8500 and those who have not taken special education at early age, their mean was 54.6500. The score of mean of the taken group is higher than the score of the not taken group. In the same way, those who have taken special education at old age, their mean was 78.3500 and those who have not taken special education at old age, their mean was 54.3500. The score of mean of the taken is higher than the score of the not taken group. Children who have taken special education at early age or older age, their mean was 83.6000 and those who have not taken special education at early age or older age, their mean was 54.5000. The score of mean of the taken group is higher than the score of the not taken group. The differences between two groups in literacy skills showed that those who have received special education did better than those who have not received special education. Parents also informed that after taking special education their children were improving in this area. On the contrary, parents of the not taken group said that the progresses of their children were very slow in educational areas. The study also found from the case study that the taken

group can read and write few things but those who have not received special education they cannot read and write anything. Stokes (2013) also showed similar findings that assistive technology for children with autism is effective. The target of ABA Therapy is to improve academic skills, social skills, communication skills and adaptive skills including gross and fine motor skills, eating and food preparation, toileting, dressing, personal self-care, domestic skills, time and punctuality etc. The methodologies used in ABA Therapy are Discrete Trial Training (DTT), Pivotal Response Therapy (PRT), Reciprocal Imitation Training (RIT), Self Management Training (SMT) and Video Modeling (VM). Bear, Wolf and Risley (1968 as cited in Azam et al.2012). Treatment and Education of Autistic and related Communication Handicapped Children (TEACCH) is one of the most ‘widely used approaches in autism’ all over the world (Roberts, 2003). Susan (2013) also agreed that Structured Teaching Strategies for Supporting Students with Autism. Structured Teaching is a system for organizing their environments, developing appropriate activities, and helping people with autism to understand what is expected from them. The study also found from classroom observation that schools were trying to follow different teaching techniques for developing their students’ ability but teachers were not familiar with all kinds of teaching techniques in this area.

5.3.6. Fine Motor Skills

Children who have taken special education at early age, their mean was 32.8000 and those who have not taken special education at early age, their mean was 16.8500. The score of mean of the taken group is higher than the score of the not taken group. In the same way, those who have taken special education at older age, their mean was 27.4500 and those who have not taken special education at older age, their mean was 17.1500. The score of mean of the taken group is

higher than the score of the not taken group. Children who have taken special education at early age or older age, their mean was 30.1250 and those who have not taken special education at early age or older age, their mean was 17.0000. The score of mean of the taken group is higher than the score of the not taken group. The differences between two groups in fine motor skills showed that children who have received special education were doing better than those who have not received special education. Parents also informed that after taking special education their children were improving in this area. On the contrary, parents of those who have not taken special education said that the progresses of their children were very slow in this area. The study also found from the case study that most of the children who have not taken special education cannot do these activities. Munir (2012), Hinde(2011), Ferdous (2014), Moniruzzaman (2011), Janet K. Kern et.al. (2006), Kaniz (2012), Mahabubur (2012), Ahmed (2013) also show similar findings that different therapeutic service are helpful for them.

5.3.7. Vocational Skill

Most of the children who have not received special education cannot do vocational activities properly because they do not get any training opportunity for developing vocational efficiency. The researcher found that forty respondents who have taken special education, only six could do any vocational activity. On the other hand, among those who have not taken special education, no one can do these. Parents' of the not taken group informed that they did not try to take special education and any training of vocational skills anywhere. Parents of the taken group and teachers also commented that after taking special education all children were not able to acquire the ability of doing vocational activities. Eye contact, attention, paying deep interest and communication ability are very much important for acquiring the ability of vocational

performance. But autistic children have lower interests, lack of capability of eye contact, and they are engaged in repetitive activities. For these reasons, they are unable to show any performance in vocational skills. Tabib (2013) expressed that many adolescents on the spectrum who are not going to school; there is no occupational training for them. So, most of them stay at home and live with their parents, which create a huge stress for the family. The study also found from parents interview and case study that their guardians feel much mental stress and worry for their children's future.

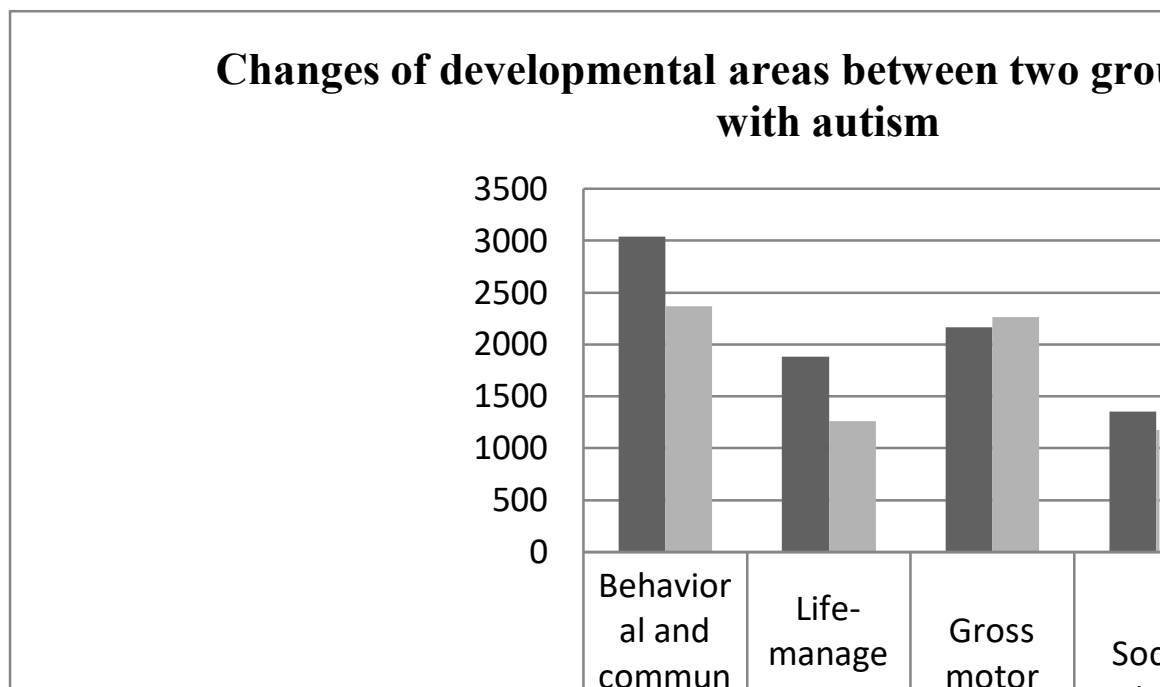


Figure2: Changes of developmental areas between two groups of children with autism

(Ref.Table-07, 11, 15, 19, 23, 27)

Figure 2 depicts that behavior and communicative skills, life management skills, social skills, literacy skills, and fine motor skills of children who were receiving special education were more improved than who have not received special education. But in gross motor skills children who were not enrolled for receiving special education did better than those who were enrolled for

receiving special education. As their physical movement was normal, they did not face much problem in gross motor skills.

It is important to note that, those who are admitted in special schools at early age, continue and finish the course of special education, they get more benefit from special education than those who are admitted in older age. So, it can be said that early detection of autism and admission in special schools are important for them as it contribute to gain the efficiency in developmental skills.

5.4.1. Severity Levels of Autistic Children

For assessing the severity levels of autism as borderline, mild and moderate of autistic children, the researcher has used a behavioral checklist. Selection has been done from the thesis of Md. Saiful Islam Khan, (2003, p.161). There are thirty three items in the checklist for measuring the levels of severity. There were five alternative answers for each item. Score 34-50 indicate the children as moderate, and 51-66 was the mild and 67-83 was the borderline level. The behavior checklist measures the following areas: Capacity of toilet training, capability of dressing, capability of taking meal by oneself, ability of sitting, standing and walking, ability of punctuation & talking to others, sense of hearing, capacity of seeing, sense of smelling, sense of tasting, feeling of tactile senses (cold, warmth, pressure, pain etc.), realization, knowledge about structure of the body, intelligence, memory, curiosity, movement of the body, general knowledge, all kinds of behavior at school, home and society, behavior at playing, behavior while playing at road, guests arrival, relatives house, behavior in the market, behavior with teachers, parents, siblings, known and unknown persons and physicians. After collecting data and accumulating it the researcher analyzed the data and found that those who have not received

special education most of them were in the level of moderate and mild but no one was in borderline.

5.4.2. Comparing Severity Levels between Taken and Not Taken Special Education Groups

The researcher found that among forty children, who have received special education, seventy of them were in borderline, 13 were in mild and 10 were in moderate group. On the contrary, those who have not received special education, most children of them were in moderate (28), 12 were in mild and no one was in borderline. Their parents' feeling that if their children took special education, they would have been improved and their level of severity might have been in borderline.

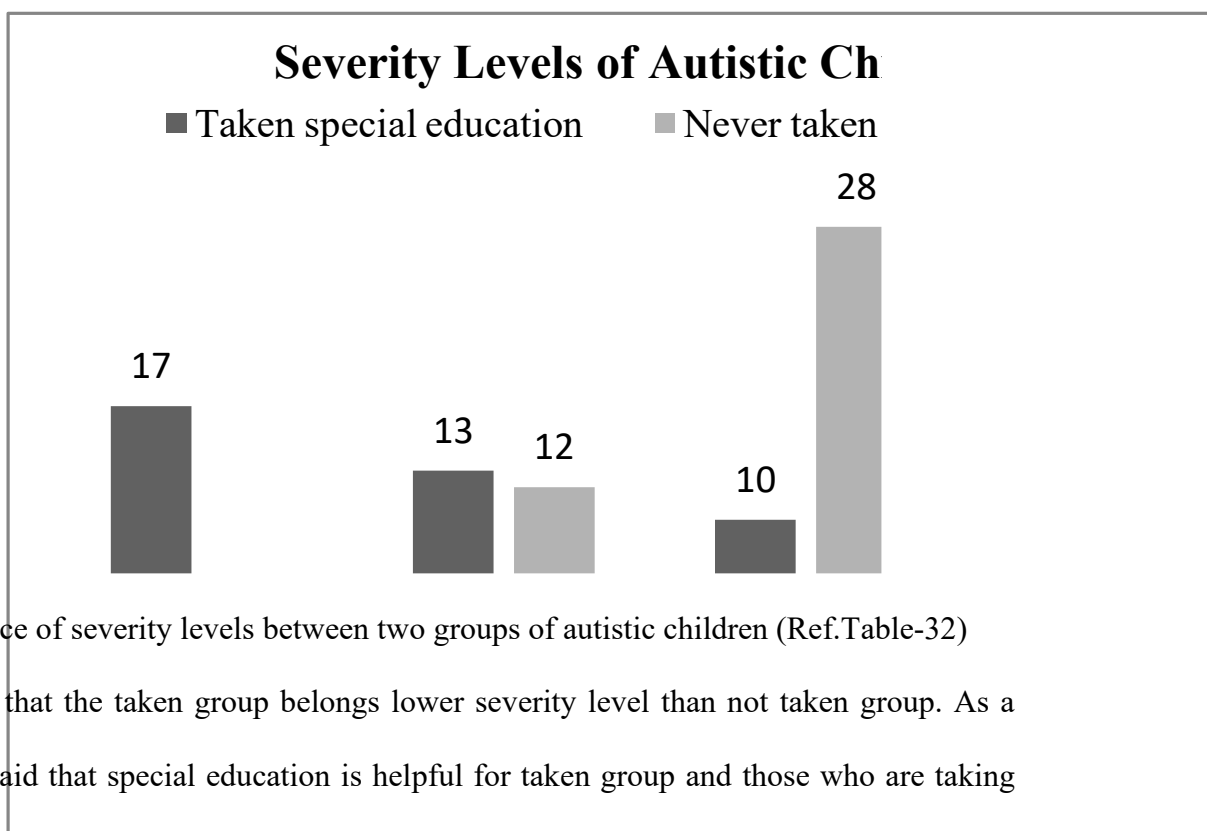


Figure 3: Difference of severity levels between two groups of autistic children (Ref.Table-32)

Figure 3 displays that the taken group belongs lower severity level than not taken group. As a whole, it can be said that special education is helpful for taken group and those who are taking special education are improving gradually.

