

# How Students with Autism Spectrum Disorder Perform in Regular and Special Education Classrooms

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**Abstract.** The educational placement of ASD child learners has been a topic of dispute in both the clinical and academic domains. It was formerly common practice to enroll child learners with ASD in separate special education programs because it was believed that these environments may provide more intensive and customized therapies. There has been a notable surge towards inclusive education in recent decades, influenced by broader cultural trends promoting inclusion and equality for people with disabilities. The current research compares and contrasts the effects of comprehensive and special education environments on the study patterns of students diagnosed with ASD. It evaluates how inclusive classrooms significantly boost the learning behaviors and social skills of child learners with ASD, subject to the practical adaptation of teaching methodologies, a supportive school culture, and educators' readiness to accommodate these kids' particular requirements. By comparison, special education settings facilitate the learning and development of child learners with ASD by offering specialized attention, targeted treatments, and a collaborative approach that addresses their specific needs. Special education environments may offer customized teaching methods that address individual learning needs, potentially enhancing academic skills. This research aims to determine the more effective educational approach for meeting the varied learning needs of child learners with ASD, considering the contributing factors in both settings. The optimal educational approach for child learners with ASD involves leveraging the unique advantages of inclusive classrooms and special education settings, guided by a commitment to understanding and meeting their diverse needs to facilitate their holistic development and societal inclusion. The results are intended to inform the ongoing discussion about the best educational practices for child learners with ASD, providing evidence to help educators, policymakers, and parents create the most supportive learning environments for this distinct group.

**Keywords:** Autism Spectrum Disorder; inclusive classroom; special education.

## 1. Introduction

ASD is a neurodevelopmental condition characterized by challenges in social communication, repetitive behaviors, and a range of sensory sensitiveness. Autism spectrum disorder (ASD) has experienced a consistent rise in prevalence over the last few decades, positioning it among the most widespread developmental disorders on a global scale [1]. Therefore, it has become of the utmost importance to explore educational practices that are beneficial in order to provide support for the academic development of students who are learning with autism spectrum disorder (ASD). Inclusive classrooms and special education programs have become more widely recognized in the field of education as techniques to deliver personalized assistance to child learners with varying learning requirements, including individuals diagnosed with ASD. By creating a welcoming space for students of all talents, inclusive classrooms promote active participation from all students and help them reach their full academic potential. [2]. On the opposite hand, special education programs provide personalized guidance and modifications to cater to the unique requirements of children who have impairments and participate in schooling [3]. Individuals with ASD have been extensively researched in the fields of special education, inclusive education, and their intellectual development. Previous studies have highlighted the potential benefits and challenges of these educational approaches. For instance, some research suggests that inclusive classrooms can facilitate social integration and communication skills for child learners with ASD, positively impacting their academic engagement

and outcomes [4]. Nevertheless, additional research has highlighted the necessity for tailored assistance and personalized teaching that might not always be easily accessible in inclusive environments [5]. Research is also being conducted on special education programs designed for children ASD. Educational initiatives targeting students diagnosed with autism spectrum disorder (ASD) strive to meet their distinct requirements through the implementation of methodologies and strategies supported by empirical research. This may potentially lead to improved academic performance in school [6]. Nonetheless, questions remain about the extent to which these specialized services adequately prepare child learners with ASD for integration into inclusive classrooms and future academic success [7]. Considering the complex interrelationships among inclusive education, special education, and the academic achievement of students who have ASD, the objective of this study is to discover the effects of differences in inclusive classrooms and special education services on the academic performance of these children. Concerns regarding the impact of inclusive education, special education, and Autism Spectrum Disorder (ASD) that intersect with these educational approaches on the scholastic achievements of child learners with ASD are compelling. Within the scope of this study, the goal is to investigate the influence that inclusive classrooms and special education have on the academic performance of students who have ASD. In order to address this issue, the methods of this research include literature review, analyzing empirical data, and discussing possible implications for educational policies making and practices.

