Transition of a Child with Autism Spectrum Disorder (ASD) from Special School to Inclusive School

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Abstract

Autism Spectrum Disorder (ASD) is a developmental neural condition that typically becomes apparent in early childhood and continues throughout a person's lifetime. Children with ASD encounter significant challenges in the development of their social skills, making their inclusion in mainstream schools a complex task. To address this issue, a case study was carried out on a 10 year-old student with ASD who is currently attending a special school in Kolkata. The primary objective of this study is to pinpoint the gaps in the child's learning in six distinct facets of social skills, which include social relationships and reciprocity, emotional responsiveness, speech-language and communication, behavioural patterns, sensory aspects and cognitive components. To achieve this, the INCEL diagnostic tool and a custom-designed interview schedule were employed. Subsequently, a transition plan tailored to the specific needs of the student was created to facilitate a smooth shift from the special school to an inclusive school environment.

Keywords: *Autism spectrum disorder (ASD), social skills, transition plan*

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Introduction

The concept of autism was first described by Dr. Leo Kanner in 1943 but the earliest reference to 'autism' in India was reported in 1959 (Barua and Daley, 2015). However, the knowledge about autism was limited until the late 1990s and early 2000s, during which India witnessed a dramatic increase in reported cases of autism (Barua and Daley, 2015). Consequently, in the 1990s, a few organisations, schools as well as parent associations were established in different parts of the country specifically for autism, and the Section 2 of the National Trust Act, 1999, recognised autism as a neurological developmental disorder.

Autism Spectrum Disorder (ASD) is a lifelong neurological developmental disorder condition typically appearing in the first three years of life that is marked by pervasive impairments in the areas of social skill and communication; often associated with hyper-or-hypo-reactivity to sensory input; usually interested in stereotypical rituals or behaviours, and may or may not be accompanied by intellectual impairment (Ministry of Social Justice and Empowerment Department of Empowerment of Persons with Disabilities, April 2016). Autism is about 4.5 times more likely to affect boys than girls and is found in all racial, ethnic and social groups (Werling and Geschwind, 2013). It is believed that many general risk factors, including genetics, prenatal and perinatal factors, neuroanatomical abnormalities and environmental factors, may contribute to its occurrence but specific causes of ASD are yet to be identified (Werling and Geschwind, 2013). Students with ASD are a heterogeneous group with problems with social, emotional, and communication skills and who prefer staying isolated (Paraskevi, 2021). Without proper guidance and support, students with autism often fail to adjust to an inclusive setup.

Rationale of the Study

In India, the alarming rate of 1 in 68 children aged two to nine years being affected by autism spectrum disorder (ASD) is a significant concern (DD News, 2nd April, 2024). India has been practicing the concept of inclusive education for four decades now (Integrated Education for Disabled Children,1974; National Policy on Education, 1986; The Persons with Disability Act, 1995; The Right of Children to Free and Compulsory Education, 2009; Rights of Persons with Disabilities Act, 2016; Samagra Siksha Abhiyan, 2018) and NEP-2020 has given special emphasis on the full participation of children with disabilities in the regular schooling process, right from the foundational stage to higher education (NEP-2020, p. 26). However, most children with autism get access to special needs facilities that are not tailored for them but for a diverse group of children with varying levels and types of disabilities. Very few of them get access to special needs classrooms

in a mainstream school because most of the schools are unable to provide well-trained teachers and facilities (Mukkiri et al., 2021). The large number indicates a pressing need for a study to identify ways to bring these children into mainstream schools (Horgan et al., 2023).

Autism spectrum disorder (ASD) is characterised by significant challenges in social interaction, encompassing difficulties in communication, establishing and maintaining interpersonal relationships (Sari et al., 2021), maintaining behaviour pattern and regulating emotions (Hatton and Colse, 2015). These challenges can profoundly affect an individual's social well-being, leading to potential isolation, misunderstanding, and struggles in personal life (Ahlers et al., 2023).

