

Academic Learning Strategies for Students with Autism

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Abstract: Students with ASD have difficulties when it comes to responsive and expressive interaction, leading to failure in understanding social situations. Due to this, students with ASD may face social rejection by peers as a consequence of their social awkwardness, which can negatively impact the child's emotional stability. The classroom is an incredibly social place, however, this causes anxiety because of the social challenges that these students might face, and even go as far as to obstruct their academic learning. Social skills are incredibly important as they're needed for many things, from asking for help to cooperating with fellow peers. Several strategies have been researched to assist students with ASD in improving their social interactions, furthermore improving their education. One of these strategies includes using Computer Assisted Instruction, which has shown that they react positively to visual cues as they typically possess adept visual processing. The second is Mind Reading Software, which had led to significant improvement in recognizing emotions. The final exercise was shared reading activities, which served to improve literary skills.

Keywords: Autism Spectrum Disorder; Learning Strategies; Reading Strategies; Academic Learning; Special Education; Technology-Based Learning.

1. INTRODUCTION

The Centers for Disease Control and Preventions [3] describes autism spectrum disorder as a neurodevelopmental condition that typically impairs a person's capacity for communication and socialization. Students who have ASD also display challenging or repeated behaviors. Autism significantly affects a person's intellectual capabilities, though not always. Since autism is a spectrum disorder, each individual is affected differently and shows variable levels of severity. In addition, the Center for Disease Control and Prevention posits that the disorder is more prevalent among males than their female counterparts. Notably, the disorder impacts students from all backgrounds irrespective of their racial, economic, social, or political class. Even though the exact cause of the disorder is unknown, some predisposing factors include family history and children born to parents at an older age [3].

Individuals with ASD have difficulties properly interacting and communicating with others. A considerable percentage of children with ASD are hardly speaking when they start school, according to Mucheti et al. [6]. Many students have difficulties with both responsive and expressive interaction. Their failure to understand social circumstances may cause their difficulties in social situations. Ostmeyer and Scarpa [7] buttress this point in their work, pointing out that children with ASD appear socially awkward, leading to rejection by peers and sometimes becoming victims of bullying and teasing. These circumstances significantly impact the child's emotional stability. In high-functioning children with ASD, these experiences create a loop characterized by increased anxiety and depression, leading to social incompatibility.

2. LITERATURE REVIEW

Classrooms are social places, and socially awkward individuals may find it challenging to fit in. This is particularly pronounced among children with ASD since they struggle to interpret social situations, making them targets of bullying and teasing. These conditions impact their academic performance. Social skills are necessary for effective learning, including asking for help, avoiding distractions, following classroom rules, listening to others, taking turns, taking responsibility for

one's behavior, and staying calm. However, students with ASD struggle with all these skills, making it challenging to learn in a classroom setting. Furthermore, the situation is further exacerbated because a classroom is typically congested and has numerous transitions among teachers with different rules and methodologies.

Classroom features negatively impact ASD students.

Classrooms can be challenging for students with ASD since the following features characterize them [1]:

Transitions

- Classrooms have multiple changes, with teachers taking different subjects
- The changes are predictable, yet still unpredictable

Sights and sounds of hallways

- Commotion and noise can be highly overwhelming
- ASD students find it challenging to navigate hallways leading to increased stress and anxiety
- Picking out information from their surrounding
- Understanding what they are supposed to do

Reading strategies for children with Autistic spectrum disorder

It can be difficult for children with ASD to integrate into a typical classroom since they struggle with communication, emotion identification, interpersonal skills, and social cognition. Using computer-assisted instruction (CAI) to enhance practical communication and theory of mind abilities is one reading strategy that has attracted much interest lately. DSM-5 defines autism as a condition with impairment in social communication across multiple contexts, failure to initiate and respond to social interactions, and restricted or repetitive behavior patterns. Deficits in emotional reciprocity and body language comprehension are two traits that the APA [2] claims define autism. These deficiencies impair a student's capacity to interact socially because they cause them to be unable to recognize nuanced social and emotional indicators presented through speech inflection, situational signals, and body language. Deficits in the Theory of Mind, also known as cognition, perception, or social competence, are distinctive traits of individuals with ASD. The idea is described as the incapacity to extrapolate other people's mental states from one's own and use the knowledge to understand and forecast their conduct in certain social contexts. A crucial component of the Theory of Mind is the capacity for emotional awareness, comprehension, and control. According to several studies, a person's understanding and perception of the specific social context and capacity to anticipate others' context-appropriate emotional responses determine how they feel.

