Exploring The Educational System and ICT Potential for Children with Autism in Bangladesh

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Abstract

The use of information and communication technology (ICT) is essential for students with children with autism. The study aims to explore the current education system of children with autism and find out the possibility of using ICT for children with autism in Bangladesh. Purposive sampling was used in this qualitative study, and a semi-structured interview questionnaire was created to collect the required data. 30 respondents in all were interviewed for the study using 10 IDIs, 18 KIIs, and 2 FGD sessions (8+7). According to the study's findings, pupils with autism spectrum disorders benefit from using information and communication technology (ICT). Children who cannot learn to speak are taught alternative or visual communication techniques, and speech pathologists develop and assist in the use of alternative communication methods, such as sign language, technology, etc. Different strategies (applied behavioral analysis, picture exchange communication, language teaching methods, increasing social interaction, instilling socially consistent behavior) are formulated based on the abilities of those who can speak. The education system for children will be enhanced and children with autism will make up a significant portion of Bangladesh's workforce if the government can employ technology and all available contemporary techniques of teaching them.

Keywords: Autism, Educational System, Information and Communication Technology (ICT), Inclusion, Bangladesh

1. Introduction

In Bangladesh, autism is now a big issue. This is because a lot of children in Bangladesh suffer in silence in the absence of an adequate understanding of the problem (Bd-Pratidin, 2018). Autism is the most frequent type of Pervasive Developmental Disorder (PDD). ASD is characterized by restricted and recurrent behavioral patterns, as well as communication and social difficulties (Oliveira et al., 2021). One Numerous variables, including as preterm birth, environmental factors, genetics, maternal health difficulties, and advanced parental age, have been scientifically linked to an increased risk of developing autism (Davidson et al., 2023). Some children with autism may exhibit signs as early as twelve months of age, while others may not exhibit symptoms for up to 24 months or more (Jonsdottir et al., 2020). Early signs of autism often appear between the ages of one and two. Early signs of autism in children under a year old include the failure to make eye contact, the unwillingness to become more receptive to sounds, and the lack of eye contact (Jeyarani & Senthilkumar, 2023). Like in many other developing countries, in Bangladesh, autism is seen through the lens of misinformation and stigma. The general attitude towards autism is mostly negative, and it is seen as a social barrier in Bangladesh. Autism is now regarded as an issue of special concentration in contemporary epidemiological discourses. It is because studies reveal that millions of children worldwide suffer in silence in the absence of an adequate understanding of the problem. Autism extracts an enormous emotional, mental, and financial toll in terms of compromised quality of life and lifelong disability (Gupta et al., 2008).

Autism is expected to be an underrated but serious public health issue in Bangladesh. Mullick and Rabbani published community studies in 2005 and 2009, with autism rates of 0.2 and 0.84 per 1000 children, respectively. Comprehensive research revealed that the prevalence of ASD in Bangladesh ranged from 0.15 to 0.8% (Hossain et al. 2017). Patient registration data at Cambridge Medical University revealed a rise in the number of autistic children seeking treatment, from 12 in 2001 to 105 in 2009. A national-level study conducted in Bangladesh in 2013 employing a community-level methodology indicated that the incidence of autism was 0.15% among a population of 7200 in seven upozilas (Debhhata, Wazirpur, Pirgong, Godagari, Pekua, Madhupur, and Kulaura, as well as a city corporation ward of Dhaka city) (NCDC report, 2013). Another research study conducted by Bangladesh's Ministry of Social Welfare in 2016 indicated that autism accounted for 19% of all neurological disorders observed (Akhter et al., 2018).