This research provides insight into the intricacies of various educational techniques for child learners with ASD by thoroughly examining current literature and empirical data. This research may provide helpful insights into improving educational strategies for child learners with autism, benefiting educators, legislators, and families aiming to deliver optimal assistance to these child learners.

## **2. The Impact of Inclusive Classrooms on Learning Behavior of Child Learners with ASD**

The goal of this study is to illuminate the complex nature of these educational techniques and their consequences for students who have ASD by conducting a comprehensive examination of the current literature as well as empirical analysis. This research may give valuable insights for enhancing educational methods for child learners with autism and guiding educators, policymakers, and families in offering optimal assistance for these child learners.

### **2.1. Child Learner's Engagement and Social Skills in Inclusive Classrooms**

Recent research has underscored the positive impacts of inclusive classrooms for child learners with ASD, particularly about their learning behaviors and social skills. Gunn and Delafield-Butt have pointed out that integrating the specific interests of child learners with ASD into classroom activities promotes academic success and enhances social participation (2016). This approach, which is at the heart of inclusive education, argues that customizing educational materials to reflect the unique interests of ASD students can significantly boost both their academic achievements and social interactions. Additionally, the role of teaching assistants (TAs) in these inclusive environments has been examined for their ability to support learning behaviors in ASD students. Symes and Humphrey discovered that while TAs can have a beneficial effect on including ASD students, their involvement needs to be thoughtfully controlled to prevent reliance and to make sure these students are actively participating and fully integrated into the classroom setting [8].

### **2.2. The Influence Factors of Classroom Strategies**

Although inclusive education has its advantages, it presents obstacles for child learners who have autism spectrum disorder, specifically with regard to adapting to the educational and societal expectations that are present in regular education Lindsay et al. [9] highlighted the importance of tailored teaching methods, school teamwork, and building rapport with parents and students as essential strategies for successful inclusion. The need of a compassionate and diverse educational environment is emphasized by these approaches, aimed at the specific ways in which child learners

with ASD learn. Additionally, the role of school culture and teacher training in facilitating practical support for students with ASD cannot be overstated. Collaboration, support from school leadership, and favorable attitudes toward special education needs were all highlighted by Symes and Humphrey [10] as key components of an inclusive teaching environment. Educators' capacity to support the learning behaviors of child learners with ASD is substantially impacted by the previously mentioned factors.

### **2.3. The Influence Factor of Peer Support and Teacher Preparedness**

Peer support practices in inclusive classrooms have been demonstrated to benefit students with ASD by enhancing their educational concentration and interaction with society. The importance of peer connections in encouraging positive learning behaviors was highlighted by McCurdy and Cole [11], who discovered that simple peer support approaches helped improve social interactions and reduce distractions for students with ASD. Additionally, teachers' attitudes and awareness regarding acceptance impact the efficiency of inclusive education for students with ASD. A study by Sanz-Cervera et al. [12] indicated that although pre-service teachers' understanding of ASD grows over time, some misconceptions remain, pointing to the necessity for thorough training initiatives to bridge knowledge gaps and correct false notions about ASD. Tailored training for teachers is essential to equip them to address the varied needs of ASD students in inclusive environments.

Furthermore, instructors' perspectives on inclusive education have a crucial role in the effective integration of child learners with ASD. A positive stance on inclusivity, combined with an in-depth comprehension of ASD, can lead to a learning atmosphere that is more supportive and adaptive for all students. According to Humphrey and Symes [13], higher confidence levels in handling ASD students are often seen in senior managers and Special Educational Needs Co-ordinators (SENCOs), highlighting the critical role of leadership and specialized positions in advancing inclusive educational practices.

In conclusion, child learners with ASD are able to learn and socialize more effectively in inclusive classrooms, which leads to increased participation in school and stronger interactions with others. Still, these inclusive settings depend on several factors, including the customization of teaching strategies to accommodate ASD students, the involvement of Teaching Assistants, the creation of an encouraging school culture, effective peer support frameworks, and educators' readiness and perspectives. As research in this area expands, it becomes evident that a comprehensive strategy focusing on cooperation, training, and flexibility is vital for enhancing the educational experiences of child learners with ASD in inclusive contexts.