Children with ASD suffer from language impairment, which includes poor understanding (Mody et al., 2016), difficulty in using abstract concepts, and problems in verbal and non-verbal communication (Vogindroukas et al., 2022), including echolalia (Kou, 2017). An inappropriate emotional response is a common characteristic among children with autism (Mazefsky et al., 2013); sometimes, they engage in self-stimulating emotions and get excited or agitated for no apparent reason (Prema K.S., 2007). Because of the gaps in social skills, students with ASD face difficulties adjusting inside a classroom (Josilowski and Morris, 2019), following teachers' instructions (Lindsay et al., 2013) and maintaining relationships with their peers (Sari et al., 2021). As a result, teachers struggle to appropriately understand and manage their needs (Lindsay et al., 2013).

Most children with autism get access to special needs facilities that are not tailored for them but for a diverse group of children with varying levels and types of disabilities (Ahlers et al., 2023). Very few of them get access to special needs classrooms in a mainstream school because most of the schools are unable to provide well-trained teachers (Bhargav, 2010). Including children with ASD in mainstream school education is considered among the most challenging tasks globally (Symes and Humphrey, 2010). Evaluation of these gaps in social skills and adoption of transition plans is needed so these children can be adjusted in inclusive schools (Woodruff, 2010).

This study comprehensively assessed six different dimensions of social skills:

(i) social relationship and reciprocity,
(ii) emotional responsiveness,
(iii) speech-language and communication,
(iv) behaviour patterns,
(v) sensory aspects, and
(vi) cognitive component in which a student with ASD faces problems as per the Indian Scale of Assessment of Autism (ISAA, 2009).

This study further focuses on the development of transition plans as several research studies suggest that a proper educational environment (Watson 2020) and appropriate transition plans (Ikeda and Ando, 2016) can help these students to go on to acquire education and successfully work across different fields.

Objectives of the Study

1. To identify the learning gaps in social skills of a student with ASD presently studying in a special school.
2. To develop an individual transition plan (ITP) based on the learning gaps in the social skills of the student with ASD.

Methodology

Research Design

A case study research design was employed to identify learning gaps in the social skills of a student with ASD. Based on these identified gaps, transition plans were developed to support the student. This approach aimed to facilitate a smooth transition from a special school to an inclusive school environment.

Sample

This case study research concentrated only on a 10 year-old child with ASD who enrolled in a special school in Kolkata.

Tools of Data Collection

1. Self-developed interview schedule was prepared to collect detailed information about the student from the caregivers (mother) and teacher. It was an informal mode of interaction from which the investigator got ample unexplored information about the student.
2. The INCELN (INDT-ASD) tool (Ministry of Social Justice and Empowerment's Department of Empowerment of Persons with Disabilities on April 25, 2016) was designed for the identification and diagnosis of autism spectrum disorder (ASD) in children aged 2 to 10 years. Tailored to the Indian context using criteria based on DSM-IV guidelines, it identifies learning gaps in social skills among students with ASD. The tool assesses six dimensions of social skills: social relationship and reciprocity, emotional responsiveness, speech-language and communication, behaviour patterns, sensory aspects and cognitive components.

The INDT-ASD tool exhibits strong psychometric properties, including sensitivity (97.4 per cent), specificity (89.5 per cent), and diagnostic accuracy (93.4 per cent). It demonstrates high criterion validity and convergent validity with the Childhood Autism Rating Scale (CARS) (r = 0.73), as well as divergent validity with the Binet-Kamat Test of Intelligence (r = -0.37) (Juneja et al., 2014). The tool comprises two sections: Section A includes 29 symptoms and items, while Section B contains 12 questions covering the B and C domains of

DSM-IV-TR, time of onset, duration of symptoms, score and diagnostic algorithm. Administering and scoring the instrument takes approximately 45–60 minutes.

Data Collection Process

For three months, the researcher observed the student with ASD during school hours at his special school to understand his social skills and identify any learning gaps in that. Using the INCLEN diagnostic tool (Indian Scale of Assessment of Autism), the investigator asked detailed questions to the ASD student's mother, his primary caregiver. This tool systematically covered six components of social skills—social relationship and reciprocity, emotional responsiveness, speech-language and communication, behaviour patterns, sensory aspects, and cognitive components. The student did not participate in any interviews or questionnaires. Instead, the researcher engaged him in casual conversations to ensure his comfort during the observation process. Additionally, the investigator conducted interviews with ASD student's mother and teacher using a self-developed interview schedule to gather additional information. This informal interaction provided the researcher with ample unexplored information about Punit.