The main findings of the objective are shown in Table 36

Research Objective	Methods of Data Collection	Findings of the study
iii. Assessing the effect of special education on children with autism by making a comparison between special education taken and not taken groups.	1. Interview with parents (Appendix C).	Daily Life Skills: <ul style="list-style-type: none"> i. Behavior & Communicative Skills: <ul style="list-style-type: none"> Taken group is more improved in behavior & communicative skills than not taken group. ii. Life Management Skills: <ul style="list-style-type: none"> Taken group is more self-reliant than not taken group. iii. Gross Motor Skills: <ul style="list-style-type: none"> Taken group is not much improved than not taken group. The reasons are schools cannot provide more therapeutic support for autistic students because it is expensive and most of the parents cannot bear extra fees for it. Social Life Skills: <ul style="list-style-type: none"> Taken group is more social than not taken group. Academic Skills: <ul style="list-style-type: none"> i. Literacy Skills: <ul style="list-style-type: none"> Taken group can learn few things but not taken group cannot learn anything. ii. Fine Motor Skills: <ul style="list-style-type: none"> Taken group is more recovered than not taken group. iii. Vocational Skills: <ul style="list-style-type: none"> After receiving special education very few students can do any vocational activity. Those who did not take special education no one can do it.
	1. Interview with parents (Appendix D).	<ul style="list-style-type: none"> Every child faced several challenges. Their family also faced these challenges. Special education is very much important for recovering and making their children's independency.
	1. Interview with parents (Appendix F).	<ul style="list-style-type: none"> Taken group belongs lower severity level than not taken group.

	<p>2. Focus Group Discussion with teachers (Appendix E).</p>	<p>Daily Life Skills:</p> <p>i. Behavior & Communicative Skills:</p> <ul style="list-style-type: none"> • Progresses of behavior and communicative skills are very slow but after taking special education they are able to communicate with others. • They are able to control negative emotion. <p>ii. Life Management Skills:</p> <ul style="list-style-type: none"> • Verbal prompt and regular practice is very important for developing the skills. <p>iii. Gross Motor Skills:</p> <ul style="list-style-type: none"> • Maximum children did not face many problems in gross motor skills because their body movement was normal but few children have faced a little problem in the skills. • Therapy is very essential for developing gross motor skills. • After taking therapy and training, the problems of gross motor skills decreased. <p>Social Life Skills:</p> <ul style="list-style-type: none"> • Participation of social programs and activities are helpful to be socialized. <p>Academic Skills:</p> <p>i. Literacy Skills:</p> <ul style="list-style-type: none"> • Progresses of literacy skills are very slow. • Few children are able to learn reading and writing. <p>ii. Fine Motor Skills:</p> <ul style="list-style-type: none"> • After taking special education they are able to do the activities. <p>iii. Vocational Skills:</p> <ul style="list-style-type: none"> • Their functional level is not normal so they make that commodities these finishing were not perfect. When they attempt for selling these commodities, they cannot get good prices.
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Table 36: Findings of the effect of special education on children with autism by making a comparison between special education taken and not taken groups.

6. Case study

To gain a clear conception about autism the researcher conducted case studies on six selected autistic children, those who have taken special education and those who have not taken special education. Three respondents were selected from one school within the Rajshahi City Corporation area, the name of the school was Foundation for Women and Child Assistance (FWCA), who were receiving special education at least for three years and one of them, was in the borderline, one was in moderate and one was in mild. On the contrary, three respondents were selected, who did not receive special education. Since neither of them was in the borderline, two respondents were selected in mild group and one was selected in the moderate group. Three boys were selected for case studies; those who were taking special education and three girls were selected for case studies those who did not receive special education. All of them were eleven to eighteen years old. Both groups were selected purposively. It is important to note that the synonyms were used to hide the identity of actual respondents. By conducting case studies the researcher tried to identify the differences and effects between two groups, those who received special education and who did not receive special education in their daily, social and school life. These case studies were organized on the basis of cross- checking the information among parents' and teachers' opinion and researcher's observation. Analysis of the cases is given below:

Himel (01)

Himel is an eleven year-old boy. Before screened as autistic in his babyhood he used to communicate with others by few words. His attitude was normal till two years. When he was three, he started to use limited words and became speechless gradually. Then his parents went to a child specialist. He suggested them to go to a child development centre. There he was

identified as autistic. After screening autism in the boy, the doctor suggested for admitting the baby in a special school. School for Gifted Children in Rajshahi was the first school of Himel. Then he was admitted in Foundation for Women and Child Assistance (FWCA).

Before schooling he could not express his daily (washing hands - mouth, brushing, hunger, toileting, bathe, combing and clothing, washing clothes and utensils, cleaning room and table, chair etc.) necessary needs. After taking special education, he started learning these activities gradually but does not do that properly. Very often, he needed the help of his mother for completing these activities. He started to identify and understand who are his parents, siblings, relatives and neighbors.

In babyhood, he liked to play with combs, scales and sounding on floor by hard things. At present, he enjoys to do jumping, rocking in bed and chair, oscillating in cradle, playing with soap and water, balls, cutting off paper and foam and using ordinary sound at home. When he stays at school, he also prefers to play with peer groups but at home, he prefers to play alone. He is only interested to interact with family members but does not show interest on interact with others. Sometimes, he follows instruction and attentive to do these activities. He enjoys travelling and roaming and he is happy when any guest comes visit their home. He prefers to eat his favorite dishes.

When he was seven years old, he learnt alphabet. At present, he can write Bengali and English letters and numerals but except touching hand, oral expression and sounding he is not interested to write these things. He relishes for going to school but abominates to do home work. He had a house tutor but at present, his mother takes care for doing his home work. He enjoys drawing pictures of homes, flowers, balls etc. and colouring these pictures. He likes sensory class and also interested in drawing class but does not interested in literacy class and is reluctant to do

home work. He can open and shut the doors and windows, lock the doors, on and off the switch of daily necessary electronic goods. When he is delightful, he laugh loudly and shouts, jumps, run in the room and but when he is sad, he remains silent, does not make any noise nor shows anger. When he is excited, he attacks and pushes his mother and family members to the walls, hits on the wall by head or hands, throws hands and legs. Before schooling, he had many sensory problems but after taking special education, these problems are reducing gradually.

His mother thinks that after schooling, he shows more improvement in his daily, social and school life and it may increase for developing of growth of his age and understanding level. He has much dissimilarity in home and school attitudes. In school, he is calm and quiet but at home, he is frivolous.

He can not properly brush his teeth, combing, button up and down, wearing the dress. His parents' opinion about the school is that at first school will teach him all activities, then guardians will practice these activities and school will make the structure, then guardians will follow these instructions for their children. If the school do these activities first then children are also much interested to do these activities. After that, if guardians practice these activities at home it will be fruitful for them. There is a play ground in the school and the class routine has included different types (music, dance, games) of co- curricular activities for removing exhaustion, it is a good side of the school but teacher - students ratio is 1:10 per class, duration of class time is 40 to 45 minutes which is very limited to finish all tasks properly for the students at a time. As a result, the teacher is not able to finish all tasks within this time. Even, all teachers are not well trained, they do not know how to tackle these children in a proper way. So, their improvement are not upto the guardians' expectation. Parents' counselling should be more emphasized so that they can feel that vocational skill is more important than literacy skills. After

acquiring the competency of vocational skills they can take a profession for livelihood. IEP should be made for every four months for each child and one year may be used in three IEP for a student.

Case -1	<ol style="list-style-type: none"> 1. Ability of Responding: Responds by meaningless sound. 2. Ability of Interactions: Interacts only with family members but not with others. 3. Ability of Playing: Plays with combs, scales, soap, water and balls etc. Cuts off paper and foam, makes ordinary sound, makes sounds on floor by hard things, jumps, rocks in bed and chair and oscillates in cradle. 4. Ability of Reading and Writing: Write only Bengali and English letters and numerals but cannot read. 5. Expression of Joy: Laughs and shouts loudly, jumps, runs. 6. Expression of Sorrow: Keeps silent and does not make any noise nor shows anger. 7. Expression of Excitement: Attacks and pushes his mother and family members to the walls, hits on the wall by head or hands, throws hands and legs. 8. Ability of Handling Daily Necessary Needs (washing hands- mouth, brushing, hunger, toileting, bathing, combing and clothing, washing clothes and utensils, cleaning room and table, chair etc.): Cannot do that properly, needs the help of his mother. 9. Ability of Handling Daily Necessary Things: Opens and shuts the doors and windows, can on and off the switch of daily necessary electronic goods etc. 10. Sharing Foods and Things: Does not want to share foods and own things with others. 11. Preferable Jobs and Things: Likes travelling and roaming, presence of guests, eating favorite dishes, going to school, drawing and sensory classes (Equipment used includes balls, lights, swings, and tunnels etc). 12. Disliking Things: Does not interested in participating in competitive sports, games and activities, home work and literacy classes. 13. Capability of Following Instructions: Sometimes follows instructions of parents and teachers but most of the time does not do it. 14. Sensory Problems: Possesses unusual tone, facial grimaces and meaningless sounds. 15. Eye Contact: Shows less eye contact with others. 16. Repetitive Behavior: Repeats all activities mentioned above.
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Table 37: Case Study - (01

Nifas (02)

Nifas is diagnosed as autistic at six years old. He was first admitted in a government primary school. After admission, he cried very much in the classroom, liked to seat in back bench, didn't mix and play with other students. After these situations, his guardian went to the pediatric, he was identified as autistic and pediatric advocated his guardian for admitting the baby in a special school.

He can speak, understand all words and sentences. He is also capable to follow the instructions and few shopping from a stall. As he has speech, he expresses feelings of joy and sorrow in different ways. When he is delightful, he expresses the happiness with laughing and speaking. When he feel sadness, he cries, shouts and speak. Very often, he is clam and quiet. When he is bad tempered, he breaks and throws commodities, hands and legs.

He communicates with others by speech. As, he has no problem is motor skills he can do the daily necessary (washing hands- mouth, brushing, toileting, bathe, combing and clothing, washing clothes and utensils, cleaning room and table, chair, using family instruments i.e. door, window, lock the key, switch on and off etc) activities by himself.

He dislikes to mix and play with others and is also unwilling to distrubuite his things among others. He can't endure loud sound. He likes to play with electronics instrument i.e.cassette and TV parts. When he stays at home, he prefers to live alone and he enjoys to watch Islamic TV Chanel, news, cartoons. Even, he is interested to go to milad and oaiz mahhfil. He continuously uses repititive words and is very much talkative. He is delightful with the company of guests.

After taking special education, he can learn reading and writing. He can read and write Bengali, English and Mathematics of the standard of class three. He can do home work with the help of his mother but at present, he does not want to read and write and go to school. The researcher

talked with his parents' and teachers' about these problems and found that, few days ago, he was ill and hospitalized. For a long time, his parents tried to cure him from autism by medication, according to doctor prescription. For this reason, he may ill and express unwillingness for going to school and read and write.

It is important to note that sometimes guardians discuss the matter with different people and they are hopeful that their child may be cured by the medication. So, they are motivated and misguided by false pharmacological agents and they expend huge amount of money for treatment but cannot see the proper cure of autism. Roberts (2003 as cited in Azam et. al., 2012), Howline (1997), Pfeiffer et.al (1995), Azam et al. (2012), Banergee (2013) also show the similar findings that medication can be helpful in reduction of some associated characteristics of autism like aggression, compulsive behavior or self- injurious behavior etc. but cannot cure autism completely.

However, Nifas has in a long –term memory. Anybody met him long ago, he remembers this event and recall clearly this siniario that hapened many years ago.

Seperate class rooms were used in school for conducting different classes, his guardians' opinion that it is a good side of the school. Even, teachers try to use teaching aids to teach them and try to give vocational training. It will be good, if the school administration should provide more training for enhancing teachers' quality, sufficient teaching aids for effective teaching, recruited parmanent speech, occupational and physio therapists.

Moreover, they try to take care of children propely in their limited accomplished.

Case -2	<ol style="list-style-type: none"> 1. Ability of Responding: Responds by speaking. 2. Ability of Interactions: Interacts only with family members but not with others. 3. Ability of Playing: Plays with electronics instrument i.e.cassette and TV parts. 4. Ability of Reading and Writing: Can read and write Bengali, English and Mathematics of the standard of class three. 5. Expression of Joy: Speaks, laughs, jumps and runs. 6. Expression of Sorrow: Keeps silent and does not make any noise nor shows anger. 7. Expression of Excitement: Breaks and throws commodities, throws hands and legs. 8. Ability of Handling Daily Necessary Needs (washing hands- mouth, brushing, hunger, toileting, bathe, combing and clothing, washing clothes and utensils, cleaning room and table, chair etc.): Can do the activities by himself. 9. Ability of Handling Daily Necessary Things: Opens and shuts the doors and windows, can on and off the switch of daily necessary electronic goods etc. 10. Sharing Foods and Things: Does not want to share foods and own things with others. 11. Preferable Jobs and Things: Likes travelling and roaming, presence of guests, eating favorite dishes, watching Islamic TV Chanel, news, cartoons. 12. Disliking Things: Does not interested in participating in competitive sports, games and activities, loud sound, going to school, read and write, home work and academic classes. 13. Capability of Following Instructions: Sometimes follows instructions of parents and teachers but most of the time does not do it. 14. Sensory Problems: Possesses unusual tone, facial grimaces and repititive words. 15. Eye Contact: Shows much eye contact with others. 16. Repetitive Behavior: Repeats all activities mentioned above.
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Table 38: Case Study - (02)

Safi (03)

Safi is identified as autistic in four. Before four, he talked very few words, did not respond to call of his name and also liked to stay alone. After the diagnosis of autism, paediatric advised his guardians for admitting him in a special school, then he was admitted in the school at five.