## **3. The Impact of Special Education on Learning Behavior of Child learners with ASD**

Investigating the learning behaviors of child learners with ASD within special education contexts uncovers a multifaceted array of hurdles and targeted approaches aimed at improving educational achievements. This segment explores the essential aspects that define the educational setting for ASD child learners in special education, incorporating insights from current studies to offer a detailed perspective on their learning necessities and the impact of customized interventions. It highlights the complexity of adapting educational practices to meet the specific needs of these students, underscoring the importance of a nuanced approach that considers the diverse challenges they face. By examining the latest research, this discussion sheds light on the critical elements contributing to the effectiveness of specialized educational strategies for child learners with ASD, aiming to enhance their learning experiences and outcomes.

### **3.1. Tailored Educational Approaches**

Special education programs are tailored to meet the special requirements of child learners with ASD by using focused teaching methods to address their issues. These programs often utilize structured teaching approaches, visual aids, and digital learning tools to boost student engagement and

understanding. Implementing individualized education plans (IEPs) ensures that each child's learning goals are precisely addressed, offering a tailored educational experience that can be challenging to replicate in more inclusive environments. IEPs' implementation is a cornerstone of special education, serving to guarantee that students with disabilities receive a specialized, needs-based educational experience. The foundation of this concept is based on the recognition that a standardized instructional approach fails to accommodate for a broad range requirements of ASD students. IEPs develop a personalized learning goal and include specific educational strategies, accommodations, and modifications to the standard curriculum to help students achieve their personalized learning goals.

Behavioral interventions, notably Applied Behavior Analysis (ABA), are foundational in the field of special education, especially for child learners with ASD. These interventions are designed to improve social, communication, and learning skills through structured behavioral modification techniques. The scientific study of learning and behavior provides the foundation for ABA treatment, which entails translating theoretical knowledge about behavior into practical uses. ABA therapy is highly individualized, with intervention plans tailored to each child's needs. Behavioral interventions provide a structured environment that helps child learners with ASD understand and navigate their surroundings more effectively. These tactics reduce disruptive behaviors and develop new communication, social relationships, and academic abilities. Training in social skills is a crucial component of special education programs. It aims to enhance relationships with peers and promote social inclusion, essential for the holistic development of child learners with ASD [14].

### **3.2. The Influence Factors of Supportive Professionals and Home-School Coordination**

The proficiency and training of special education teachers are paramount in influencing the educational experiences of child learners with ASD. These professionals possess the specialized knowledge and competencies to apply research-backed strategies, manage complex behaviors, and create a nurturing educational atmosphere. Their capacity to tailor instructional approaches to the distinct learning preferences and requirements of ASD child learners plays a crucial role in enhancing academic performance and social integration, underscoring the significance of comprehensive teacher training and continuous professional growth in special education.

The engagement of parents and families is also crucial in the educational progression of child learners with ASD within special education frameworks. Working with educators, families can help achieve a seamless transition between home and school settings, amplifying the effects of educational and behavioral strategies. This collaborative effort champions a comprehensive educational model that focuses on academic achievements and prioritizes the social and emotional facets of development, contributing to the child's overall well-being [15].

### **3.3. Smaller Class Size, Individual Attention, and Professional Expertise**

Smaller class groups, one-on-one care, and professional experience play an role in special education, especially for kids with ASD. These factors affect their academic success, social and emotional growth, and overall health. The key findings from systematic reviews and research studies highlight the importance of these factors in creating effective learning environments for child learners with ASD. For students diagnosed with ASD, a more customized and specialized approach to learning can be made feasible by limited enrollments in classes in special education settings. These settings enable teachers to give more one-on-one attention, cater to individual learning styles and needs, and closely monitor progress. In the field of special education, a methodical assessment came to the conclusion that smaller classrooms were favored since they allowed for more time for specialized teaching and enhanced the amount of attention that teachers paid to the various requirements of their pupils. In spite of this, it was pointed out that there is a need for more recent quantitative research that explicitly investigate the impact of class size in special education. [16].