Analysis and Interpretation

Objective 1: To identify the learning gaps in social skills of a student with ASD presently studying in a special school.

By interviewing Punit's mother, the researcher came to know that Punit is a 10 year-old energetic boy who was diagnosed with ASD when he was two and a half years old, which has been captured in Table 1. His disorder was first identified by a renowned psychiatrist in Kolkata. Initially, he was enrolled in the nursery at a CBSE school (Higher Secondary School) in Kolkata. However, he faced difficulties socialising and expressing his needs while the school failed to provide him adequate support. Consequently, when he was in the II standard, the school authorities denied him admission. They told his parents about their strong reluctance to cater to his requirements, and his parents were forced to take him to a different school.

Table 1: Description of the Participant

Name	Punit*
Age	10 years
Sex	Male
Disability	Autism Spectrum Disorder (ASD)
Diagnosed	At the age of two and a half years

**This is a fictitious name to conceal the identity of the student.*

He is presently studying in a special school which is also situated in Kolkata. Additionally, he is attending a resource room that provides him with complementary support required

Table 2: Score system of INCLEN diagnostic tool

Rarely	Sometimes	Frequently	Mostly	Always
Up to 20%	21–40%	41–60%	61–80%	81–100%

for his overall development to bring him into mainstream education.

Table 2 provides the scoring system for the INCLEN diagnostic tool. Tables 3–8 describe the six dimensions of social skills, which are utilised to identify the gaps in Punit's social skills. Information for these dimensions was collected by questioning Punit's mother and teacher, as detailed below.

Maintaining social relationships according to societal expectations is the most challenging aspect for children with autism (Hatton and Colse, 2015). Table 3 and Fig. 1 illustrate that most of the time, Punit doesn't show any positive response (social smile) when meeting people, which is asynchronous to social norms. He prefers to remain aloof and doesn't take turns in social interactions hence, he likes solitary activities and doesn't like to play with other students, reflecting his inability to maintain peer relationships. Sometimes he tends to engage in repetitive activities. He fails to correctly identify relationships with people, which is expected at his age. However, Punit performs relatively well in maintaining eye contact with others, which is a common issue among children with ASD (Madipakkam et al., 2017).

Self-conversation is a very common characteristic in children with autism (Vogindroukas et al.,

Table 3: Social Relationship and Reciprocity

S. No.	Gaps in Social Skills	Percentage
1.	Has poor eye contact	Up to 20%
2.	Lacks social smile	61–80%
3.	Remains aloof	41–60%
4.	Does not reach out to others	61–80%
5.	Unable to relate to people	41–60%
6.	Unable to respond to social/environmental cues	41–60%
7.	Engage in solitary and repetitive activities	61–80%
8.	Unable to take turns in social interaction	61–80%
9.	Does not maintain peer relationship	61–80%