In many Global South nations, including Bangladesh, the stigma around ASD and mental illnesses is both widespread and severe (Franco et al., 2015). In Bangladesh, 0.2% of children have autism spectrum disorder (ASD) (The Daily Star, 2021). Due to the stigma associated with autism in Bangladesh, parents must deal with a variety of difficulties and emotional fallout when parenting a kid with this lifelong condition (Stephen et al., 2020). As soon as parents learn that their child has ASD, they start to suffer. Many adults and children with ASD require a great deal of assistance to carry out and manage their everyday tasks. There are few government autism schools. Most of them are located in the town. That's why the community living in the rural and semi-urban areas is deprived of proper education. According to government policy, the teacher-student ratio for students with autism traits will be 1:2. The teacher-student ratio in the cerebral palsy school is 1:5. The class helper ratio for students with autism, cerebral palsy, intellectual disability, and Down syndrome is 1:6. But because of the lack of available teachers, one teacher is assigned to 10-25 children (Bangla Tribune, 2018). Despite these complications and problems, Bangladesh has made significant progress in dealing with autism. Bangladesh is presently attempting to build a rights-based paradigm for persons with autism or other neurodevelopmental disorders, having identified the problem as a national policy priority.

However, there is no high-quality study in Bangladesh on the impact of ICT on students in the field of education. As a result, we explored in this study the education system for children with autism and the possibility of using ICT for children with Autism in Bangladesh. So this research will develop the education system of children with autism in Bangladesh by finding out the lacking and taking the necessary steps. How ICT can play a vital role in educating children with autism and developing their lifestyles has been shown in this research. The autism issue is a national issue and is related to the overall development of Bangladesh. From this research, the government and authorities of all organizations related to the development of the education system for children with autism in Bangladesh will benefit, as now they have justified knowledge that will help to improve their performance. The research will also help them to use ICT properly in developing the education system for children with autism.

2. Research Methodology

2.1 Research Type and Design of the Study:

The study's data were qualitative, and it employed a simple interpretative research methodology. Getting more detailed information from the key informants was the primary goal of employing a qualitative research technique. Creswell (2013) asserts that the qualitative approach is used in research when a thorough understanding of a significant phenomenon is needed. The researcher can explore even unexpected thoughts that participants express thanks to qualitative research design, which leads to fresh understanding and awareness of the topic being studied (Creswell, 2013). In order to better understand the research topic, a qualitative research approach was employed in the current study, which examined the function of ICT in education for children with autism in Bangladesh. Qualitative methods claim that in-depth conversation has enabled the discovery of the true outcome.

2.2 Sample Size:

A group of individuals selected from the general population who are thought to be representative of the actual population for that specific study is referred to as the sample size (Bartlett et al., 2001). According to the researcher, only if 25 samples were gathered for the study would the goal of the investigation have been appropriately represented. due to the recommendation made by Clarke & Braun (2013) that sample sizes should consist of a minimum of 12 people. Furthermore, in this study, the researcher was allowed to gather information from the people he chose, and the information was acquired in accordance with the research's goal. The research objective was met, and there were a total of 30 responses. This comprises 10 special school teachers who educate autistic children, 6 head teachers and institute directors for special children, and 6 specialists who work with special children. Finally, 2 focus group discussions (FGDs) were held with 15 parents of autistic children, with 8 participants in one group and 7 in the other.

2.3 Sampling Technique and Questionnaire Design:

To reach the intended sample, a purposive sampling approach was utilised, along with semi-structured questions. In this case, the researcher relied only on his judgement and conscience to proceed forward. That is, the focus here is on personal assessment rather than numbers. Because this study required significantly more expert knowledge, the researcher used purposive sampling and semi-structured questions. Purposive sampling is a non-probability sampling technique in which items for the sample are chosen depending on the researcher's judgement. Furthermore, the semi-structured interview's structural component provides interviewers with data that is dependable, comparable, and of high quality (Keller and Conradin, 2019) (See Table 1).