Children with ASD often struggle with social, communication, and behavioral issues; hence, it is necessary that they get individualized attention in smaller class settings. Personalized attention can improve academic outcomes by adapting teaching methods to each student's learning pace and style. It also supports the development of social skills and reduces behavioral issues by allowing for immediate feedback and intervention. The impact of individualized strategies, such as tailored interventions and support, is effective in promoting academic and socioemotional growth in students with ASD, though the literature emphasizes the need for more high-quality research to address these needs fully [17].

The expertise and training of educators in special education significantly influence the learning experiences of child learners with ASD. Specialized knowledge in evidence-based practices, behavioral interventions, and adaptive teaching methods enables educators to address the complex needs of these students effectively. Professional expertise is linked to better academic and social outcomes, highlighting the importance of teacher preparation and ongoing professional development in special education. Nevertheless, further study is required to determine the exact impact of teacher proficiency on the achievements of children in special education environments. In conclusion, smaller class sizes, individual attention, and professional expertise play crucial roles in enhancing the educational experiences of child learners with ASD. They contribute to creating supportive, responsive, and effective learning environments that address the diverse needs of these students. Despite promising findings, the literature indicates a need for more robust, comprehensive research to understand further and optimize these factors in special education settings for child learners with ASD.

#### **4. An Comparative Analysis of the Learning Behaviors of Students diagnosed with ASD in Inclusive Classrooms and Special Education**

The educational landscape for student with ASD has long been a field of dynamic debate and research, focusing primarily on the comparative efficacy of inclusive classrooms versus specialized education settings. This discourse navigates through the nuanced interplay between the distinct learning behaviors of student with ASD and the educational environments designed to support their development. A critical examination of both paradigms reveals the multifaceted impact these settings have on these students' learning outcomes, social integration, and personal growth.

##### **4.1. Advantages and Disadvantages of Special Education in Inclusive Classrooms**

The goal of inclusive classrooms is to create a cohesive learning environment by equipping children with a variety of learning necessities, specifically for those who have ASD, with their classmates who are neurotypical. The ethos of inclusion promotes equality, respect, and acceptance, offering a microcosm of the broader society where diverse abilities coexist. This setting provides student with ASD the opportunity to observe and engage in social interactions and behaviors considered normative, potentially enhancing their social and communicative skills through real-world learning experiences. The presence of a diverse peer group can also catalyze improvements in the adaptive behavior of student with ASD, encouraging flexibility, tolerance, and empathy from all students. However, while ideologically commendable, the inclusive approach encounters practical challenges in its implementation. The heterogeneity of ASD, with its spectrum ranging from high-functioning autism to more severe manifestations, necessitates a broad array of educational and behavioral supports. Inclusive classrooms, despite their potential for promoting social integration, may not always provide the individualized attention or specialized interventions required by some students with ASD. The efficacy of inclusion, therefore, becomes contingent on the ability of the educational system to allocate adequate resources, training, and support for teachers, as well as to implement tailored strategies that address the wide-ranging needs of these students.

## **4.2. Advantages and Disadvantages of Special Education**

While special education provides a conducive learning environment for student with ASD, it also presents challenges, including the risk of social isolation and stigmatization associated with being in a segregated setting. A persistent concern is the balance between providing specialized support and promoting social integration with typically developing peers [18]. Moreover, educational interventions for students with ASD might be less successful due to disparities in resource availability and access to high-quality special education programs. Research indicates that student with ASD benefit from the structured and individualized support offered in special education settings. These benefits extend beyond academic achievements, including improvements in social skills, behavior, and overall independence [19]. Nevertheless, the effectiveness of special education is dependent on a number of elements, such as the level of family engagement, the amount of knowledge given by teachers, and the quality of the interventions that are implemented.