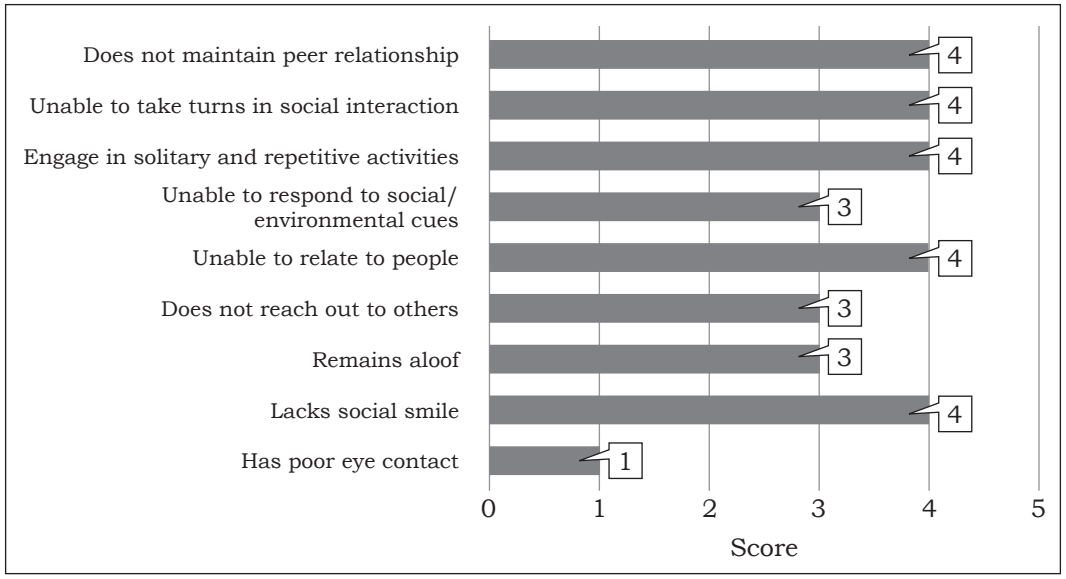

Fig. 1: Social relationship and reciprocity

2022). Autistic children often lack fear of danger and may run or wander off for various reasons. This lack of danger awareness can pose significant risks to their safety and well-being (Sirin and Iftar, 2016). From the demonstration in Table 4 and Fig. 2, it is clear that Punit frequently engages in self-conversation, which is an inappropriate behaviour at his age; otherwise, he has appreciable control over his emotions.

Understanding non-verbal language is a real deal with ASD children (Vogindroukas et al., 2022). They tend to repeat the same sentences frequently. They are also incapable of using appropriate pronouns while speaking (Kou, 2017). Table 5 and Fig. 3 Punit has age-appropriate speech

Table 4: Emotional Responsiveness

S. No.	Gaps in Emotional Skills	Percentage
1.	Shows inappropriate emotional response	21–40%
2.	Shows exaggerated emotions	21–40%
3.	Engage in self-stimulating emotion	41–60%
4.	Lacks fear of danger	21–40%
5.	Exited or agitated for no apparent reason	21–40%

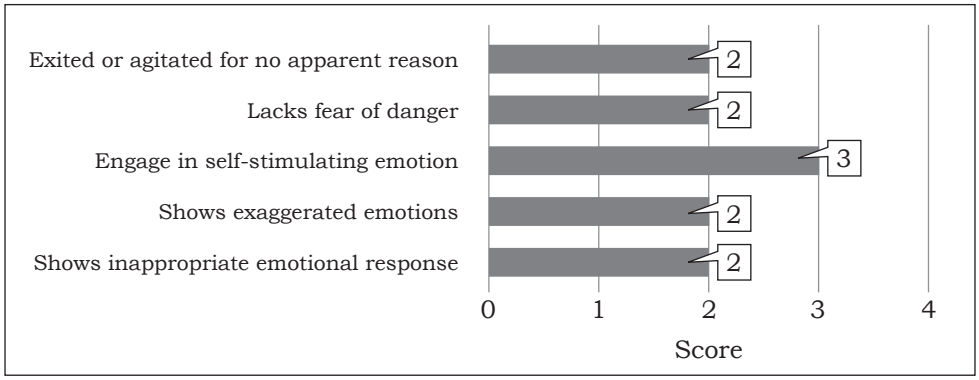

Fig. 2: Emotional responsiveness

development, and his echolalia level is not severe. But he hardly understands non-verbal language or gestures and can't initiate conversations with others. Further, he lacks the knowledge of the use of pronouns, like I, we, you, he or she, they, etc.