According to existing data, students with ASD can acquire certain aspects of the Theory of Mind using expressive learning techniques. Compared to the control group using pre-and post-test measures, systematic learning on emotion recognition and emotion-related language comprehension among 30 participants with a mean age of 9.5 demonstrated better levels of progress. This study focuses on how explicit education affects the acquisition of emotion-recognition abilities. The researchers did not apply the acquired actions to practical life circumstances.

Interpersonal awareness, empathy, and perception depend on emotional awareness and comprehension. Researchers have recommended that, in light of the crucial elements of the Theory of Mind, the information be broken down into manageable pieces, education be given following a typical developmental pattern, methodical behavioral reinforcement be used, and errorless teaching be used. These successful teaching guidelines can be used in a CAI for students with ASD. Computer Assisted Instruction is the combination of computer models and computer tutors. This strategy is based on research showing that high-functioning autistic individuals react positively to programs that integrate technology and visual cues because of their adeptness at visual processing.

Additionally, the difficulties the students have in social situations may help to explain why they favor computer-assisted learning for students with ASD. Stasolla, Damiani, and Caffo [8] performed a single case study to assess the effectiveness of a program versus coloring graphics on task engagement among two students with ASD, and they found that the latter was preferred. The findings indicated that computer-assisted learning had better participation than coloring graphics. These results lend credence to the claims that those with ASD spend less time engaging in stereotypical behavior when involved

in highly preferred tasks. CAI may be a successful technique for teaching students with ASD due to their great visual processing abilities and the highly interactive aspect of technology-based learning.

Numerous studies on the effects of CAI have yielded encouraging findings. For instance, Silver and Oaks (2001) utilized Emotion Trainer software with students between the ages of 10 and 18 who had high-functioning autism. The study group's participants displayed a decreased mean number of errors between the initial and final sessions. However, the experiments had severe flaws, such as limited sample size and a lack of methodological consistency, raising serious concerns about the reliability of the results. Correspondingly, LaCava et al. [5] taught children to recognize emotions using Mind Reading software. There was a substantial difference between the before and post-learning assessments on several standardized measures, showing that all participants significantly improved their ability to recognize emotions. The key flaws in this study were the kids' access to the program for dramatically varying lengths of time and the lack of control over the effects of uncontrollable factors like parental engagement. However, the results of the two studies indicate that using computer-assisted training may make it easier to overcome the difficulties that come with social environments like a classroom.

In addition to computers being used to moderate behavior among students with ASD, they help implement formal academic strategies to help the students reach high academic potential. Since students with ASD are highly visually gifted, they respond well to technology. Furthermore, adapted shared reading programs, structured learning environments, and detailed instruction are crucial strategies that can help to enhance reading among students with ASD.

Adapted shared reading activities have become a popular method to improve literary skills among children with autism, in addition to integrating technology into teaching and learning. In shared reading, an adult reads loudly to a pupil while interacting with them through inquiries and conversations. Crucially, the teacher may adjust the reading exercises for the child to suit their requirements. However, the adult should shorten the text while maintaining the theme, plot, age-appropriateness, and other important features. According to a study by Muchetti [6], collaborative reading activities using adapted text, multimedia presentations, and objects improved four participants' reading comprehension and engagement during the intervention phase compared to the baseline phase. The results are encouraging because they show that autistic kids may participate in early literacy activities tailored to their requirements and can improve their reading comprehension skills while doing so. Teachers can employ shared, customized reading activities to help autistic children improve their literacy abilities. Research has shown that reading comprehension is difficult for many of these kids.

Additionally, it is essential to decompose the task into manageable chunks, given that children with autism have high execution deficits. The task can be covered in several phases allowing the kid to grasp the material. Furthermore, detailed instruction should be applied to help the kids acquire new academic abilities. This can be done by using visual supports and verbal prompting, then progressively withdrawn as the kids learn to undertake certain tasks individually. Also, when covering academic material, the teacher should provide lucid explanations of the task and sequence, guided practice, and opportunities for the kids to practice and apply the learned skills independently. Incremental learning is crucial in helping kids with autism to learn successfully and independently apply the learned skills.