Table 1: *Sample distribution of the study*

Sample	Sample Size	Sampling	Instruments
KII that include- • Head teachers (6) • Instituted directors (6) and • Special education experts (6)	18	Purposive	Semi-structured questionnaire for in-depth interviews.
Teachers for individual in-depth interview	10	Purposive	Semi-structured questionnaire for in-depth interviews.
Parents (8+7)	2 (15)	Purposive	In-depth interview questionnaire for FGDs

2.4 Data Processing and Analysis:

According to Braun and Clarke's (2006) book Transforming Unstructured Data into Useful Information, data analysis is the process of analysing, cleaning, manipulating, and modelling data in order to reveal useful information, inform conclusions, and assist decision-making. Data analysis is the most critical component of any study. The data analysis procedure consolidates the information obtained. It comprises analysing and logically thinking through data to uncover patterns, correlations, and trends. The researcher utilised theme analysis writing to analyse the data he gathered. Because thematic analysis is a qualitative data analysis technique, it is often used to a collection of texts, such as interview transcripts. The researcher carefully examines the data to identify common issues, topics, concepts, and background trends that emerge regularly. Thematic analysis is a popular method of analysis in qualitative research (Namey & Emily, 2012). The researcher analysed the material he obtained using Braun and Clarke's six-step method. According to Braun and Clarke (2006), thematic analysis is a technique for identifying, understanding, and reporting patterns (themes) in data. Figure 1 shows the six procedures taken by Braun and Clarke to analyse the data.
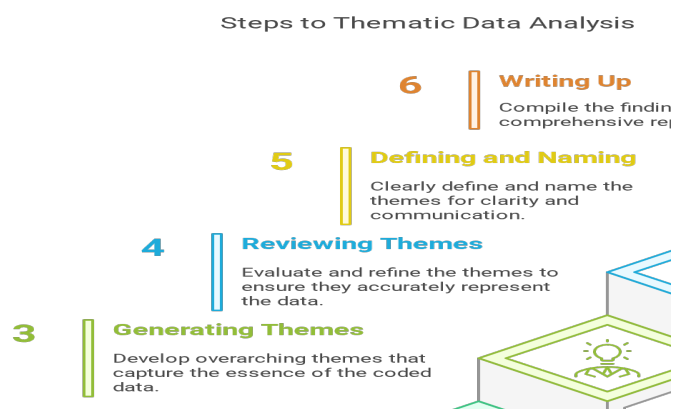

Steps to Thematic Data Analysis

6 **Writing Up**
Compile the findin
comprehensive re

5 **Defining and Naming**
Clearly define and name the
themes for clarity and
communication.

4 **Reviewing Themes**
Evaluate and refine the themes to
ensure they accurately represent
the data.

3 **Generating Themes**
Develop overarching themes that
capture the essence of the coded
data.

Figure 1: *Thematic data analysis steps* by Braun & Clarke, 2013; 2006 (as cited Hasan et al, 2025).

3. Result

This chapter offers a full discussion and analysis of the data analysis and research findings. The information the researcher received from different samples according to the purpose of his research is discussed in the chapter. This is discussed below on the basis of purpose. The key identified themes of this study are that, a) Finding the Education System for Children with Autism in Special Schools in Bangladesh, b) finding out the possibility of using ICT for children with Autism in Bangladesh.

3.1 The Current Education System for Children with Autism

Educational activities for children with autism need to be very intensive and detailed. In that case, there is a need for a professional team and students have to spend the required working hours per week based on behavioral, developmental, social, and academic needs. Some methods are only designed for autistic students and can be applied at home and the methods described below are mostly applied in school classrooms. It is important to remember that it is not possible to teach autistic students with a single method. Multiple approaches have to be applied simultaneously or sequentially. Many teaching methods are applied based on applied behavior analysis principles. Children with autism are exceptions in other areas of education, so it is only natural that they should have exceptions in their education and other normal relationships. And in general, different methods are followed for teaching according to their needs. Since they are not able to get an education as easily as normal students, they are given more emphasis on behavior change, social communication, self-improvement, etc., learning subjects. The method by which children with autism are taught for education is discussed below:

3.1.1 Methods of Teaching Children with Autism

Educational activities for children with autism need to be very intensive. It is not possible to teach in one method alone. Multiple methods have to be used simultaneously. The various research methods used to develop behavioral deficits in artistic children are discussed below:

A.   Behavioral refinement or applied behavioral analysis teaching methods

Behavioral refinement, also known as behavioral analysis, is a scientifically proven effective strategy for learning. Behavior refinement refers to the arrangement of the surrounding events for the desired behavior. Through this approach, the level of desired behavior is increased. Reduces levels of unwanted behavior and teaches new and complex behaviors.