Conversely, special education settings are designed with the premise of offering a more structured and supportive environment tailored to the unique needs of student with ASD. These settings are equipped with specialized resources and staff trained in evidence-based interventions specific to ASD, such as Applied Behavior Analysis (ABA), to enhance academic performance, communication skills, and behavioral regulation. The controlled environment of special education allows for a higher degree of personalization in teaching methods, curriculum pacing, and the use of therapeutic interventions, potentially leading to significant advancements in areas of challenge for student with ASD.

Yet, special education settings have their limitations. While they excel in providing customized educational experiences, they inherently reduce the opportunities for student with ASD to interact with neurotypical peers. This isolation might restrict kids with ASD from being exposed to many social models and experiences, which are crucial for developing sophisticated social understanding and interaction skills. Furthermore, the isolation from mainstream educational pathways can inadvertently reinforce societal stigmatization and barriers to inclusion, impacting these students' self-esteem and long-term social integration. The comparison between inclusive classrooms and special education settings reveals a complex balance between the benefits of social integration and the need for individualized support. Inclusive classrooms offer a broader social learning environment but may lack the specialized resources necessary for some students with ASD. In contrast, special education settings provide targeted interventions but at the cost of reduced social integration. The optimal educational setting for a child with ASD, therefore, cannot be generalized; it must be determined based on the individual's specific needs, strengths, and challenges.

## **4.3. The Exploration of Hybrid Education**

This detailed comparison highlights the critical need for adaptability in educational systems to cater to the varied requirements of students with ASD. Combining the advantages of inclusive and special education environments, a blended approach might offer a more comprehensive educational experience. By designing tailored inclusion strategies that integrate specific supports within the mainstream education setting and provide chances for interaction with neurotypical peers within special education frameworks, the strengths of both settings could be merged. To implement this technique effectively, educators, experts, and families must work together closely to create dynamic learning plans that cater to the shifting requirements of kids with ASD.

To sum up, the educational path for student with ASD is influenced by a wide array of individual-specific factors. The choice between inclusive classrooms and special education settings is not about determining which is superior but rather about identifying and utilizing the strengths of each to foster the complex growth of student with ASD. An overarching educational approach, founded on a deep commitment to recognizing and addressing the diverse needs of these students, emerges as the most effective way forward in unlocking their potential and ensuring their comprehensive inclusion in society.

## 5. Conclusion

Student with autism spectrum disorder's academic engagement and social interactions is the focus of this research, which investigates the notion that inclusive classrooms provide considerable advantages for the learning and communication skills of student with ASD. However, the success of inclusive education for student with ASD depends on several critical factors: the adaptation of teaching methods to meet the unique needs of these students, effectively employing instructional assistants, the cultivation of a supportive school culture, strategic peer support, and the preparedness and attitudes of teachers towards inclusivity. On the other hand, Special education settings, through tailored educational approaches, specialized teacher training, and close home-school collaboration, significantly impact the learning behavior and overall development of student with ASD. These environments offer individualized attention and customized interventions, highlighting the importance of a nuanced, multifaceted approach to education that addresses the unique challenges and needs of ASD students.

These elements underscore the necessity for a holistic approach that emphasizes collaboration, tailored training, and flexibility to optimize the educational outcomes for student with ASD in inclusive settings. The research underscores the necessity for tailoring educational systems to meet the diverse requirements of students with ASD, proposing a combined model that integrates the advantages of both inclusive and special education settings. This model advocates for customized assistance within a broader educational framework, facilitating specialized support alongside opportunities for social engagement. Such an approach demands ongoing cooperation among teachers, specialists, and families to craft educational strategies that are adaptable and responsive to students' needs. Ultimately, the decision to opt for inclusive or special education environments should be informed by the unique needs, capabilities, and challenges of each ASD student, highlighting a holistic strategy to nurture their growth and inclusion in society.

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