After taking special education, he can speak but his pronunciation is not clear. Before schooling, he could not read and write, but after schooling, he can read and write the book of standard class one. He needs his mother help for completing home work. When he was seven years old, he learnt reading and writing. At present, he is capable to do his daily (washing hands - mouth, brushing, toileting, bathe, combing and clothing, washing clothes and utensils, cleaning room and table, chair, using family instruments i.e. door, window, lock the key, switch on and off etc) activities by himself. When he stays at classroom, he likes music class very much, specially dance class.

He expresses the feeling of joy by smiling, speaking and the feeling of sorrow by crying, shouting, jumping making noise and showing anger. As he can speak, he communicates with others by speaking. When he is bad tempered, he shouts loudly, throws his legs and hands and commodities.

He likes to mix and play with others but others are not interested to mix and play with him. When he stays at home, he likes to play with his younger brother. He also likes to play with balls, logo, puzzle, ludo, carom, football, and jump in a particular place again and again. He is capable to follow all instructions in the right way and shares food and other things among others. His parents are desirous about the school, though they try to teach them within the range of their capability but if it is possible to arrange a separate class room for children with sensory problem, more training for teachers and a canteen for them, it will be good for them.

Case -3	<ol style="list-style-type: none"> 1. Ability of Responding: Responds by speaking. 2. Ability of Interactions: Interacts with family members and others. 3. Ability of Playing: Plays with balls, logo, pazzle, lodu, caram, football, and jumps in a particular place again and again, makes ordinary sound, makes sounds on floor by hard things, jumps, rocks in bed and chair, and oscillates in cradle. 4. Ability of Reading and Writing: Can read and write Bengali, English and Mathematics of the standard of class one. 5. Expression of Joy: Laughs and shouts loudly, jumps, runs. 6. Expression of Sorrow: Cries, shouts, jumps, makes noise and shows anger. 7. Expression of Excitement: Throws hands, legs and comodities, shouts loudly. 8. Ability of Handling Daily Necessary Needs (washing hands - mouth, brushing, hunger, toileting, bathe, combing and clothing, washing clothes and utensils, cleaning room and table, chair etc.): Can do that properly by himself. 9. Ability of Handling Daily Necessary Things: Opens and shuts the doors and windows, can on and off the switch of daily necessary electronic goods etc. 10. Sharing Foods and Things: Wants to share foods and own things with others. 11. Preferable Jobs and Things: Likes travelling and roaming, and presence of guests, eating favorite dishes, going to school, playing games, music and dance classes. 12. Disliking Things: Does not interest in doing home work and literacy classes. 13. Capability of Following Instructions: Follows all instructions of parents and teachers in the right way. 14. Sensory Problems: Possesses unusual tone and facial grimaces. 15. Eye Contact: Shows much eye contact with others. 16. Repetitive Behavior: Repeats all activities mentioned above.
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Table 39 Case Study - (03)

Sima(04)

Sima is identified as autistic in three. When she was three, she could not respond calling her name, without any reason she cried and shouted, preferred to stay alone. At this situation, her guardians went to a child specialist who suggested them to go to a child development centre. After going to the child development centre, she was identified as autistic and they advocated them for admitting in a special school but there was a long distance from home to school and at this time, suddenly her father had died. So, her mother could not bear the expenditure for lacking of solvency. For these reasons, she was not admitted in a school.

She can not speak. When call her name, if she desires, she responds. She possess eye contact and responds but maximum time she is not interested for responding. When she revels in any situation or experience, she laughs and shouts loudly. When she feels doleful ,she cries and very often she is clam and quiet. When she feels wrathful, she throws her legs and hands, comodities, hits her body and head on the wall.

She is not interested to communicate with others. When she is hungry, she tries to draw others attention by few physical gesture that she needs foods.

In her babyhood, she could not experss any daily (toileting, hunger) necessary needs and daily (washing hand- mouth, brushing, bathe, combing and clothing, washing clothes and utensils, cleaning room and table, chair, using family instruments i.e. door, window, lock the key, switch on and off etc) necessary activities. In her childhood, she tries to do her daily necessary activities but can not do these activities perfectly. For these reasons, she always needs the sopport of her mother.

She abominates to play with others, very often she likes to play with dolls. In addition, she likes to play with combs, scales, soap, water and balls etc. Besides these she prefers to cut off paper

and foam, uses ordinary sound, sounds on floor by hard things, jumps, rocks in bed and chair, oscillates in cradle but dislikes to share her food or any things with others, doing household works, playing games, reading and writing. She is also unwilling to follow any instruction. She likes to use repeated word, shouting, eating, travelling and roaming, presence of guests, playing with dolls and watching TV programs.

As she can't go to school, she can not read and write. Her mother's assumption is if she is capable to bear the expenditure of the school, her child may able to do her daily necessary activities by herself and also is able to read and write. Her mother appeals to the government for establishing a government special school in every upazila and district

Case -4	<ol style="list-style-type: none"> 1. Ability of Responding: Responds by physical gesture. 2. Ability of Interactions: Interacts only with family members but not with others. 3. Ability of Playing: Plays with dolls, combs, scales, soap, water and balls etc., cuts off paper and foam, makes ordinary sound, makes sounds on floor by hard things, jumps, rocks in bed and chair and oscillates in cradle. 4. Ability of Reading and Writing: Cannot read and write any things. 5. Expression of Joy: Laughs and shouts loudly. 6. Expression of Sorrow: Keeps silent, and does not make any noise. 7. Expression of Excitement: Hits on wall by head or hands, throws hands and legs. 8. Ability of Handling Daily Necessary Needs (washing hands - mouth, brushing, hunger, toileting, bathe, combing and clothing, washing clothes and utensils, cleaning room and table, chair etc.): Cannot do that properly, needs the help of her mother. 9. Ability of Handling Daily Necessary Things: Opens and shuts the doors and windows, can on and off the switch of daily necessary electronic goods etc. 10. Sharing Foods and Things: Does not want to share foods and own things with others. 11. Preferable Jobs and Things: Likes travelling and roaming, presence of guests, eating favorite dishes, playes with dolls and watches TV programs. 12. Disliking Things: Does not interest in doing household works, games, reads and writes. 13. Capability of Following Instructions: Sometimes follows instructions of parents but most of the time does not do it. 14. Sensory Problems: Possesses unusual tone, facial grimaces and meaningless sounds. 15. Eye Contact: Shows less eye contact with others. 16. Repetitive Behavior: Repeats all activities mentioned above.
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Table 40: Case Study - (04)

Nishe(05)

In babyhood, Nishe could not make eye contact, stared at a glance, walked slowly. After these situations, her parents went to the child specialist and she was identified as autistic. The pediatric advised them for admitting her in a special school but they were not interested to admit her in a special school. For this reason, within a month, they quitted her child from school.

She can speak and her pronunciation is good. So she can respond and express her need, joy and sorrow clearly by speaking. When she feels delightful, she laughs and expresses her happiness by words. When she feels gloomy, she can't speak to anybody and remains calm and quiet. When she is excited, she throws commodities, beats up anyone and smashes into the wall.

In childhood, she wasn't able to do daily necessary activities. At present, she is capable to do her daily necessary activities though perfectly. Very often, she needs her mother's support for doing these activities. She is interested to mix and play with others but others are not interested to mix and play with her. She is able to follow all instructions but it depends upon her mind that she is interested to do this or not to do this.

She fond of dolls, balls, kitchen commodities, combs, water, uses ordinary sound, sounds in floor by hard things, jumps, rocks in bed and chair, oscillates in cradle and she also likes to eat her favourite dishes, wear on well dress, singing, watching TV programs, travelling and roaming, presence of guests but dislikes to share food or any things with others. She also uses repeated word.

Once, her mother tried to teach reading and writing but lack of practice, she forgot it. If, they are interested in schooling, they may be able to do reading and writing, remove her negative attitudes and she will be more independent.

Case -5	<ol style="list-style-type: none"> 1. Ability of Responding: Responds by speaking. 2. Ability of Interactions: Interacts with family members and others. 3. Ability of Playing: Plays with dolls, kitchen commodities, combs, water and balls etc. <p>Makes ordinary sound, makes sounds on floor by hard things, jumps, rocks in bed and chair and oscillates in cradle.</p> <ol style="list-style-type: none"> 4. Ability of Reading and Writing: Only can read and write Bengali letters. 5. Expression of Joy: Speaks, laughs and shouts loudly, jumps, runs. 6. Expression of Sorrow: Keeps silent and does not make any noise nor shows anger. 7. Expression of Excitement: Hits on wall by head or hands, throws hands, legs and comodities, beats up anyone, 8. Ability of Handling Daily Necessary Needs (washing hands - mouth, brushing, hunger, toileting, bathe, combing and clothing, washing clothes and utensils, cleaning room and table, chair etc.): Can do that properly, very often needs the help of his mother. 9. Ability of Handling Daily Necessary Things: Opens and shuts the doors and windows, can on and off the switch of daily necessary electronic goods etc. 10. Sharing Foods and Things: Does not want to share foods and own things with others. 11. Preferable Jobs and Things: Likes travelling and roaming, presence of guests, eating favorite dishes, wears well dress, sings and watches TV programs. 12. Disliking Things: Does not interested in participating in competitive sports, games and activities, household works, reads and writes. 13. Capability of Following Instructions: Sometimes follows instructions of parents but most of the time does not do it. 14. Sensory Problems: Possesses unusual tone and meaningless sounds. 15. Eye Contact: Shows much eye contact with others. 16. Repetitive Behavior: Repeats all activities mentioned above.
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Table 41: Case Study - (05)

Mona (06)

When Mona was three, her parents observed that her speech decreased day by day, could not respond the calling of her name, liked to stay alone and cried without unnecessary reasons. After that situations, her parents contacted with a pediatric then the doctor suggested them to go to a child development centre. There after, her baby was identified as autistic and they advocated them for admitting her in a special school. As they live in Baghmara and there is no special school. So, it was not possible for them to admit her in a special school.

She has a few speech. She dislikes to make eye contact, responds and interacts with others. When she is delightful, she talks much, laughs and jumps. When she is broken hearted, she expresses much annoyance. When she shows angry, throws legs and hands, commodities, shouts loudly.

As, she can speak, she expresses daily necessary needs by few sounds but she can not complete her daily necessary activities by herself. So, completing these activities she needs other support.

She despises to mix and play with others and she also despises to distribute her favourite food and things with others. She likes to play with dolls and kitchen commodities, travelling and roaming, presence of guests, watching TV programmes but she can't follow any instruction. She has a special addiction of her favourite food. She uses repeated words.

She has no interest in reading and writing, So, her parents did not try to teach her reading and writing.

If, it is possible to admit her in a special school, she will capable to learn reading and writing, can do daily necessary activities, reduce negative behavior and emotion, able to mix with others.

As a result, it may decrease her parents stress.

Case -6	<ol style="list-style-type: none"> 1. Ability of Responding: Responds by speaking. 2. Ability of Interactions: Interacts only with family members but not with others. 3. Ability of Playing: Plays with combs, scales, soap, water and balls etc. Cuts off paper and foam, makes ordinary sound, makes sounds on floor by hard things, jumps, rocks in bed and chair and oscillates in cradle. 4. Ability of Reading and Writing: Cannot read and write any things. 5. Feeling of Joy: Speaks, laughs and shouts loudly, jumps. 6. Feeling of Sorrow: Makes annoyance, noise and shows anger. 7. Feeling of Excitement: Throws hands, legs and comodities, shouts loudly, hits on wall by head or hands. 8. Ability of Handling Daily Necessary Needs (washing hands - mouth, brushing, hunger, toileting, bathe, combing and clothing, washing clothes and utensils, cleaning room and table, chair etc.): Cannot do that properly, needs the help of other support. 9. Ability of Handling Daily Necessary Things: Opens and shuts the doors and windows, able to do on and off the switch of daily necessary electronic goods etc. 10. Sharing Foods and Things: Does not want to share foods and own things with others. 11. Preferable Jobs and Things: Likes travelling and roaming, presence of guests, eating favorite dishes, dolls, kitchen commodities, and watches TV programmes. 12. Disliking Things: Does not interested in participating games and activities, household works, reads and writes. 13. Capability of Following Instructions: Does not interest to follow any instruction of parents and others. 14. Sensory Problems: Possesses unusual tone, facial grimaces. 15. Eye Contact: Shows less eye contact with others. 16. Repetitive Behavior: Repeats all activities mentioned above.
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Table 42: Case Study - (06)

The researcher observed that all children were diagnosed by autism at the age of three to six years old and their pediatrics advised them for admitting in a special school. Those who were admitted in special school they were benefited from school. These children have learnt many things in daily, social and school life activities from school. As a result, they are capable of being self-reliant gradually and they were able to do their daily activities themselves. It is important to mention that one respondent has not spoken before admitting in special school but after admitting they can speak.