B.   Picture exchange communication system (PECS)

A learning method where pictures are used to communicate with children who cannot or cannot speak or have difficulty speaking. He aroused interest in making sentences. At the same time, it is also evaluated how a successful sentence can be made by distinguishing between two pictures or symbols. Although it is a visible method, its main goal is to encourage the child's communication process through language development.

C.   Social Communication \ Emotional Regulation

That method is a little different from other methods. In this way, the child is taught the technique of making self-communication through his daily work. In this way, he acquires the ability to learn something new and can instantly demonstrate appropriate and effective skills in front of different classmates. Children who have social and language skills can quickly join mainstream schools in this way.

D.   Discrete trial setting Lavas model

This teacher-led approach is based on skills and an established curriculum, the basic principles of which are ABA-dependent. Each complex task is taught to be applied immediately by dividing it into smaller parts, and this is how each is applied until the subject is mastered. The behavior/work through practice to the child. There are repeated opportunities to teach. If he can do what he wants, he is rewarded in many ways, such as verbally praising or giving something to encourage him.

E. Language teaching methods

Language is a type of behavior that is why behavioral refinement techniques are applied to language learning. The following steps are taken for language learning in this regard.

- To show genuine love for the child and Unwanted behavior is not punished.

- Encourage others to follow and be rewarded for it.
- Their interactions with others are rewarded verbally or otherwise.
- In the first stage, any kind of word pronunciation is rewarded. The second stage is rewarded for following the words of others and the third stage for being meaningful.

Above all, the baby is contacted. By following the strategies mentioned above systematically, the child's language skills can be improved.

F. Alternative or visual communication techniques

Children with autism who cannot learn to speak are taught alternative or visual communication techniques as a means of communication. Alternative visual communication techniques are instrumental. For example, computers or machinery can be non-mechanical. This method can be arranged in two ways, such as

- Expressing demand directly in any way, such as displaying a card with the desired surprise. Relatively intelligent children can be taught to express themselves through gestures or gestures.

- Identify the sequential point of view from the picture list in any way, such as pointing to a specific picture of a board or book with pictures on different topics, or pointing directly to the desired object.

3.1.2 Educational Methods for Improving Communication Skills

Children with autism lack the skills to communicate with others. It is difficult for children with autism to receive and understand information, to express themselves, read or write through language or expression, or to understand the gestures or expressions of others. Children with children with autism and their communication skills are helped to understand their needs, opinions, knowledge, and emotions. Speech pathologists develop and assist in the use of alternative communication methods, such as sign language, technology, etc., for those who cannot speak. Different strategies are formulated based on the abilities of those who can speak. Throughout the day, there is an opportunity to communicate needs and social interactions in different environments. Because of that, there is a need for group coordination of helpers to build the communication skills of the autistic child. Some learn by listening, some learn by watching. So he is taught according to the needs of the student. The way teachers help students and develop:

- Before giving any instruction or answering any questions, first draw the student's attention. And the student clearly understands that the instructions have to be given in such a tone.

- Complexity is required to avoid verbal instructions, information, or discussion. is to give small instructions or information.

- is to give positive instructions. The use of words or sentences like "do not" or "stop" is to be reduced. It is more effective to say "please sit in your seat" than to say "don't stand still." By doing this, the child can understand exactly what is expected of them. The student has to wait for the response. No instructions or questions can be repeated too quickly.

- Expected usage is to show the instructions. For example, the word "stop" means to walk in the field holding the child's hand, then to stop by saying "stop" and also to stop the child. This has to be done again and again until the child can respond to this instruction on his own.

- With the help of verbal instructions or understanding, pictures, physical expressions, written instructions, etc. are taken.