Engaging in self-stimulatory behaviour is very common among children with ASD. Sometimes they show hyperactivity or restlessness (Kanney et al., 2020). They are very rigid in their routine (Petrolini, Jorba and Vicente, 2023). Table 6 and Fig. 4 show that any change in daily schedule leads to frustration and temper tantrums in Punit's behaviour. It is very difficult to redirect him from

Table 5: Speech-language and Communication

S. No.	Gaps in Language Skills	Percentage
1.	Acquired speech and lost it	Up to 20%
2.	Has difficulty in using non-verbal language or gesture in communication	41–60%
3.	Engages in stereotyped and repetitive use of language	41–60%
4.	Engage in echolalia speech	21–40%
5.	Products infantile squeal/unusual noise	21–40%
6.	Unable to initiate or sustain conversation with others	41–60%
7.	Uses jargons or meaningless terms	21–40%
8.	Uses pronouns reversal	61–80%
9.	Unable to grasp the pragmatics or communication	21–40%

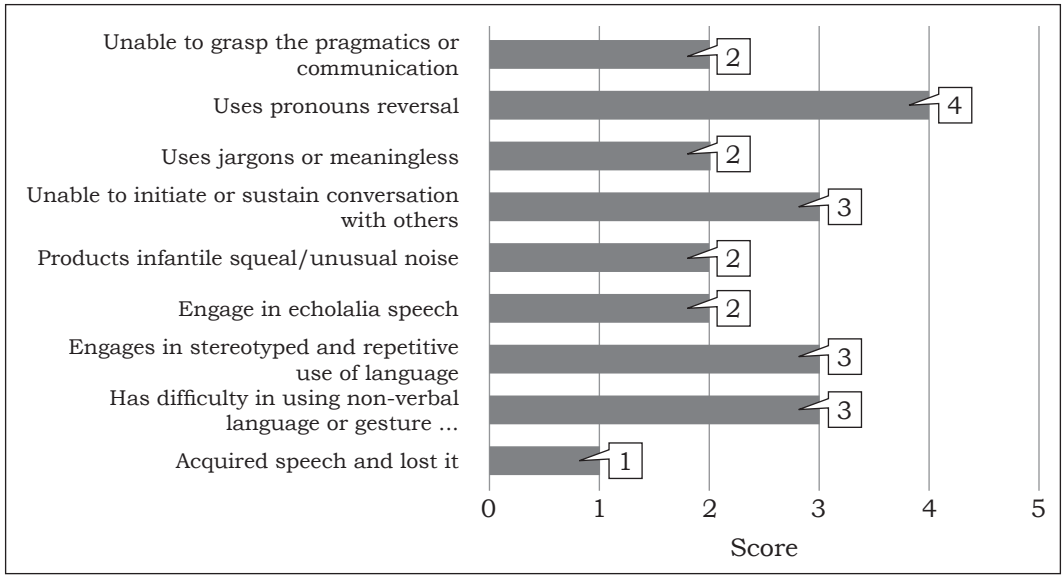

Fig. 3: Speech-language and communication

Table 6: Behaviour Pattern

S. No.	Gaps in Behavioural Skills	Percentage
1.	Engages in stereotypes and repetitive motor mechanisms	41–60%
2.	Shows attachment with inanimate objects	Up to 20%
3.	Shows hyperactivity/restlessness	21–40%
4.	Exhibit aggressive behaviour	Up to 20%
5.	Throws temper tantrums	Up to 20%
6.	Engage in self-hitting	Up to 20%
7.	Insists on sameness	60–81%

certain activities. He shows a degree of rigidity in his adherence to routine. Sometimes he becomes restless and engages in stereotypical and repetitive motor mechanisms (like stamping feet). But this behaviour has been adopted newly by him.

Children with autism may often stare at a particular spot for a long time and have trouble following moving objects or people. This can be because they find comfort in focusing on one thing or have difficulty processing movement (Kleberg et al., 2016). These challenges can affect their ability to participate in activities like sports or classroom interactions and make it harder for them to maintain eye contact or follow gestures during conversations (Zhou et al., 2023). The connection between pain expression and the perception