On the contrary, those who did not receive special education; they were not self-dependent. So, they were not capable to do their daily activities by one-self; they needed others support for doing daily activities and they learnt delay many things in daily and social activities.

All children were acquiring special education and did not acquire special education, they were capable to express the feeling of happiness and sadness; both teachers and guardians were capable to understand their feelings. When they agitated, all of them are aggressive but who were taking special education, their limit of aggressiveness was lower than did not taking special education children and they also very interested to interact with others but who did not take special education, they were not interested to mix with others, they liked to stay alone.

After schooling, they can able to do their daily necessary needs i.e. brushing teeth, washing hands- mouth, bathing, toileting, arranging hair, dressing . Besides, they can express when he or she is hungry, they can eat by own hand except others help but those who did not receive special education, they learnt these things late. Even, after schooling, they interested to play with their classmates and also were able to follow the instructions. In contrast, those who did not go to school, they were not interested to play their peer groups, could not follow any instruction and annoyed with others.

All children have in few repetitive behaviors and they liked to do again and again. Their guardians explained that after receiving special education, they were not capable to remove these attitudes.

In school time, they enjoy music; dance, drawing, rhymes, game session and less like academic session. They do not interested to do home work at home but, guardians finished their home work by pressuring. All of them were very much liked to go to school. Guardians' assumptions were

“School is a favorite place for them; they are passing beautiful time in school environment. So, schooling is very much important for developing their children's proficiency”.

The researcher observed that those who were going to school, they learnt few daily activities at early age, they were more social and able to learn few academic skills but those who did not go to school, they learnt daily activities at older age, they were not more social and they could not learn anything in literacy skill. Their guardians' comments were about it,

“We have to keep more patience and give hard labour for practicing daily activities but, they are suffering much for doing these, feeling much stress and they are worried of their children's future.”

Therefore, those who were receiving special education, they were benefitted from it but their progress was very slow. As a reason, it was not much visualized. When we looked at them who did not receive special education, it was visualized. After schooling, these children were improving gradually. So, special education is one of the most important element and has much effect for autistic children.

The main findings of the objective are shown in Table 43

Research Objective	Methods of Data Collection	Findings of the study
ii. Identifying the role of special education on daily, social and school life of children with autism in Rajshahi	1. Case study of six selected autistic children (Appendix B).	Daily Life Skills: <ul style="list-style-type: none"> • Taken group is capable to do their daily activities at early age than not taken group. Social Life Skills: <ul style="list-style-type: none"> • Taken group like to accompany of parents, siblings, friends and guests than not taken group. Academic Skills: <ul style="list-style-type: none"> • Taken group can read and write few things but not taken group cannot read and write anything.
	2. Interview with parents (Appendix B).	<ul style="list-style-type: none"> • Taken group is able to do their daily activities at early, more social and learn few literacy skills than not taken group.
	3. Focus Group Discussion with teachers (Appendix B).	<ul style="list-style-type: none"> • After taking special education they are able to do the activities gradually.
	4. Observation with interview schedule (Appendix B).	<ul style="list-style-type: none"> • Observation of the researcher was similar both parents and teachers opinion.

Table 43: Findings of the role of special education on daily, social and school life of children with autism in Rajshahi

In a nutshell, the comparison between two groups of the case studies are as follows-

1. All children were acquiring special education and did not acquire special education; they were capable to express the feeling of joy and sadness.
2. Both groups have in narrow interests, sensory problems and engaged in repetitive and challenging behavior.
3. All children preferred to stay alone and liked to do odd play.
4. Their attention level was very scattered and unsteady.
5. All children liked travelling and roaming, eating favorite dishes.

Table- 44: Similarities between two groups.

Taken special education	Not taken special education
1. Aggressiveness, beating and heating tendency were below.	1. Aggressiveness, beating and heating tendency were high.
2. They interested to play and mix with others.	2. Very few children interested to play and mix with others.
3. They were self-dependent.	3. They were self -independent.
4. They could capable to learn and do their daily activities at early age.	4. They took many times to learn and do their daily activities.
5. Most of them were capable to follow few instructions.	5. They were not capable to follow any instruction.
6. They can read and write few things.	6. They cannot read and write anything.
7. They were more social.	7. They were not social.
8. Their negative emotion and attitudes decreased gradually after taking special education.	8. Their negative emotion and attitudes increased day by day for did not take special education.

Table-45: Dissimilarities between two groups.

In conclusion, it can be said that if autism is identified at early age and given special education and parents' are aware of taking proper care and give hard labour of their child in company of teachers' co-operation, their improvement is visualized and they can be self-reliant. Chowdhury (2012), Roberts (2004 as cited in Azam et. al., 2012), Webster and Fieler (2002 as cited in Azam et. al., 2012), Nusrat (2013), Azam et al. (2012) also show similar findings that identification is the first requirement for obeying rapid improvement of autistic children and it provides the best opportunity for early intervention, which can maximize the outcomes of affected children and their families. Early intervention can also prevent the loss of skills if the child gets the intervention before losing the skills. Even, parental participation in screening and designing intervention programs for children with autism can help to deal with the challenge effectively.

Recommendations

In the light of the findings of the study the researcher recommends that

- Government should give emphasis on a balanced, relevant and flexible (unified) curriculum which reflects both the special education and general education and that fulfill the requirements of the national curriculum.
- Government should develop a unified screening tool and intelligence scale for assessing children with autism and other disabilities.
- Therapeutic services such as physiotherapy, occupational therapy, speech therapy, psychotherapy etc. should be developed and applied for a more effective improvement of children with special needs.

- If they become self dependent by receiving vocational skills and efficient in life skills by taking special education they become more independent, their social status improves and their guardians feel less stress for them.
- A social support network should be established for reducing discrimination and for developing social relationship with autistic children.
- Parents, teachers, staffs of schools, family members and relatives should work together for ensuring the best possible outcome for each child.
- Moral and emotional support should be provided through counseling at school for parents.
- More training should be arranged for enhancing teachers' efficiency.
- At least one government school of special education should be set up in every district and every upazila.
- Most of the special schools in Bangladesh have been established by private funding. In these schools teaching with teaching aids hampers badly as the teaching aids are expensive. So, all special schools cannot use different types of teaching aids for effective teaching. For this reason, government should provide financial support in this regard.

Future scope of research

The future research may be done in these areas:

- Reviewing the used study contents of special education for children with autism through interview checklist has been developed that it may be a proposed model of curriculum of special education for children with autism and other children with intellectual impairment (The Proposed Model of Special Education Curriculum for Children with Autism and other Children with Intellectual Impairment).
- Each skill like academic skills, behavioral skills, communicational skills, self-help skills, motor skills, social skills, vocational skills may be done as a separate research item for seeking learning outcomes (The Learning Outcomes of Each Developmental Areas for Children with Autism and other Children with Intellectual Impairment).
- Those who are in inclusive schools for their development which types of facilities should be increased (Increased Facilities of Inclusive Schools).
- How to include borderline and mild autistic children in regular schools (Increased Facilities of Inclusive School for Borderline and Mild Autistic Children).
- How to organize a flexible curriculum combination with the aims and objectives of special education and general education curriculum (Organized a Flexible Curriculum for Children with Autism and other Children with Intellectual Impairment).

- How to develop a unified I.Q test scale for children with autism and other children with intellectual impairment (The Proposed Model of I.Q Test Scale for Children with Autism and other Children with Intellectual Impairment).

Moreover, other possibilities can be used depending upon the interests and experiences of individual researcher and situation.

Implication

As, autistic children have different types of problems in developmental areas, identification is the first requirement for enhancing rapid improvement of autistic children. It is important for creating public awareness. Parents can easily understand that their children's development may delay compared to the normal children. They also can understand where they should go first for diagnosing and protection. Management of autistic children is a multi disciplinary team work including psychiatrist, pediatric, special education teacher, clinical psychologist and the schools with special education. In Bangladesh there is no unified standardized screening tool. These children are identified by doctors and pediatrics. Special schools cannot provide all supports for them. Even, in Bangladesh there is no unified standardized I.Q test scale and special education curriculum. So, when the children are coming into special school, the school cannot provide the support properly. For these reasons, it is time to require a unified special education curriculum including full instructions of how to identify and label these children, which skills should be needed first and which teaching techniques can be applied for them. As, special schools are not capable to follow within a specific time schedule for admitting them and they try to teach them mainly six skills in whole educational life. So, for teaching of all students who are old or new for them, they emphasis on academic skills then behavior and communicative skills, life

management skills, social skills, gross motor, fine motor skills. Even, those who were receiving special education at least three years and those ages were at least above 10 years old were taught vocational skills. But, autistic students need special attention and teaching strategies to learn these skills. It is very tough to do better in academic and vocational areas without improving self-help, behavioral -communication and social skills. To mitigate this challenge, the researcher suggests to divide the autistic students into two groups; i.e. old and new. Preferred teaching areas will be different for old and new groups. At first, new students should teach self-help skills so that they can perform self activities independently. Then, they should teach behavior and communicative skills. After that, the students should teach social skills. When they avail enough capabilities in these three areas, they should be taught gross and fine motor skills to do better in academic and vocational areas. It will be easier to teach them academic skills. Besides, teaching literacy skills, it is also necessary to teach them vocational skills; because vocational skill will prove more effective for them to lead future life independently. Besides, for developing vocational proficiency sufficient training facilities have to be arranged in school environment. In the same way, employment facilities should be created so that, after training they can be included in the employment sectors. Thus, these children will not be our burden; they can transform themselves into our wealth.

Now, the special schools follow a common schedule for all students where they emphasize on literacy skills. Following the items are shown according to the preferred teaching areas of the special schools:

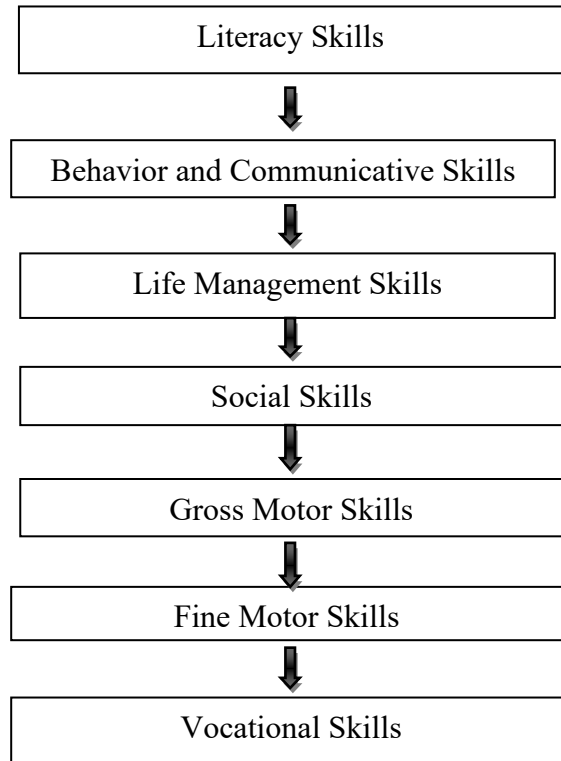


Figure 4: Present chronology of the taught skills

The researcher suggests to divide the autistic students into two groups and to make two different routines for them. Following are the two models according to the preferred teaching areas for old and new groups of autistic students:

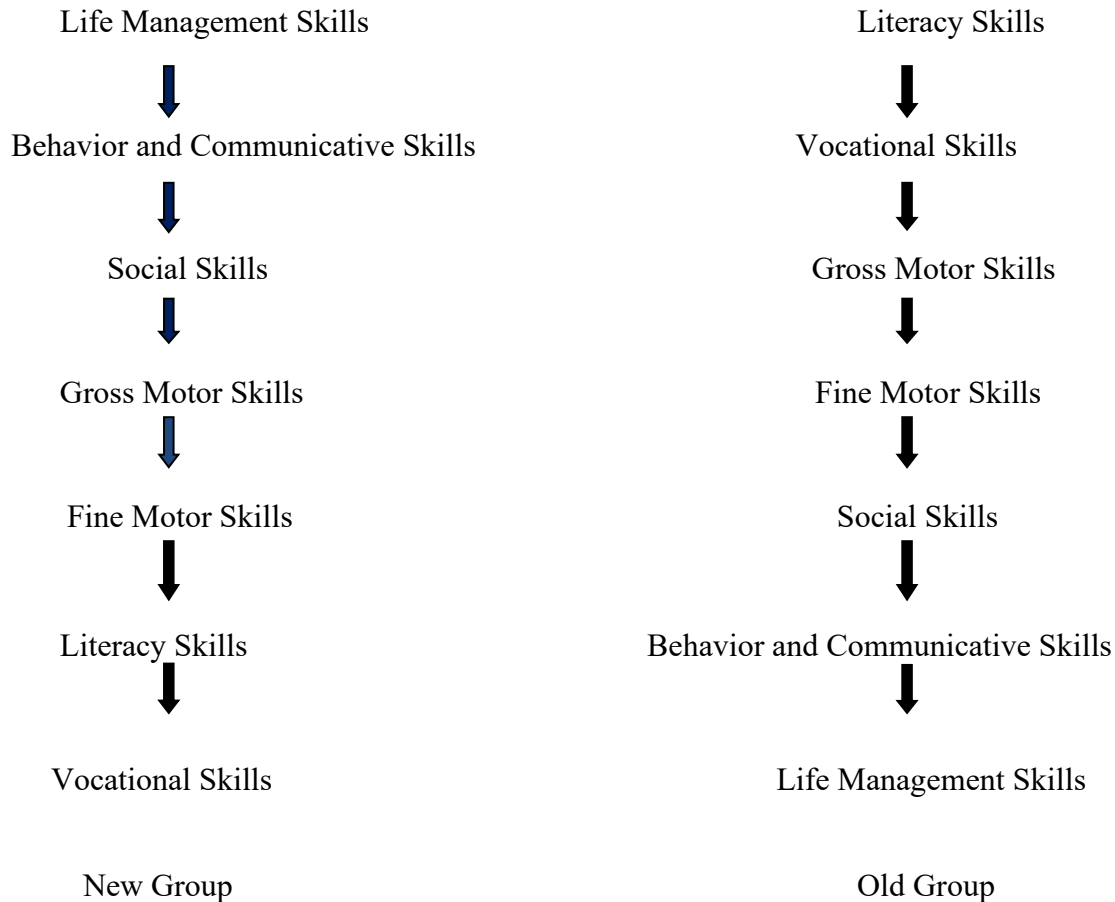


Figure 5: Proposed chronology for the taught skills

Conclusion

From the above discussion, it can be said that for inclusion of social and economic mainstream set-up, awareness building about autism is one of the important conditions. Awareness about autism also means the society's responsibility to give these children the opportunity to grow up with other children in an acceptable environment. After building awareness about autism combined initiatives is necessary for action. After that, all should be responsible and sensitive and play a responsible role for these children. Even, identifying autism, finding out their level of severity and interest are also important for their improvement. Creating employment sectors, arranging vocational training and including them work on the basis of performance are required,

so that they can make a place in the society. Now, it is the time of identifying their special demands and making a suitable work place. As a result, it will create an autism friendly society and that can play a supportive role of the constitution and conventional laws of our state. So, government should give more attention how the movement is being in haste and along with them it is also needed to extend workplace for being self dependent. Since they are a part of our total population; if they are not including in any work, our prosperity will be hindered. We all have a responsibility towards lighting up the small hearts of these younger special citizens. Being in a third world country with limited resources we must have strong family bonding comparing with that of western countries. Along with the available services, we can use this well built family support to deal with and manage our gifted children. Let us work hand in hand and make a secure future for these children. As they also have the feelings of love, happiness, sadness and pain just like anybody, we don't need to work hard; only we need an empathetic and friendly heart to give them a better world. We should try to make a friendly environment which will provide them the opportunity to live independently and respectfully. So, in Bangladesh we have much scope for research on children with autism.

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Appendix A
School Environment Observation Checklist for Resrarcher

**IMPACT OF SPECIAL EDUCATION ON CHILDREN WITH AUTISM IN
BANGLADESH**

বিদ্যালয়ের নামঃ

যোগাযোগের ঠিকানাঃ

মোবাইল / টেলিফোন নম্বরঃ

Items	Characteristics	Comments
Classroom decoration	Well decorated Not decorated	
Seating arrangement	U shape V shape Circle Rectangle Column Others	
Teacher-Student ratio	1:1 $\geq 1:5$ $\geq 1:10$ $\geq 1:15$ $\geq 1:20$ $\leq 1:20$	
Teacher –Student interaction	Friendly Not friendly	
Curriculum followed	NCTB primary curriculum School's own curriculum Both NCTB and own curriculum Others	
Textbook Used	NCTB Textbook Other textbook NCTB and other Textbook	
Teaching methods	Lecture Behavioral modification Applied Behavior Analysis Activity based Individual and group	
IEP	Yes No	

Lesson plan	Yes No	
Teaching aids	Pictorial Real object Both real object and pictorial None	
Skill development area	Academic skills Behavior and Communication skills Self-help skills Social skills Gross and Fine motor skills Vocational skills	
Yearly Evaluation	Own format According to IEP No specific Method	
Classroom Evaluation	Daily Weekly	

পিতামাতাদের জন্য FGD প্রশ্ন

১. কিভাবে তাদের সন্তানেরা সনাক্ত হয়েছিল যে তারা অটিজম আক্রান্ত?
২. কিভাবে তারা বিশেষ স্কুলে ভর্তি করার তথ্য গুলো সংগ্রহ করেছিলেন?

শিক্ষকদের জন্য FGD প্রশ্ন

১. কিভাবে তারা শিক্ষার্থীদের সনাক্ত করে?
২. কিভাবে স্কুলে ভর্তি করানো হয়?

Appendix B
Case Study for parents and teachers

**IMPACT OF SPECIAL EDUCATION ON CHILDREN WITH AUTISM IN
BANGLADESH**

গবেষক : আফরোজা নাজনীন

বিষয়ী অনুধ্যান (Case Study) এর জন্য প্রশ্নপত্র

(অটিস্টিক শিশুদের পিতা অথবা মাতা এবং শিক্ষকদের জন্য)

প্রাপ্ত তথ্য শুধুমাত্র গবেষণার কাজে ব্যবহৃত হবে। প্রতিবেদনের কোথাও তথ্যদাতার পরিচয় প্রকাশিত হবে না। তথ্যদাতা ইচ্ছা করলে পরবর্তীতে প্রদত্ত তথ্য প্রত্যাহার করতে পারবেন এবং ব্যক্তিগত তথ্য প্রদানে ছদ্ম নাম ব্যবহার করতে পারবেন।

ব্যক্তিগত তথ্য

বিদ্যালয়ের নাম :
শিক্ষার্থীর নাম ও বয়স :
যোগাযোগের ঠিকানা :
মোবাইল / টেলিফোন নম্বর :
অভিভাবকের নাম ও স্বাক্ষর :

নির্দেশনা (Instructions):

দয়া করে প্রশ্নগুলোর উত্তর দিন।

১. স্কুলে ভর্তির পূর্বে তার আচরণগত কী কী সমস্যা আপনি লক্ষ্য করেছিলেন?
২. স্কুলে ভর্তি করতে কীভাবে আগ্রহী হলেন?
৩. ডাকলে কীভাবে সাড়া দেয়?
৪. হাসি ও শুভেচ্ছা, আনন্দ ও কষ্টের অনুভূতিগুলো কীভাবে প্রকাশ করে?
৫. উত্তেজিত হলে কোন ধরনের আচরণ করে?
৬. অন্যের সাথে কীভাবে ভাব বিনিময় করে?
৭. প্রয়োজনীয় দৈনন্দিন চাহিদাগুলো (ক্ষুধা, টয়লেট, কোন পছন্দ) কীভাবে প্রকাশ করতো?
৮. নিজের পরিষ্কার – পরিচ্ছন্নতা(হাত-মুখ ধোওয়া, দাঁত ব্রাশ করা, গোসল করা, চুল আঁচড়ানো, কাপড় পরা ও খোলা, মল-মূত্র পরিষ্কার করা) এর প্রতি কেমন সচেতন এবং কাজগুলো কীভাবে করে?
৯. অন্যদের সাথে খেলাধুলা, মেলামেশা, খাবার অথবা অন্য কোন জিনিস ভাগাভাগি করতে কেমন পছন্দ করে?
১০. কোন ধরনের খেলাধুলা করতে পছন্দ করে?
১১. কোন নির্দেশ দিলে কীভাবে পালন করে?
১২. বিশেষ কোন কিছু প্রতি সংবেদনশীল কিনা? সেটি কি ধরনের এবং কীভাবে প্রকাশ করে?
১৩. কোন আচরণের পুনরাবৃত্তি করে কি না? কীভাবে করে?
১৪. বাড়িতে থাকাকালীন কোন কাজগুলো করতে আগ্রহ প্রকাশ করে?
১৫. স্কুলে আসা, স্কুলে থাকা, বাড়ির কাজ (Home work), করতে কী ধরনের আগ্রহ প্রকাশ করে?
১৬. কার সাহায্য নিয়ে বাড়ির কাজ (Home work) গুলো করে?
১৭. কী কী পড়তে ও লিখতে পারে?
১৮. কোন বিশেষ বিষয় (নাচ, গান, কবিতা আবৃত্তি, ছবি আঁকা, অভিনয়, কম্পিউটার অথবা অন্যান্য) এর প্রতি আগ্রহ কিরূপ?
১৯. স্কুলে ভর্তির পর তার মধ্যে দৈনন্দিন ও বিদ্যালয় জীবনে কী কী পরিবর্তন লক্ষ্য করছেন?
২০. স্কুলের কোন দিকগুলো আপনার ভাল লাগে এবং কোন দিকগুলো মন্দ লাগে?

Appendix C Interview Checklist for parents

IMPACT OF SPECIAL EDUCATION ON CHILDREN WITH AUTISM IN BANGLADESH

গবেষক : আফরোজা নাজনীন

সাক্ষাৎকার চেকলিস্ট

(অটিস্টিক শিশুদের পিতা অথবা মাতাদের জন্য)

প্রাপ্ত তথ্য শুধুমাত্র গবেষণার কাজে ব্যবহৃত হবে। প্রতিবেদনের কোথাও তথ্যদাতার পরিচয় প্রকাশিত হবে না। তথ্যদাতা ইচ্ছা করলে পরবর্তীতে প্রদত্ত তথ্য প্রত্যাহার করতে পারবেন এবং ব্যক্তিগত তথ্য প্রদানে ছদ্ম নাম ব্যবহার করতে পারবেন।
ব্যক্তিগত তথ্য

বিদ্যালয়ের নাম :
শিক্ষার্থীর নাম ও বয়স :
যোগাযোগের ঠিকানা :
মোবাইল / টেলিফোন নম্বর :
অভিভাবকের নাম ও স্বাক্ষর :

নির্দেশনা (Instructions):

প্রদত্ত উক্তিগুলো পড়ুন। আপনার সন্তানের জন্য প্রযোজ্য ক্ষেত্রে টিক (✓) চিহ্ন দিন।

৫ = খুব ভাল
৪ = ভাল
৩ = মাঝারি
২ = খারাপ
১ = খুবই খারাপ

(ক) দৈনন্দিন জীবন দক্ষতা (Daily Life Skills)

(১) আচরণগত দক্ষতা / যোগাযোগ দক্ষতা (Behavioral /Communicational Skills):

ক্রমিক নম্বর	দক্ষতা	পারদর্শিতার মাত্রা				
		৫	৪	৩	২	১
১	ইশারা, অংগভঙ্গী ইত্যাদির মাধ্যমে ভাব বিনিময় করতে পারা					
২	কথা বুঝতে পারা					
৩	একশব্দে কথা বলতে পারা					
৪	দুই বা ততোধিক শব্দে কিন্তু অসম্পূর্ণ বাক্যে কথা বলতে পারা					
৫	পূর্ণ বাক্যে কথা বলতে পারা					
৬	ধারাবাহিক বাক্য দিয়ে কথা বলতে পারা					
৭	শুদ্ধ উচ্চারণে কথা বলতে পারা					
৮	অন্যের সাথে কথোপকথন করতে পারা					
৯	ছেলে – মেয়ে বুঝতে পারা					
১০	গরম – ঠান্ডা বুঝতে পারা					
১১	কম- বেশী বুঝতে পারা					
১২	দিক (এদিক – ওদিক, সামনে – পিছনে, পূর্ব – পশ্চিম, উত্তর – দক্ষিণ ইত্যাদি) নির্দেশনাবুঝতে পারা					
১৩	ভিতর – বাহির, উপর – নিচ, ডান – বাম, পাশে – কোনে, প্রভৃতি নির্দেশনা বুঝতে পারা					
১৪	পছন্দমত জিনিস বাছাই করতে পারা					
১৫	দৈনন্দিন অভিজ্ঞতা বর্ণনা করতে পারা					