Given that students with ASD have challenges fitting into a regular classroom setting, developing a structured learning environment would help create effective learning conditions. According to a study conducted in the Netherlands for two years among 45 autistic students, providing structure was the most effective strategy for improving academic performance, as demonstrated using standardized tests. These findings underscore the need for a structured learning environment because they help to reduce disruptive behavior, anxiety, and confusion among students with ASD. Fleury et al. [4] further emphasized these findings by postulating that students' ability to anticipate and understand activities, expectations, and schedules improves their ability to participate and respond to classroom demands. This helps teachers to develop predictable routines for the students, eliminating the unknowns in the learning environment and reducing anxiety among those with ASD. Moreover, writing schedules can help students with ASD struggle to generate their programs.

3. CONCLUSION

The above strategies can help students with ASD improve academic achievement in general education settings or special learning environments. The strategies explored are anchored on empirical studies tackling challenges experienced by learners with ASD. Importantly, the strategies address the social, academic, and behavioral challenges that make it challenging for learners with ASD to achieve their full potential. The strategies aim to reduce anxiety and distraction and

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enhance focus among students with ASD. Therefore, any strategies focusing on these aspects can help to increase classroom engagement, contributing to the development of positive learning experiences, which are the bedrock of successful academic performance.

The main features of all the proposed strategies require less preparation time, and teachers can incorporate them into their teaching repertoire. The time required to integrate the proposed strategies is an important consideration because studies have shown that teachers have limited time to incorporate new ideas into teaching and learning. Since technologies such as computers, iPads, and laptops are available in many classroom settings, teachers can use them to teach academic, social, and behavioral skills. It takes less time to develop teaching strategies that help to improve the learners' behavioral, academic, and social skills than dealing with their challenging behavior.

The main challenge is that the number of children with ASD is increasing, putting a toll on teachers. This requires continuous professional development to help teachers handle the growing number. Furthermore, these training opportunities will help teachers understand the role of ASD in a learner's performance. Also, a linkage between general and special needs teachers should be strengthened through effective collaboration and communication to enhance the sharing of skills and knowledge crucial in handling the number of students with various aspects of ASD. Mentorship among general educators, particularly concerning individualized education plans, would help them understand the areas they need to target to support learning among students with ASD fully. Moreover, the mentorship would help them to develop instructional strategies that target the academic, behavioral, and social needs of students with ASD, hence improving their academic performance.

REFERENCES

- [1] Alnemr, M. (2020). *The Pre-instructional and Reading Comprehension Strategies Special Education Teachers Use to Engage and Instruct Elementary Student Readers with ASD*. Western Michigan University.
- [2] American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (5th ed.)*. Washington, DC: Author.
- [3] Centers for Disease Control and Preventions. (2015). *Facts about ASD*. Retrieved October 29, 2022, from <http://www.cdc.gov/ncbddd/autism/facts.html>
- [4] Fleury, V. P., Hedges, S., Hume, K., Browder, D. M., Thompson, J. L., Fallin, K., . . . Vaughn, S. (2014). Addressing the academic needs of adolescents with autism spectrum disorder in secondary education. *Remedial and Special Education, 35*(2), 68-79. <https://doi.org/10.1177/0741932513518823>
- [5] LaCava, P., Golan, O., Baron-Cohen, S., & Myles, B. (2007). Using assistive technology to teach emotion recognition to students with Asperger Syndrome. *Remedial and Special Education, 28*(3), 174-181. <https://doi.org/10.1177/07419325070280030601>
- [6] Muchetti, C. A. (2013) Adapted shared reading at school for minimally verbal students with autism. *Autism, 17*(3), 358-372. <https://doi.org/10.1177/1362361312470495>
- [7] Ostmeyer, K., & Scarpa, A. (2012). Examining school-based social skills program needs and barriers for students with high-functioning autism spectrum disorders using participatory action research. *Psychology in the Schools, 49*(10), 932-941. <https://doi.org/10.1002/pits.21646>
- [8] Stasolla, F., Damiani, R., & Caffo, A. (2014). Promoting constructive engagement by two boys with autism spectrum disorders and high functioning through behavioral interventions. *Research in Autism Spectrum Disorders, 8*, 376-380. <https://doi.org/10.1016/j.rasd.2013.12.020>