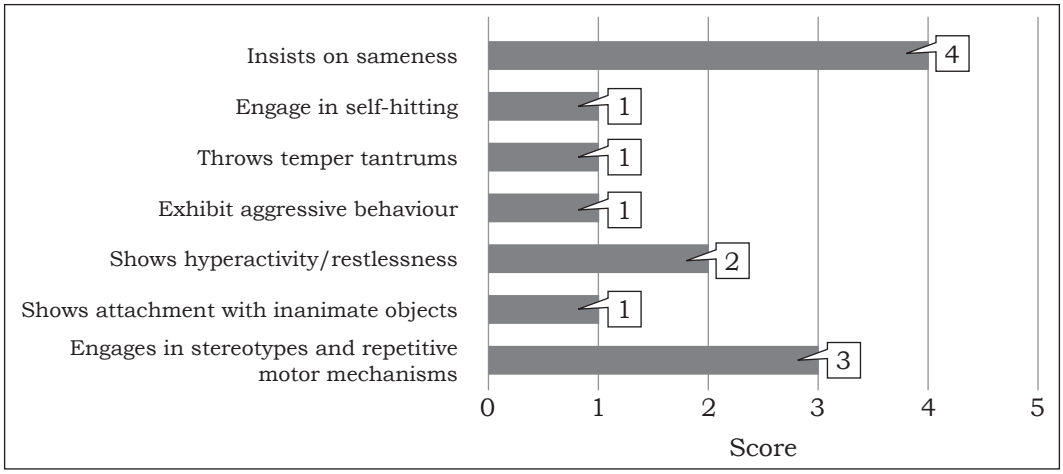

Fig. 4: Behaviour pattern

of pain in individuals with ASD is inconsistent (Alley, 2013). Table 7 and Fig. 5 show that Punit sometimes faces difficulties in the dimension of sensory receptors but the problem isn't severe. He also doesn't show signs of distress or pain when he gets hurt.

Table 7: Sensory Aspects

S. No.	Gaps in Sensory Skills	Percentage
1.	Unusual sensitivity to sensory stimuli	Up to 20%
2.	Stares into space for a long period of time	21–40%
3.	Difficulty in tracking objects	21–40%
4.	Has unusual vision	Up to 20%
5.	Insensitive to pain	21–40%
6.	Respond to objects/people by smelling, touching or tasting	21–40%

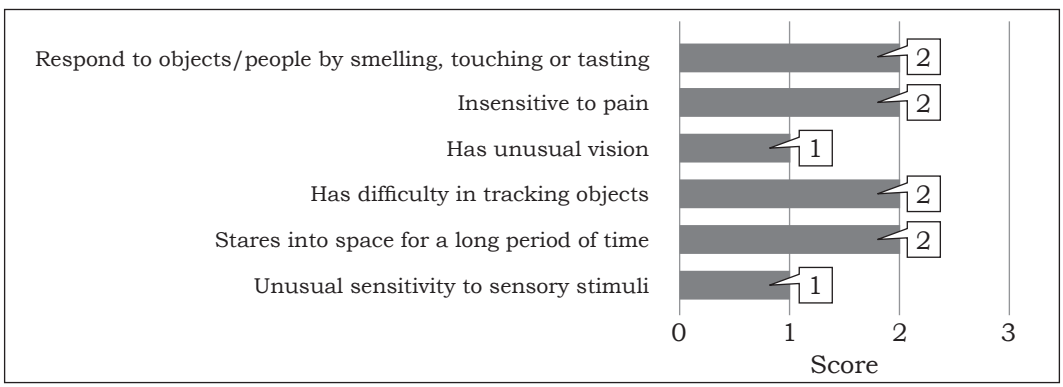

Fig. 5: Sensory aspects

Students with autism always suffer from a lack of attention and don't concentrate (Gacek et al., 2024). However, they show extraordinary memory power in a few cases. Things most people would have long forgotten, they can recall easily (Casner, 2016). Table 8 and Fig. 6 reflect that Punit can't concentrate on things easily but displays unusual memory in some cases. He can easily recall recipes for so many foods, which means he has extraordinary memory power. The only issue in this area is that sometimes he responds after considerable delay.

Objective: 2. To develop an individual transition plan (ITP) based on the learning gaps of the student with ASD.

Tables 2–8 highlight the learning gaps Punit has in his social skills across six specific areas—

(i) social relationship and reciprocity,

(ii) emotional responsiveness,

(iii) speech-language and communication,

(iv) behaviour patterns,

(v) sensory aspects, and

(vi) cognitive components. Based on these identified issues, an Individual Transition Plan (ITP) has been developed, as detailed in Table 9.