১৬	গতকাল,আজ এবং আগামীকাল বুঝতে পারা					
১৭	কোন কিছুর কারণ জানতে ও বুঝতে পারা					
১৮	কোন কিছুর পর কি ঘটবে তা জানা ও বুঝতে পারা					
১৯	শোনা গল্প থেকে মূল বিষয় বুঝতে পারা					
২০	অর্ধেক,সম্পূর্ণ,ভাল – মন্দ নির্দেশ বুঝা ও করতে পারা					
২১	কার,কে,কি,কেন ইত্যাদি প্রশ্নের উত্তর দিতে পারা					
২২	কোন জিনিসের ছবির অনুপস্থিত অংশের নাম (শূন্যস্থান পূরণ করতে পারা) বলতে পারা					
২৩	ছোট – বড়,লম্বা – খাটো বুঝতে পারা					
২৪	হালকা – ভারী বুঝতে পারা					
২৫	কয়েকটি জিনিসের মধ্যে এক বা একাধিক সরিয়ে নিলে কোনটা নাই তা বুঝতে পারা					
২৬	বৃত্তকার,ত্রিভুজাকার,চতুর্ভুজাকার চিনতে পারা					
২৭	ছবি বাছাই করে শ্রেণি বিন্যাস করতে পারা					
২৮	ধারাবাহিক ছবি দেখে গল্প বলতে পারা					
২৯	অবস্থান (প্রথম,মধ্যম,শেষ অথবা প্রথম,দ্বিতীয়,তৃতীয় ইত্যাদি)বুঝতে পারা					
৩০	দৃষ্টি,শ্রবণ ও শারীরিক উদ্দীপনায় সাড়া দিতে পারা					
৩১	নাম ধরে ডাকলে সাড়া দিতে পারা					
৩২	হাসি ও শূভেচ্ছা বিনিময় করতে পারা					
৩৩	আনন্দ ও কষ্ট প্রকাশ করতে পারা					
৩৪	অন্যের সাথে খেলা – খুলা / মেলামেশা করতে পারা					
৩৫	খাবার অথবা অন্য জিনিস ভাগাভাগি করতে পারা					
৩৬	দলগতভাবে কাজ করতে পারা					
৩৭	কোনকিছুতে মনোযোগ দিতে পারা					
৩৮	নির্দেশ পালন করতে পারা					
৩৯	ধৈর্য ধারণ করতে পারা					

(২) আত্মনির্ভরশীল দক্ষতা (Life management skills):

ক্রমিক নম্বর	দক্ষতা	পারদর্শিতার মাত্রা				
		৫	৪	৩	২	১
৪০	ক্ষুধার চাহিদা প্রকাশ করতে পারা					
৪১	টয়লেটের চাহিদা প্রকাশ করতে পারা					
৪২	নিজে মল –মূত্রের সাথে জড়িত কাজ সম্পাদন করতে পারা					
৪৩	নিজে হাত – মুখ ধোঁত করতে পারা					
৪৪	নিজে দাঁত ব্রাশ করতে পারা					
৪৫	নিজ হাতে খেতে পারা					
৪৬	চুল ঝাঁচড়াতে পারা					
৪৭	নিজের কাপড় পরতে পারা					
৪৮	নিজের কাপড় খুলতে পারা					
৪৯	নিজ হাতে গোসল করতে পারা					
৫০	কাপড় ও বিছানা গোছাতে পারা					
৫১	কাপড় ধোয়া ও শুকাতে পারা					
৫২	বাসনপত্র পরিষ্কার করতে পারা					
৫৩	টেবিল – চেয়ার ইত্যাদি পরিষ্কার করতে পারা					
৫৪	সহজ রান্না করতে পারা					
৫৫	খাবার পরিবেশন করতে পারা					
৫৬	ঘর পরিষ্কার(ঝাড়ু,মোছা,গোছানো) করতে পারা					
৫৭	পারিবারিক যন্ত্রপাতি (দরজা,জানালা,তালা,টিভি,সুইচ ইত্যাদি) ব্যবহার করতে পারা					
৫৮	হিসাব ছাড়া কেনাকাটা করতে পারা					

(৩) স্থূল পেশী সঞ্চালনমূলক দক্ষতা (Gross Motor Skills):

ক্রমিক নম্বর	দক্ষতা	পারদর্শিতার মাত্রা				
		৫	৪	৩	২	১
৫৯	হাত দিয়ে যে কোন জিনিস ধরতে পারা					
৬০	ঘাড় তুলতে পারা					
৬১	উপর হতে পারা					
৬২	গড়াগড়ি দিতে পারা					
৬৩	বসতে পারা					
৬৪	হাঁটতে পারা					
৬৫	এক পায়ে দাঁড়াতে পারা					
৬৬	এক পায়ে লাফাতে পারা					
৬৭	দু'পায়ে লাফাতে পারা					
৬৮	কোন বাঁধা টপকাতে পারা					
৬৯	কোন কিছুর নিচ দিয়ে যাওয়া আসা করতে পারা					
৭০	উচ্চ স্থান থেকে লাফ দিয়ে নামতে পারা					
৭১	দৌড়াতে ও লাফাতে পারা					

(খ) সামাজিক দক্ষতা (Social Skills):

ক্রমিক নম্বর	দক্ষতা	পারদর্শিতার মাত্রা				
		৫	৪	৩	২	১
৭২	জিনিস নাড়াচাড়ার মাধ্যমে খেলা করতে পারা					
৭৩	পুতুল বা অনুরূপ খেলা করতে পারা					
৭৪	নির্দিষ্ট নিয়ম মেনে(বল বা অন্যান্য জিনিস লেনদেন) খেলা খেলতে পারা					
৭৫	বুদ্ধি খাটানো (লেগো,পাজেল লাগানো ইত্যাদি) খেলা খেলতে পারা					
৭৬	ঘরোয়া (লুডু,কেরাম,বাগাডুলি ইত্যাদি) খেলা খেলতে পারা					
৭৭	মাঠের (ফুটবল,ক্রিকেট,ব্যাডমিন্টন ইত্যাদি) খেলা খেলতে পারা					
৭৮	খেলনা(কাগজ দিয়ে নৌকা,উড়োজাহাজ,ঘুড়ি;মাটি – কাপড় দিয়ে পুতুল ও অন্যান্য জিনিস)তৈরি করতে পারা					
৭৯	মনোযোগ দিয়ে টিভি দেখতে পারা					
৮০	টিভির নাটক,সিনেমা ও অন্যান্য অনুষ্ঠান বুঝতে পারা					
৮১	কম্পিউটারে খেলা করতে পারা					
৮২	কবিতা মুখস্থ বা আবৃত্তি করে বলতে পারা					
৮৩	গান করতে পারা					
৮৪	নাচ করতে পারা					
৮৫	অভিনয় করতে পারা					
৮৬	স্কাউটিং করতে পারা					
৮৭	বাগান করতে পারা					
৮৮	অন্যদের সাথে খেলা – খুলার আগ্রহ প্রকাশ করতে ও খেলতে পারা					
৮৯	অন্যদের সাথে কথোপকথন অথবা ভাব বিনিময় করতে পারা					

(গ) লেখাপড়ার দক্ষতা(Academic Skills):

(১) লেখাপড়ার দক্ষতা (Literacy Skills):

ক্রমিক নম্বর	দক্ষতা	পারদর্শিতার মাত্রা				
		৫	৪	৩	২	১
90	বর্ণ,সংখ্যা চিনতে পারা					
91	বর্ণ,সংখ্যা লিখতে পারা					
92	নিজের নাম ,ঠিকানা লিখতে ও বলতে পারা					
93	দুটি বর্ণের সমন্বয়ে শব্দ পড়তে ও লিখতে পারা					
94	তিনটি বর্ণের সমন্বয়ে শব্দ পড়তে ও লিখতে পারা					
95	v -কার যুক্ত শব্দ পড়তে ও লিখতে পারা					
96	w - কার যুক্ত শব্দ পড়তে ও লিখতে পারা					
97	x -কার যুক্ত শব্দ পড়তে ও লিখতে পারা					
98	u -কার যুক্ত শব্দ পড়তে ও লিখতে পারা					
99	u -কার যুক্ত শব্দ পড়তে ও লিখতে পারা					
100	u -কার যুক্ত শব্দ পড়তে ও লিখতে পারা					
101	† - কার যুক্ত শব্দ পড়তে ও লিখতে পারা					
102	% কার যুক্ত শব্দ পড়তে ও লিখতে পারা					
103	† v -কার যুক্ত শব্দ পড়তে ও লিখতে পারা					
104	† \$ -কার যুক্ত শব্দ পড়তে ও লিখতে পারা					
105	জটিল/যুক্তাক্ষরসহ শব্দ পড়তে ও লিখতে পারা					
106	বই -এর অনুচ্ছেদ পড়তে ও লিখতে পারা					
107	অনুচ্ছেদ পড়ে বুঝতে পারা					
108	শব্দ –বাক্য লিখতে পারা					
109	হাতের লেখা পড়তে পারা					
110	ছোট অনুচ্ছেদ নিজে লিখতে পারা					
111	চিঠি লিখতে পারা					
112	ছোট রচনা লিখতে পারা					
113	গল্প/ঘটনা পড়ে বুঝতে পারা					
114	বই ব্যতীত যেকোন অনুচ্ছেদ পড়া ,লিখা ও বুঝতে পারা					
115	প্রথম শ্রেণির বাংলা, সমাজ,ইতিহাস ও বিজ্ঞানের এর নির্বাচিত পাঠ বুঝতে পারা					
116	দ্বিতীয় শ্রেণির বাংলা, সমাজ,ইতিহাস ও বিজ্ঞানের এর নির্বাচিত পাঠ বুঝতে পারা					
117	তৃতীয় শ্রেণির বাংলা, সমাজ,ইতিহাস ও বিজ্ঞানের এর নির্বাচিত পাঠ বুঝতে পারা					
118	চতুর্থ শ্রেণির বাংলা, সমাজ,ইতিহাস ও বিজ্ঞানের এর নির্বাচিত পাঠ বুঝতে পারা					
119	পরিমাণ ও সংখ্যার (০ – ৯ পর্যন্ত) ধারণা করতে পারা					
120	গণনার (১ – ১০০ পর্যন্ত) ধারণা করতে পারা					
121	যোগ (সর্বোচ্চ ৪ সংখ্যা পর্যন্ত) করতে পারা					
122	বিয়োগ (সর্বোচ্চ ৪ সংখ্যা পর্যন্ত) করতে পারা					
123	১০ পর্যন্ত নামতা পড়তে ও লিখতে পারা					
124	গুন, অংক (সর্বোচ্চ ৩ সংখ্যা পর্যন্ত) করতে পারা					
125	ভাগ অংক (সর্বোচ্চ ৩ সংখ্যা পর্যন্ত) করতে পারা					
126	দিন,রাত,সকাল,দুপুর,বিকাল,সন্ধ্যা বুঝতে ও বলতে পারা					
127	ঘড়ি অনুযায়ী সময় বলতে ও লিখতে পারা					

128	সময় (ঘন্টা,মিনিট ও সেকেন্ড) বুঝতে পারা					
129	সাত দিনের নাম বলতে ও লিখতে পারা					
130	মাসের নাম বলতে ও লিখতে পারা					
131	ঋতুর নাম বলতে ও লিখতে পারা					
132	সালের নাম বলতে ও লিখতে পারা					
133	ক্যালেন্ডার দেখে তারিখ বলতে ও লিখতে পারা					
134	বিভিন্ন টাকার মান চিহ্নিত করতে পারা					
135	হিসাব করে কেনাকাটা করতে পারা					
136	ছোট হিসাব – নিকাশ করতে পারা					
137	প্রথম শ্রেণির নির্বাচিত অংক বুঝতে ও করতে পারা					
138	দ্বিতীয় শ্রেণির নির্বাচিত অংক বুঝতে ও করতে পারা					
139	তৃতীয় শ্রেণির নির্বাচিত অংক বুঝতে ও করতে পারা					
140	চতুর্থ শ্রেণির নির্বাচিত অংক বুঝতে ও করতে পারা					
141	পঞ্চমশ্রেণির নির্বাচিত অংক বুঝতে ও করতে পারা					

(২) সূক্ষ্ম পেশী সঞ্চালনমূলক দক্ষতা (Fine Motor Skills):

ক্রমিক নম্বর	দক্ষতা	পারদর্শিতার মাত্রা				
		৫	৪	৩	২	১
১৪২	চক বা পেন্সিল দিয়ে দাগ দিতে পারা					
১৪৩	ফোটা বা দাগের উপর দিয়ে দাগ দিতে পারা					
১৪৪	চক বা পেন্সিল দিয়ে লিখতে পারা					
১৪৫	নির্দিষ্ট আকৃতি ভরাট করতে পারা					
১৪৬	নির্দিষ্ট আকৃতির মধ্যে বস্তু বসাতে বা লাগাতে পারা					
১৪৭	নির্দিষ্ট আকৃতির মধ্যে ছবি আঁকতে পারা					
১৪৮	নির্দিষ্ট আকৃতি আঁকতে পারা					
১৪৯	ছবি আঁকতে পারা					
১৫০	কাঁচি দিয়ে কাগজ কাটতে পারা					
১৫১	নির্দিষ্ট স্থানে পা ফেলে হাটতে পারা					
১৫২	সহজ সেলাই করতে পারা					

৩) বৃত্তিমূলক দক্ষতা (**Vocational Skills**):