3.1.3 Methods of Increasing Social Interaction Through Education

Assistance with social interaction is very important in a child's education plan. Many children are interested in social networking, but they do not know how to get started. Incompetence in social reaction does not mean lack of will or avoidance of socialization. In order to increase social skills, time, attention, time of sensation, communication, everything has to be looked after. Sometimes the first thing to do is to deal with the problem of sensation. Imitation and reciprocity are essential for teaching social skills. Many times, children do not understand the instructions of the teacher but learn to work by watching others. For example, when everyone in the class shows respect for the flag, he also stands. Problems in the social interaction of the autistic child are contradictory in the child. For example, it is difficult for someone to start talking, but someone can speak

fluently without paying attention to what others are saying. The child needs help to overcome both types of problems. To improve social skills, specific strategies are employed:

- Students are rewarded for their socially expected behavior.

- Social interactions, such as waiting, exchanges, etc., are taught by behavior.

- You have to learn by looking at the response according to the surrounding conditions and environment. For example, when everyone is standing, he also has to stand.

- Social skills issues are divided into smaller parts to help them learn. Use pictures if necessary.

- It has to be used to identify the strengths or qualities of the child. Many children with autism have a strong sense of humor, an interest in music, or a memory of a particular subject; these are used to motivate the child in social interactions and to give the child a chance to demonstrate skills.

- Students are assigned specific tasks in small groups, which they do in their spare time. For example, in their spare time, they sit down together and discuss certain things.

- In leisure time, also to help work and to ensure a disciplined environment. In group work, the child is assisted in fulfilling the responsibilities assigned to him. Different types of responsibilities are given on a daily basis for skill development and flexibility education. If necessary, education is given through video.

3.1.4 Methods for Instilling Socially Consistent Behavior

People with autism have abnormal behaviors. These abnormalities range from the repetition of physical gestures to agitated and destructive behavior. Pain or frustration can lead to this type of behavior. An autistic child's abnormal behavior includes repetition, lack of flexibility, adherence to ineffective routines, inconsistencies in thinking, and apathy. Such behavior hinders the child's education and social communication. The cause of each behavior is sought. Teaching a student to change or adapt to this type of behavior is often effective. Some "behaviors" of children with autism affect other students. For example, some people have strict discipline or a memory like an instrument. When analyzing the behavior of an autistic child, it is important to keep in mind that this behavior is not a symptom of the disease or a manifestation of the inability to communicate or depression. Problematic behavior is often accompanied by anxiety, hesitation, frustration, or trauma, which is manifested through inappropriate behavior due to the child's inability to express it in language. The attention-grabbing use also has a social connotation-"Come on, play with me"; then, the child throws away his toys. At that time, it is important to be patient, calm, and positive while reassuring the child. Only by creating a safe and supportive environment is it possible for an autistic child to succeed in education and develop his or her unique characteristics and personality. Another method for assisting the child and preventing unexpected behavior:

- Specific planning needs to be done for the classroom in order to encourage expected behavior.

- He always has to find the real cause and purpose behind his behavior and establish alternative means of communication for the student. Specifically, praise and reward for expected behavior.

- We have different plans for positive behavior support for each student. and made a shortlist for daily work.

- We give students the opportunity to choose from multiple options. Which one will you read first? Bengali, science? 'Etc. Even if the student does not really have a choice, it does mean that all the work is not being done by instruction alone.

Some opinions of the participants (i.e. teachers, parents, experts) are narrated as below that reflect the similar views as presented in the above concept:

> "Most of my students with ASD enjoy viewing videos, special software applications and movies are crucial in the classroom to help them pay attention. When they're left alone to watch, they become more attentive and eventually copy what they've seen on television. The use of mobile phones and tablets, which we are employing to improve their communication at school, seems to pique the interest of

children with ASD and related difficulties. They can use the tablet to look for the application and begin utilizing it" (A teacher of the children with autism's school).

"We try to educate our schoolchildren with autism by presenting visual subjects. I even try to master how to communicate with others for their language development. We do these things through different means. And we ourselves play the role of a role model and teach them" (A head teacher of the children with autism's school).

"The current education system is generally designed to improve the communication skills of children with autism and to change their behavior. The school teaches all students how to behave and how to easily communicate with their classmates and family. All in all, in the current education system, the language communication and behavioral changes of these students are more prevalent in the education system" (An experienced person for children with autism).