Table 8: Cognitive Component

S. No.	Gaps in Cognitive Skills	Percentage
1.	Inconsistence attention and concentration	41–60%
2.	Shows delay in responding	21–40%
3.	Have unusual memory of some kind	61–80%
4.	Has savant ability	41–60%

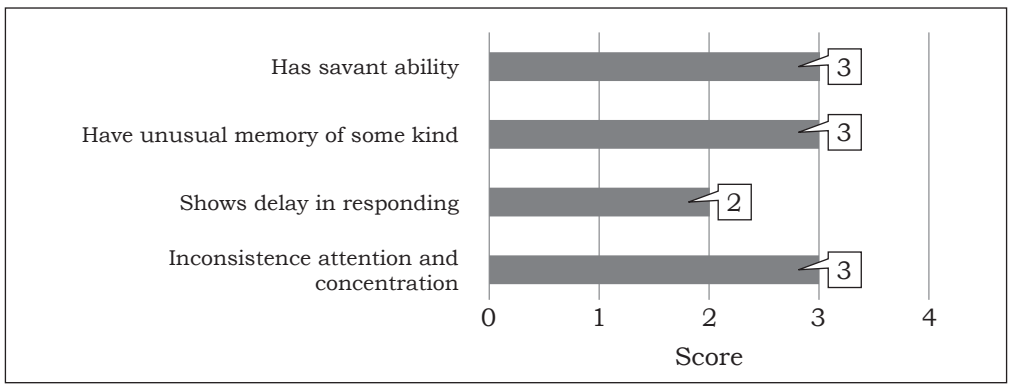

Fig. 6: Cognitive component

Table 9: Transition Plan for Social Skills

Area of problems	Kind of problems	Transition plans
Social relationship and reciprocity	Not responsive to new people and environment.	Before exposing Punit to something new, giving him enough time to familiarise himself with the new people and environment is essential.
	Remain away from the social world and hardly respond to social interaction.	
	Not responsive to social and environmental demands and expectations.	
	Not able to comprehend the significance of taking turns in reciprocal interactions with others.	Talking to the student about his special areas of interest is essential so that the student can enjoy the conversation and start talking about the topic by himself. Here Punit has shown a special interest in food. Discussing different food recipes that he liked was very entertaining, and he started talking over the same topic.
	Don't know how to wait or keep patience until the turn comes or other turn ends.	Forming a clear and defined routine (mentioning proper time) for every activity is important so that Punit comes to know when he has to move from one activity to another or from one lesson to another. It made him more comfortable, and such routines enabled him to cope with the actual timetable. He came to know where he had to wait or where he had to keep patience.
	Don't maintain peer relationships with all; very selective or choosy by nature.	• Using social stories and role-play related to peer relationships (in a classroom and playground situation) was an important step in making Punit realise the concept of togetherness. • Parents should bring him to small social gatherings like birthday and New Year celebrations so that he can realise how to communicate with kids of his age group.

Speech-language and communication	Not aware of the use of pronouns like I, we, you, etc.	• Showing Punit picture books and picture cards to make him understand the use of pronouns. • Use of family tree to help Punit make out the use of different pronouns.
	Incessantly repeat things regardless of meaning or context (delayed echolalia).	
	Often speak out of context during conversations.	
Behaviour pattern	Engage in self-stimulatory behaviour in the form of stamping feet.	When Punit started stamping his feet, he was given a verbal warning to control his behaviour. But sometimes, he found it difficult to process the information. 'Visual warning signals' that didn't require verbal explanations were better for such situations. So, using visual warning cards to control his restlessness was an effective step.
	Hyperactivity interferes with learning and performance tasks.	
Emotional responsiveness	Engage in self-talk.	• Converting self-talking into positive self-appreciation is a crucial step to controlling such habits. Whenever Punit started self-talking, he was instructed to recite his favourite poem or to sing a song. This level of preparation enabled Punit to control his self-talking. • In order to control Punit's self-talking, his caregiver was instructed to write whatever he wanted to speak on a piece of paper.