নিচের যে যে কাজ সে করতে পারে সেগুলোতে দয়া করে টিক চিহ্ন (✓) দিন।

ক্রমিক নম্বর	দক্ষতা	করতে পারে
১৫৩	হস্তশিল্পের কাজ	
১৫৪	পাট শিল্পের কাজ	
১৫৫	মৃৎ শিল্পের কাজ	
১৫৬	চামড়ার কাজ	
১৫৭	কৃষি বা নার্সারির কাজ	
১৫৮	পোলট্রির কাজ	
১৫৯	ক্যাফেটোরিয়ার কাজ (বিপন্নন যোগ্য খাবার তৈরির কাজ)	
১৬০	খাম /প্যাকেট তৈরির কাজ	
১৬১	ফটোকপিং কাজ / অনুরূপ মেশিনের কাজ	
১৬২	লেমিনেটিং করা	
১৬৩	প্যাকেজিং এর কাজ	
১৬৪	কাঠের কাজ	
১৬৫	মোমের কাজ	
১৬৬	লন্ড্রির কাজ	
১৬৭	সেলাই ও এমব্রয়ডারীর কাজ	
১৬৮	ব্লক ও বাটিকের কাজ	
১৬৯	অফিস / দোকানে সাহায্যকারী হিসাবে কাজ	
১৭০	কম্পিউটার কম্পোজ বা অনুরূপ কাজ	
১৭১	মশার কয়েল তৈরি	

Appendix D
Interview Schedule for Parents

**IMPACT OF SPECIAL EDUCATION ON CHILDREN WITH AUTISM IN
BANGLADESH**

গবেষক : আফরোজা নাজনীন

(যে সব অটিস্টিক শিশু বিশেষ শিক্ষা গ্রহণ করছে তাদের পিতা অথবা মাতাদের সাক্ষাৎকার গ্রহণের জন্য প্রশ্নপত্র)
প্রাপ্ত তথ্য শুধুমাত্র গবেষণার কাজে ব্যবহৃত হবে। প্রতিবেদনের কোথাও তথ্যদাতার পরিচয় প্রকাশিত হবে না। তথ্যদাতা ইচ্ছা করলে
পরবর্তীতে প্রদত্ত তথ্য প্রত্যাহার করতে পারবেন এবং ব্যক্তিগত তথ্য প্রদানে ছদ্ম নাম ব্যবহার করতে পারবেন।

নির্দেশনা (Instructions):
দয়া করে প্রশ্নগুলোর উত্তর দিন।

১. ছেলেবেলায় ডাকলে কীভাবে সাড়া দিত?
২. ছেলেবেলায় কীভাবে ভাব বিনিময় করতো?
৩. দৈনন্দিন প্রয়োজনীয় চাহিদাগুলো (ক্ষুধা, টয়লেট, কোন পছন্দ) কীভাবে প্রকাশ করতো?
৪. নিজের পরিষ্কার – পরিচ্ছন্নতা (হাত-মুখ ধোওয়া, দাঁত ব্রাশ করা, গোসল করা, চুল আঁচড়ানো, কাপড় পরা ও খোলা, মল-মূত্র পরিষ্কার করা) এর প্রতি সচেতনতা কেমন ছিল?
৫. ছেলেবেলায় কোন জিনিসগুলো দিয়ে খেলতে পছন্দ করতো?
৬. কোন আচরণের পুনরাবৃত্তি করে কি না? কীভাবে করে?
৭. হাসি ও শূভেচ্ছা, আনন্দ ও কষ্টের অনুভূতিগুলো কীভাবে প্রকাশ করতো?
৮. উত্তেজিত হলে কোন ধরনের আচরণ করে?
৯. বাড়িতে মেহমানদের উপস্থিতিতে কিরূপ প্রতিক্রিয়া করে?
১০. বাইরে বেড়াতে যাওয়ার প্রতি কেমন আগ্রহ প্রকাশ করে?
১১. সমবয়সীদের সাথে খেলাধুলা, মেলামেশা করতে কেমন পছন্দ করে এবং কোন ধরনের খেলাধুলা করতে পছন্দ করে?
১২. কত বছর বয়সে বর্ণমালা পড়তে ও লিখতে শিখেছিল?
১৩. অটিস্টিক শিশুদের বিশেষ শিক্ষা প্রদানের জন্য কী কী গুরুত্বপূর্ণ বিষয় শেখানো প্রয়োজন বলে মনে করেন?

Appendix E
FGD Questionnaire for Teachers

**IMPACT OF SPECIAL EDUCATION ON CHILDREN WITH AUTISM IN
BANGLADESH**

গবেষক : আফরোজা নাজনীন

(অটিস্টিক শিশুদের শিক্ষকদের সাক্ষাৎকার গ্রহণের জন্য প্রস্তুত)

প্রাপ্ত তথ্য শুধুমাত্র গবেষণার কাজে ব্যবহৃত হবে। প্রতিবেদনের কোথাও তথ্যদাতার পরিচয় প্রকাশিত হবে না। তথ্যদাতা ইচ্ছা করলে পরবর্তীতে প্রদত্ত তথ্য প্রত্যাহার করতে পারবেন এবং ব্যক্তিগত তথ্য প্রদানে ছদ্ম নাম ব্যবহার করতে পারবেন।
ব্যক্তিগত তথ্য

বিদ্যালয়ের নাম :
মোবাইল / টেলিফোন নম্বর :
শিক্ষক/শিক্ষিকার নাম ও স্বাক্ষর :

নির্দেশনা (Instructions):

১. বিশেষ শিক্ষা গ্রহণ করলে লেখাপড়ার দক্ষতা (Academic skills) ক্ষেত্রে কতটা উন্নত হয় বলে আপনি মনে করেন ?
২. বিশেষ শিক্ষা গ্রহণ করলে আচরণগত / যোগাযোগ দক্ষতা (Behavioral /communicational skills) ক্ষেত্রে কতটা উন্নত হয় বলে আপনি মনে করেন ?
৩. বিশেষ শিক্ষা গ্রহণ করলে আত্মনির্ভরশীল দক্ষতা (Self – help skills) ক্ষেত্রে কতটা উন্নত হয় বলে আপনি মনে করেন ?
৪. বিশেষ শিক্ষা গ্রহণ করলে সামাজিক দক্ষতা (Social skills) ক্ষেত্রে কতটা উন্নত হয় বলে আপনি মনে করেন ?
৫. বিশেষ শিক্ষা গ্রহণ করলে স্থূল পেশী সঞ্চালনমূলক দক্ষতা (Gross motor skills) ক্ষেত্রে কতটা উন্নত হয় বলে আপনি মনে করেন ?
৬. বিশেষ শিক্ষা গ্রহণ করলে সূক্ষ্ম পেশী সঞ্চালনমূলক দক্ষতা (Fine motor skills) ক্ষেত্রে কতটা উন্নত হয় বলে আপনি মনে করেন ?
৭. বিশেষ শিক্ষা গ্রহণ করলে বৃত্তিমূলক দক্ষতা (Vocational skills) ক্ষেত্রে কতটা উন্নত হয় বলে আপনি মনে করেন ?
৮. শ্রেণিতে কোন বিষয়গুলো তাদের বেশী আকৃষ্ট করে এবং কোন বিষয়গুলো আকৃষ্ট করে না?
৯. শ্রেণিতে শিক্ষাদানের সময় কোন পদ্ধতি ও কৌশলগুলো প্রয়োগের চেষ্টা করা হয়?
১০. বিদ্যালয়ে কী ধরনের সুযোগ-সুবিধা বৃদ্ধি করা প্রয়োজন?

Appendix F
Behavior Checklist for parents
(অটিস্টিক শিশুদের পিতা-মাতা দের জন্য চেকলিস্ট)

নির্দেশনা (Instructions):

প্রদত্ত উক্তিগুলো পড়ুন। আপনার সন্তানের জন্য প্রযোজ্য ক্ষেত্রে টিক (✓) চিহ্ন দিন।

৪ = খুবই ভাল, ৩ = ভাল, ২ = মাঝারি, ১ = খারাপ, ০ = খুবই খারাপ

ক্রমিক নম্বর	দক্ষতা	পারদর্শিতার মাত্রা				
		৪	৩	২	১	০
১	টয়লেট ট্রেনিং					
২	পোষাক পরিধান ক্ষমতা					
৩	নিজে খাবার খেতে পারার ক্ষমতা					
৪	শারীরিক নড়াচড়া					
৫	কথা বলার ক্ষমতা					
৬	শ্রবণ ক্ষমতা					
৭	দৃষ্টি ক্ষমতা					
৮	নির্দেশ বুঝতে পারার ক্ষমতা					
৯	দৈহিক উন্নতি					
১০	বুদ্ধি					
১১	স্মৃতি শক্তি					
১২	সাধারণ জ্ঞান					
১৩	কৌতুহল					
১৪	লেখাপড়া					
১৫	সামাজিক আচরণ					
১৬	খেলার সময় আচরণ					
১৭	পরিবেশ সচেতনতা					
১৮	আবেগ পরিবর্তনের প্রকাশ					
১৯	পরিষ্কার – পরিচ্ছন্নতা					
২০	বাড়ির কাজে সহযোগিতা					
২১	বসতে পারা					
২২	হাঁটতে পারা					
২৩	দাঁড়াতে পারা					
২৪	ঘান শক্তি					
২৫	স্বাদ শক্তি					
২৬	অক সংবেদন (ঠান্ডা, গরম, চাপ, ব্যাথা)					
২৭	স্কুলের সামগ্রিক কাজ					
২৮	বাড়ির সামগ্রিক কাজ					
২৯	পরিচিতদের সাথে আচরণ					
৩০	অপরিচিতদের সাথে আচরণ					
৩১	চিকিৎসকের সাথে আচরণ					
৩২	রাস্তাঘাটে চলার সময় আচরণ					
৩৩	বাজারে/দোকানে নিয়ে গেলে আচরণ					

Appendix G

Solution of Behavior Checklist

ভূমিকা

মানসিক প্রতিবন্ধীদের সনাক্তকরণ এবং শ্রেণীবিন্যাস করার জন্য বাংলাদেশে কোন উপযুক্ত অভীক্ষা এখনও পাওয়া যায় না। যে সকল মনোবিজ্ঞানী, চিকিৎসক, কাউন্সেলর, বিশেষ চিকিৎসক এদের সনাক্তকরণ এবং শ্রেণীবিন্যাস করতে বাধ্য হন তারা সকলেই স্বীকার করেন যে, প্রচলিত আদর্শায়িত বুদ্ধি অভীক্ষাগুলো এদের সনাক্তকরণ কাজের জন্য অনুপযুক্ত। মানসিক প্রতিবন্ধীদের শ্রেণীবিন্যাস করার জন্য বিভিন্ন বইতে বহুতরক সম্বলিত যে বর্ণনা পাওয়া যায় সেগুলো কোন Intelligence Test ব্যবহার করে লিখা হয়েছে তার উল্লেখ পাওয়া যায় না। ১৯৮৬-১৯৮৮ সালে রাজশাহী বিশ্ববিদ্যালয়ের মনোবিজ্ঞান বিভাগের শিক্ষক ডঃ আনওয়ারুল হাসান সুফি Society for the Care and Education of the Mentally Retarded Children (SCEMRB) এর রাজশাহী শাখার ব্যাপক চেষ্টা করেন কিভাবে প্রতিবন্ধী শিশুদের ওপর Standardized Intelligence Test ব্যবহার করা যায়। কিন্তু তিনি দেখতে পান Mild Mentally Retarded শিশুরা Standardized Test গুলোর কিছু অংশের উত্তর দিতে পারলেও সম্পূর্ণ Test শেষ করতে পারছে না। যদি তাদের কোন Physical handicapped অবস্থা থাকে তাহলে তারা একেবারেই কোন অংশ উত্তর দিতে পারে না। “Problems and Prospects of the Mentally Retarded Persons in Auchpara Union of Baghmara Thana in Rajshahi District.” এই শিরোনামে একটি গবেষণা পরিচালনা করতে গিয়ে গবেষক রাজশাহী জেলার বাঘমারা থানার আউচপারা ইউনিয়নের বিভিন্ন গ্রামের মানসিক প্রতিবন্ধীদের তালিকা তৈরী ও তাদের প্রতিবন্ধিতার মাত্রা নির্ণয়ের জন্য প্রচলিত বুদ্ধি অভীক্ষা ব্যবহারের চেষ্টা করেন। প্রথমতঃ Raven’s Standard Progressive Matrices এবং Alexander Pass Along Test ব্যবহারের চেষ্টা করেন। কিন্তু তিনি লক্ষ্য করেন যে, মানসিক প্রতিবন্ধীরা এসব অভীক্ষার নির্দেশনা ঠিকমত বুঝতে পারে না এবং সঠিকভাবে প্রতিক্রিয়া করতে পারে না। ফলে তাদের উপর এই ধরনের Standardized Test প্রয়োগ করা সম্ভব হয় না। এই সকল Test দ্বারা মানসিক প্রতিবন্ধীদের সনাক্ত করা এবং শ্রেণীবিন্যাস করাও সম্ভব নয়।