"In the current education system for children with autism, they are taught through communication skills, learning through imitation, education through ICT, through visible subjects such as language development, behavioral development, etc., through which students develop their self-development. There is a lot of emphasis on the subject so that they can live their lives like ordinary students" (An institute director of various autism organizations).

"I see a lot of changes before and after my child's schooling. Like now he can use ICT information technology, even when he sees the flag of Bangladesh, he tries to stand or shake hands. He used to try to play alone, but now when he sees a classmate around, he tries to give them the ball and take the ball from them" (A mother of a child with ASD).

3.2 The Possibility of using ICT for Children with Autism in Bangladesh

Most teachers in the schools and centers in this research believed that having two teachers in an inclusive classroom might assist children with ASD overcome their problematic behaviors. A lack of understanding about ASD was also cited by parents as a factor that contributed to the stigmatization of their children with autism in various households, as well as encouraging them to drop out of school. Most of the teachers and parents have agreed that the development of the education system for children with autism through ICT can be expected from this student in the future. ICT use in schools to help children with ASD can enable learners to interact, engage in classes, and learn more successfully, according to a study conducted by the British Educational Communications and Technology Agency (BECTA, 2003). Therefore, according to the information obtained from the participants in this research, the future prospects of children with autism and teachers and staff using ICT technology are presented below:

3.2.1 Students' ICT Possibilities:

Based on the information received, the following are some of the areas in which children with autism can improve:

- Computers will increase students' autonomous access to education. Students with severe and numerous learning disabilities will be able to communicate more effectively.
- Students will be able to acquire their skills. Students with special educational needs will be allowed to work at their own pace to complete tasks. And will use his skills in the development of the country in the future.
- Voice communication tools will be used by students to build confidence and social credibility at school and in their communities. Be able to participate in education as a normal student. They will stop themselves as an obstacle to society and will work for the development of the country by using ICT in line with the world.
- Students with more ICT confidence are more likely to use the Internet at home for educational and recreational purposes. Will be able to develop the country through the use of ICT.
- The use of ICT as a medium of education will greatly improve the students as they are not ordinary students like us and for them, this education will increase the opportunities for the students a lot. The use of ICT will increase awareness among oneself and all the members of the family.

Some opinions of the participants (i.e. teachers, parents, experts) are narrated as below that reflect the similar views as presented in the above concept:

*"My family was unable to tolerate my daughter's conduct as well as the cost of caring for her. They constantly want to know where I got her, and I'm worried about her future when I'm no longer living. However, I believe that via the use of ICT such as television broadcasts and radio conversations, people may alter their minds in a short period of time" (*A mother of a child with ASD).

*"My son has never expressed any interest in anything I've given him or participated in any of the activities I've given him. It took me a long time to observe him, but I was surprised to see him involved in many things when I assumed he couldn't accomplish anything" (*A father of a child with ASD).

"We try to educate our school children with autism very easily. Although not enough for them, they can change a lot if they are given better quality education. Because I have seen many students who can use ICT much better than the average student" (A head teacher of the children with autism's school).

"Regardless of the government's policy stressing their participation in schools, children's actions are extremely demanding, and it is difficult to teach them with others. It will only happen if we have two or three teachers supporting them in one classroom" (An experienced person with autism in children).

3.2.2   ICT Possibilities for Instructors and Teaching Staff

The discussion focused on how teachers can improve the education of children with autism through self-improvement.

- By allowing special education teachers to communicate with peers electronically, isolation will be reduced. Because encourage professional reflection through online dialogue.
- Students' ability to utilize ICTs effectively will be enhanced through cooperation among peers, as well as the development of professionals. Staff abilities will improve, as will their grasp of student access technologies.
- Teachers will be able to gain knowledge about ICT on their own to teach ICT to students with autism. And teachers themselves will be able to spread that knowledge among the students after gaining knowledge about ICT. Therefore, Teachers will be able to increase their skills and will be able to increase the skills of the surrounding students. And Keeping pace with the developed world, they will be able to impart appropriate ICT education to the students. The quality of education will be innovative and students will be able to get ICT-related education through new strategies. Students will be able to adopt new strategies for the development of education and will be able to teach through technology.
- Using voice communication devices promotes parents and caregivers to have higher expectations of their children's sociability and involvement potential.
- Using ICT will be able to attract students towards education by raising awareness among parents. Children with autism can raise awareness in their families about the future of autism. Be able to improve the surrounding conditions for the student.