Discussion of the Study

Punit encounters challenges in three key areas— socialisation, communication and behavioural control. He often does not respond to new people or environments, avoids social interactions and struggles to conform to societal expectations. These difficulties are consistent with findings from Lofgren's (2011) study, which highlighted that individuals diagnosed with ASD commonly face similar issues in these domains. Additionally, maintaining peer relationships poses a significant challenge for Punit. Children with autism typically experience considerable delays in forming peer relationships due to language impairments (Peterson, Slaughter

and Wellman, 2016). This delay not only hinders their ability to make friends but also affects their overall social development and integration (Sari et al., 2021). The compounded effects of these challenges can lead to social isolation (Dean et al., 2023) and increased difficulty in navigating everyday social situations, underscoring the need for targeted interventions to support social skill development in children with ASD (Chen, Schneider and Patten, 2021).

In this research, Punit struggles to initiate conversations with others and often uses stereotyped and repetitive language, a behaviour known as echolalia. He always speaks from third person point of view; for instance, he says, "Punit is a good boy" instead of "I am a good boy." Kou (2017) explains that language impairments in children with ASD encompass poor comprehension, challenges in both verbal and non-verbal communication, including echolalia. However, Prema K.S. (2007) notes that although children with ASD face significant communication challenges, these can be mitigated with well-designed and realistic plans. She advocates for a teaching approach that emphasises overall communication rather than just verbal language. Utilising multiple modalities, such as visual, auditory and tactile methods can enhance communication skills. Additionally, repeating commands and instructions can aid in developing communication (Paul, 2008). By focusing on these strategies, educators can create a more supportive environment that fosters communication development and helps children with ASD improve their ability to interact socially and effectively (Chen., Schneider and Patten, 2021).

Sometimes Punit engages in self-stimulating emotions and gets excited or agitated for no apparent reason. William and Gray (2013) indicated that impairment in emotional control is associated with social skills in children with autism. Like other ASD children, Punit also faces the problem of repetitive behaviour. According to Emma, Jacqui and McConachie (2012), assessment of such repetitive behaviour followed by methods of intervention and support can improve the situation.

Implementing specific social skills interventions in schools is challenging, particularly since children with ASD are considered among the most difficult to include successfully in mainstream education worldwide (Symes and Humphrey, 2010). Numerous issues need to be addressed in this context (Paraskevi, 2021). Despite these challenges, it is crucial to conduct thorough evaluations of social skills and develop individualised education plans (IEPs) for children with ASD (Ikeda and Ando, 2016). These customised plans are vital for facilitating the child's successful integration into a general classroom setting (Pittman, 2007). By implementing personalised

interventions and continuously assessing their effectiveness, schools can better address the unique social challenges faced by children with ASD (Kasari et al., 2011; Lee etal., 2022). This approach can also help create inclusive environment that foster both social development and academic success for all students (Pittman, 2007; Kasari et al., 2011; Ikeda and Ando, 2016; Lee et al., 2022).

Conclusion

Inclusive education, as defined by Anescow (2000), emphasises increasing the participation of all students in schools, including those with special needs. However, students with autism spectrum disorder (ASD) often face significant barriers to inclusion in mainstream schools. These barriers arise from a lack of societal acceptance (Vidya, 2008) and insufficient teacher training (Lindsay et al., 2013). Teachers find working with ASD students challenging due to the complexities involved in understanding and managing their needs, compounded by the lack of specialised training (Gigante and Gilmore, 2020).

Despite these challenges, numerous success stories demonstrate that students with ASD can contribute positively to society when provided with proper support (Ikeda and Ando, 2016). This underscores the importance of educating teachers to facilitate the smooth transition of students from special schools to inclusive settings (Saggers and Carrington, 2021). The National Education Policy (NEP) 2020 highlights the necessity for collaboration between the National Council for Teacher Education (NCTE) and the Rehabilitation Council of India (RCI) to produce adequately qualified educators capable of both subject teaching and providing specialised support to students with ASD.

Thus, it is essential to foster a social effort to integrate this natural talent into mainstream education through appropriate transition plans and support systems.

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