এই সমস্যা সমাধানের জন্য এবং বর্তমান গবেষণা পরিচালনার স্বার্থে গবেষক তার গবেষণা তত্ত্বাবধায়ক অধ্যাপক আনওয়ারুল হাসান সুফি ও চার জন বিশেষজ্ঞ চিকিৎসকের সহায়তায় একটি Checklist তৈরি করেন। এই Checklist তৈরি করতে যে সকল বিশেষজ্ঞ চিকিৎসক সহায়তা করেছেন তারা হলেন-

১. ডাঃ তোফাজ্জল হক, রাজশাহী মেডিক্যাল কলেজ

২. ডাঃ কাজী ওয়ালী আহমেদ, বগুড়া মেডিক্যাল কলেজ

৩. ডাঃ শামিম-উল- মাওলা, ছিন্নমুকুল, কুড়িগ্রাম

৪. ডাঃ মাওলা বক্স চৌধুরী, আটোয়ারী স্বাস্থ্য কমপ্লেক্স, পঞ্চগড়।

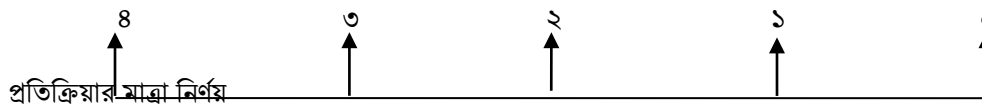
এই সকল চিকিৎসক দীর্ঘদিন ধরে মানসিক প্রতিবন্ধীদের বিভিন্ন সার্ভিস প্রোগ্রামে জড়িত আছেন।

Checklist- এর বর্ণনা

এই Checklist মানসিক প্রতিবন্ধীদের সনাক্তকরণ এবং শ্রেণীবিন্যাস করার জন্য ব্যবহারযোগ্য। এর মাধ্যমে একজন ব্যক্তির কতকগুলো আচরণ বৈশিষ্ট্যের প্রতিক্রিয়ার মাত্রা নির্ণয় করার সুযোগ আছে। বৈশিষ্ট্যগুলো শারীরিক ও মানসিক বিকাশের সাথে সম্পর্কযুক্ত। একজন ব্যক্তির স্বাভাবিক আচরণের জন্য এই সকল বৈশিষ্ট্যের পূর্ণাঙ্গ বিকাশ আবশ্যিক। যে কোন বৈশিষ্ট্যের অপূর্ণাঙ্গ বিকাশ একজন ব্যক্তির স্বাভাবিক আচরণকে বাধাগ্রস্ত করবে বলে ধরা হয়েছে। আচরণ বৈশিষ্ট্যগুলো হল-

টয়লেট ট্রেনিং, পোষাক পরিধান ক্ষমতা, নিজে খাবার খেতে পারার ক্ষমতা, শারীরিক নড়াচড়া, কথা বলার ক্ষমতা, শ্রবণ ক্ষমতা, দৃষ্টি ক্ষমতা, নির্দেশ বুঝতে পারার ক্ষমতা, দৈহিক উন্নতি, বুদ্ধি, স্মৃতি শক্তি, সাধারণ জ্ঞান, কৌতুহল, লেখাপড়া, সামাজিক আচরণ, খেলার সময় আচরণ, পরিবেশ সচেতনতা, আবেগ পরিবর্তনের প্রকাশ, পরিস্কার-পরিচ্ছন্নতা, বাড়ির কাজে সহযোগিতা, বসতে পারা, হাঁটতে পারা, দাঁড়াতে পারা, ঘ্রাণ শক্তি, স্বাদ শক্তি, ত্বক সংবেদন (ঠান্ডা, গরম, চাপ, ব্যাথা), স্কুলের সামগ্রিক কাজ, বাড়ির সামগ্রিক কাজ, পরিচিতদের সাথে আচরণ, অপরিচিতদের সাথে আচরণ, চিকিৎসকের সাথে আচরণ, রাস্তাঘাটে চলার সময় আচরণ, বাজারে/দোকানে নিয়ে গেলে আচরণ।

এই Checklist এর সাহায্যে গবেষক প্রতিবন্ধীর বিভিন্ন আচরণ বৈশিষ্ট্য এক এক করে বিবেচনা করবেন এবং এগুলোর মূল্যায়ন নিম্নবর্ণিত স্কেল অনুযায়ী করার চেষ্টা করবেন।



এই Checklist এ মোট ৩৩ টি আচরণ বৈশিষ্ট্য নেয়া হয়েছে। প্রতিটি বৈশিষ্ট্যের জন্য ৫টি প্রতিক্রিয়ার মাত্রা নির্ধারণ করা হয়েছে।

১ম মাত্রা — খুবই ভাল, ২য়-মাত্রা- ভাল, ৩য় মাত্রা-মাঝারি, ৪র্থ মাত্রা-খারাপ, ৫ম মাত্রা-খুবই খারাপ। প্রতিটি আচরণ বৈশিষ্ট্যের ক্ষেত্রে

ব্যক্তির অবস্থান কোন মাত্রায় তা প্রথমে নির্ধারণ করতে হবে। অবস্থান নির্ধারণের জন্য পিতা-মাতা বা অভিভাবকের মতামতের পাশাপাশি গবেষক তার নিজস্ব পর্যবেক্ষণের ভিত্তিতে সিদ্ধান্ত গ্রহণ করবেন।

পয়েন্ট গণনা পদ্ধতি

প্রতিটি প্রতিক্রিয়ার মাত্রার জন্য পৃথক পৃথক পয়েন্ট নির্দিষ্ট করা হয়েছে। নিচের টেবিলে প্রতিক্রিয়ার মাত্রা এবং নির্দিষ্ট পয়েন্ট দেখানো হল।

প্রতিক্রিয়ার মাত্রা	নির্ধারিত পয়েন্ট
খুবই ভাল	৪
ভাল	৩
মাঝারি	২
খারাপ	১
খুবই খারাপ	০

এই Checklist এ প্রাপ্ত সর্বোচ্চ পয়েন্ট হতে পারে $(৩৩ \times ৪) = ১৩২$ এবং সর্বনিম্ন পয়েন্ট হতে পারে $(৩৩ \times ০) = ০০$ (শূন্য)। শুধুমাত্র ০ থেকে ৮৩ পর্যন্ত পয়েন্টকে ৫টি Range-এ বিভক্ত করা হয়েছে। Range-এর ভিত্তিতে ৫টি Category নির্ধারণ করা হয়েছে। Range ভিত্তিক Category নিচে দেখানো হল-

Range	Category
৬৭ – ৮৩	Borderline
৫১ – ৬৬	Mild
৩৪ – ৫০	Moderate
১৮ – ৩৩	Severe
০০ – ১৭	Profound

সিদ্ধান্ত গ্রহণ

এই Checklist এ যদি কোন শিশুর/ব্যক্তির প্রাপ্ত পয়েন্ট ৮৩ এর উপর হয় তাহলে সে স্বাভাবিক বুদ্ধি সম্পন্ন বলে বিবেচিত হবে। যদি তার প্রাপ্ত পয়েন্ট ০ থেকে ৮৩ এর মধ্যে হয় তাহলে সে মানসিক প্রতিবন্ধী হিসাবে সনাক্ত করা হবে। তার প্রাপ্ত পয়েন্ট যে Range-এ পাওয়া যাবে তাকে সেই Range-এ বর্ণিত Category তে অন্তর্ভুক্ত করা হবে।

এই Checklist এর ত্রুটি

এই Checklist এখনও Standardized করা হয় নি। অন্য কোন Behavioral Checklist নাই যার সাথে এই Checklist কে তুলনা করা যায়।

Rating পদ্ধতি

যেভাবে এই Checklist এর Rating করা হয়েছে তা এখানে বর্ণনা করা হল। এই Checklist-এ যে সকল আচরণ বৈশিষ্ট্য নেয়া হয়েছে সেগুলোর প্রতিটির ৫ ধরনের প্রতিক্রিয়ার মাত্রা নির্ধারণ করা হয়েছে। প্রতিক্রিয়ার প্রথম মাত্রকে আচরণ বৈশিষ্ট্যের উন্নত স্তর, দ্বিতীয় মাত্রকে স্বাভাবিক স্তর এবং শেষ মাত্রা অর্থাৎ ৫ম মাত্রাকে আচরণ বৈশিষ্ট্যের সর্বনিম্ন স্তর বিবেচনা করা হয়েছে। তৃতীয় মাত্রাকে মধ্যবিন্দু ধরা হয়েছে। ১ম মাত্রার জন্য ৪ পয়েন্ট, ২য় মাত্রার জন্য ৩ পয়েন্ট, ৩য় মাত্রার জন্য ২পয়েন্ট, ৪র্থ মাত্রার জন্য ১ পয়েন্ট, ৫ম মাত্রার জন্য ০ পয়েন্ট নির্দিষ্ট করা হয়েছে। এই Checklist প্রয়োগের মাধ্যমে একজন ব্যক্তির ৩৩টি আচরণ বৈশিষ্ট্যের প্রতিক্রিয়ার মাত্রা নির্ণয় করে পয়েন্ট গণনা করা হলে বিভিন্ন মাত্রায় সর্বোচ্চ নিরুপন বর্ণিত পয়েন্ট হতে পারে।

$$১ম মাত্রা (৩৩ \times ৪) = ১৩২$$

$$২য় মাত্রা (৩৩ \times ৩) = ৯৯$$

$$৩য় মাত্রা (৩৩ \times ২) = ৬৬$$

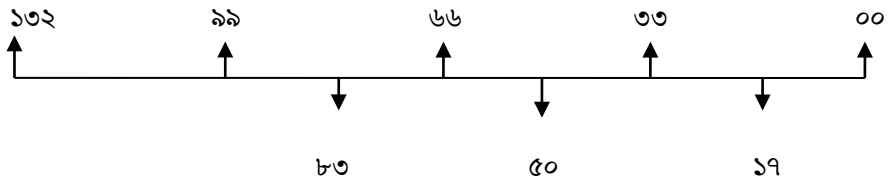
$$৪র্থ মাত্রা (৩৩ \times ১) = ৩৩$$

$$৫ম মাত্রা (৩৩ \times ০) = ০০$$

$$২য় মাত্রা ও ৩য় মাত্রার মধ্যবিন্দু (৯৯ + ৬৬ = ১৬৫ / ২ = ৮২.৫ = ৮৩) = ৮৩$$

$$৩য় মাত্রা ও ৪র্থ মাত্রার মধ্যবিন্দু (৬৬ + ৩৩ = ৯৯ / ২ = ৪৯.৫ = ৫০) = ৫০$$

$$৪র্থ মাত্রা ও ৫ম মাত্রার মধ্যবিন্দু (৩৩ + ০০ = ৩৩ / ২ = ১৬.৫ = ১৭) = ১৭$$



এই Checklist এর প্রতিটি আচরণ বৈশিষ্ট্যের প্রতিক্রিয়াকে ৫টি মাত্রায় বিভক্ত করা হয়েছে। ১ম মাত্রার আচরণ বৈশিষ্ট্যের প্রতিক্রিয়া হল- খুব ভাল। এই মাত্রায় সবাই প্রতিক্রিয়া করতে পারে না। শুধুমাত্র উচ্চ মেধা সম্পন্ন ব্যক্তির পক্ষে এই মাত্রার প্রতিক্রিয়া করা সম্ভব। ২য় মাত্রার আচরণ বৈশিষ্ট্যের প্রতিক্রিয়া হল- ভাল। এই মাত্রায় অনেকের পক্ষেই প্রতিক্রিয়া করা সম্ভব। আবার এই মাত্রার প্রতিক্রিয়া গুলো ত্রুটিমুক্ত। ৩য় মাত্রার আচরণ বৈশিষ্ট্যের প্রতিক্রিয়া হল- মাঝারি অর্থাৎ স্বাভাবিক। এই মাত্রায় অনেকের পক্ষেই

প্রতিক্রিয়া করা সম্ভব। যেহেতু ২য় মাত্রাকে স্বাভাবিক মাত্রা ধরা হয়েছে সেহেতু ৩য় মাত্রার উপর থেকে শুরু করে ২য় ও ৩য় মাত্রার মধ্যবিন্দু পর্যন্ত (৬৭ – ৮৩) Borderline, ৩য় ও ৪র্থ মাত্রার মধ্যবিন্দুর উপর থেকে শুরু করে ৩য় মাত্রা পর্যন্ত (৫১ – ৬৬) Mild, , ৪র্থ মাত্রার উপর থেকে শুরু করে ৩য় ও ৪র্থ মাত্রার মাত্রার মধ্যবিন্দু পর্যন্ত (৩৪ – ৫০) Moderate, ৪র্থ ও ৫ম মাত্রার মধ্যবিন্দুর উপর থেকে শুরু করে ৪র্থ মাত্রা পর্যন্ত (২৮ – ৩৩) Severe এবং ৫ম মাত্রা থেকে শুরু করে ৪র্থ ও ৫ম মাত্রার মাত্রার মধ্যবিন্দু পর্যন্ত (০ – ১৭) Profound হিসাবে বিবেচনা করা হয়েছে।

Curriculum Vitae

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