Some opinions of the participants (i.e. teachers, parents, experts) are narrated as below that reflect the similar views as presented in the above concept:

*"The government has taken steps to train teachers for the professional development of teachers as well as to impart useful education to the students. Although this is not enough, if the government takes some more steps to improve their education system, those students will be able to improve" (*An institute director of various autism organizations).

"Teachers are the leaders of the nation. If they are trained, then teachers will play a role in the development of students" (A parent of a child with ASD).

"We provide advanced training to special school teachers as directed by the government. Although they are not enough for them, if they can teach students in their classroom according to this training, then children with autism will be able to improve their skills" (A teacher trainer at Special Education Teachers Training College).

"Many students in my school can use computer much better than ordinary students but they are not able to improve their skills due to lack of opportunities but if they get the right materials according to their needs then they too will one day be established as human resources of the country. They will be able to develop themselves and even the country" (A head teacher of the children with autism's school).

4. Discussion

The main findings of the study indicate that educational activities for children with autism need to be very intensive and detailed. It is important to remember that it is not possible to teach autistic students a single method. Multiple approaches have to be applied simultaneously or sequentially. Educational activities for children with autism need to be very intensive, and it is not possible to teach in one method alone. Multiple research methods are used to develop behavioral deficits in artistic children. The ABA-dependent approach is based on skills and an established curriculum. Behavioral refinement techniques can be applied to language teaching. This coincides with Rudy's (2022) report, he said. One of the most extensively utilized therapies for children with autism is applied behavior analysis or ABA. The goal of ABA therapy is to assist patients in managing and changing particular behaviors, making it simpler to overcome social barriers and avoid learning disruptions. If he can do what he wants, he is rewarded in many ways, such as verbally praising him or giving him something to encourage him. Children who cannot learn to speak are taught alternative or visual communication techniques. He said in a study that was similar to the Stock (2000) study that visual depiction of real objects is a useful method for children with autism. Children with autism lack the skills to communicate with others. Speech pathologists develop and assist in the use of alternative communication methods, such as sign language, technology, etc., for those who cannot speak. Different strategies are formulated based on the abilities of those who can speak. As Trehin (2010) mentioned in his research, there is a need for group coordination of helpers to build the communication skills of children with autism. Teachers also use a variety of techniques to develop communication between children, such as drawing students' attention and then trying to improve their communication through small instruction. Teachers make it much easier for students to understand by using the subject "Please sit down" rather than saying "Don't do it or stop." This is similar to the Kalyva & Elias (2005) report. Teachers also stop abruptly as they move along to teach students, and when teachers tell students to stop, they understand what students need to say to stop. In this way, teachers help students develop communication skills through body language expression. This is similar to Rudy's (2022) report. He said in his report that children with autism are taught to improve their communication skills by expressing their body language.

The social response is very important in educational planning. Because many kids are interested in social networks, but they don't know how to get started. Social resistance does not mean a lack of will or socialization. In order to increase social skills, students need to pay attention to attention, sensitivity, communication, everything. Many times, they do not understand the instructions of the teacher but learn to work by watching others. When everyone in the class shows respect for the flag, he also stands. and shows respect for the flag. Moreover, many students find it difficult to speak when they see what others are doing. However, one can speak fluently without paying attention to what others are saying. In order to develop the skills of all these students, teachers are taught through social interactions such as waiting, exchange, etc., behavior. and rewards them for their expected behavior. There are many social problems that students use pictures to demonstrate proper behavior. As Runcharoen (2014) said in her report, the use of pictures can alleviate the social problems of children with autism. and divides them into smaller groups so that they can perform a particular task well.

Some teaching methods work well for educating children with autism. The complex issues of children with autism can be easily taught step-by-step so that they can easily understand, as Manolis (2016) describes in her research six methods of developing children with autism, one of which is teaching complex issues to children with autism step-by-step. Children with autism are taught through classroom management methods. As Valdivia (2007) mentioned in his report. An autistic child's abnormal behavior includes repetition, lack of flexibility, adherence to ineffective routines, inconsistencies in thinking, and apathy. Problematic behavior is often accompanied by anxiety, hesitation, frustration, or trauma, which is manifested through inappropriate behavior. Only by creating a safe and supportive environment is it possible for an autistic child to succeed in education. For this, they are taught the techniques of breathing slowly, counting to ten, repeating any positive information, asking for help, resting, etc.

If we can conduct educational activities for children with autism according to the mentioned problem and its correct solution, then it will be possible for teachers to increase their skills and increase the skills of the surrounding students through using ICT. Just as Maria *et al.* (2009) think that if we can properly train teachers through ICT, they will also be able to provide timely and advanced education to children with autism. And the quality of education will be innovative, and students will get ICT-related education through new strategies. Using voice communication devices will help parents and caregivers have higher expectations of their children's

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sociability and potential. Using ICT in education will make autistic students more efficient, improve their quality of education, increase their interest in learning, enable them to learn through innovation, make their learning process easier, keep pace with the developed world, and educate them for the betterment of the country. Many contributions will be recognized; they will be established as human resources of the country, just like the teachers of this country will be able to invent new methods of education, use ICT to teach students in new ways, improve the student-teacher relationship, and improve the quality of education. So, the researcher think ICT will play an important role in the development of autistic students.

5. Conclusion

In Bangladesh, there is a lack of practice in educating children with autism compared to worldwide practices. For the betterment of the system, the government has undertaken some revolutionary programs. The parliament of Bangladesh has promulgated two important acts to protect the rights and ensure the safety of differently-abled people. One act is the Disability Rights Law, 2013; the other is the Neuro-Developmental Disability Protection Trust Act, 2013. The government has taken an initiative to build an academy for children with autism. The government is trying to develop all schools for autism to give proper education (bd_pratidin online newspaper, 2018). The ministry of social welfare is trying to formulate a policy to look over the activities of private schools. It is not possible to increase the number of skilled health professionals overnight. As a result, the current project can train a group of skilled workers who will be able to provide primary services to children with autism as well as advice to their parents. Teachers from SWID, Smiling Children School, all agreed that they needed proper training before interacting with and teaching children with autism.

Our findings, which constitute the study's originality, show that ICT technologies may be utilized to solve a variety of difficulties. The healthy development of children with autism needs early intervention through specialized education and training. Technology that allows for the creation of accessible and contextual educational materials, a shared communication platform for parents and teachers, and applications that allow for the creation of interactive activity planners and progress trackers, among other things, may help with the educational process. Integration of ICT is being explored as a possible option for both supporting and teaching children with ASD. This domain, on the other hand, needs to be explored further with a bigger population. To sum up, developing appropriate learning technology for people with ASD is critical. ICT may be of great help to people with ASD who want to improve their life-social and vocational abilities. There is a lot of promise in the educational use of ICT, but there are also a lot of obstacles and risks. New technology can help people with ASD explore new kinds of learning that break down old educational hierarchies and offer viable alternatives to inflexible, passive learning techniques.

5.1 Recommendations

- Children with autism need to be provided with a conducive environment in the process of teaching through ICT. Teachers and students need to be made aware of this to improve the school environment. The autism school needs to create a conducive environment for ICT education and educate the students in that environment. Individual differences in the education of children with autism need to be emphasized. Because it determines a student's basic degree of personal growth (experiences and talents) or his or her starting point.

- Care should be taken to ensure that the process of teaching children with autism through ICT is child-centered. The learning process through ICT should focus on the issue of repetitive behaviors in children with autism. Assisting with personal growth by developing new abilities or upgrading those that are already in place.

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