Inclusion Education of Students with Autism Spectrum Disorder in General Classrooms: Teachers' Perceptions

A Research Paper

By

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Abstract

This research aimed at investigating the effect of a hybrid collaborative project- based course on developing 21st century skills, academic achievement, and attitude towards PBL among Gen Z junior English major student teachers at the Faculty of Education, Mansoura University. A random sample of third year English major students (N= 230) were the target participants. They were divided alphabetically to two groups, and randomly assigned to an experimental and a control group. The quasi-experimental approach using a pre- post administration to two independent groups design was adopted for achieving the purpose of the current study. Instruments designed and used were a 21st Century Skills assessment Inventory, an achievement test and an attitude towards PBL scale. T-test for both dependent and independent samples was used for data analysis. Results proved that the experimental group's post levels in 21st Century skills and attitude towards PBL were significantly higher than the control group. The experimental group outperformed the control group in academic achievement, although the differences were not so great. These results confirmed that the use of hybrid collaborative PBL had considerable potential in enhancing 21st century skills, academic achievement, and attitude towards PBL among EFL major junior students.

Keywords: Hybrid collaborative PBL, EFL, 21st Century skills, attitude, academic achievement, Gen Z, student teachers

دمج طلاب ذوي اضطراب طيف التوحد في فصول التعليم العام: تصورات المعلمين

ملخص الدراسة

لقد أثارت المناقشة حول طلاب ذوي اضطراب طيف التوحد، الاهتمام بمعرفة تجارب المعلمين وتصوراتهم بشأن التدريس في بيئة الدمج حيث تهدف هذه الدراسة إلى معرفة خبرات وتجارب معلمي التربية الخاصة ومعلمي التعليم العام فيما يتعلق بدمج طلاب ذوي اضطراب طيف التوحد في فصول التعليم العام (التعميم). استخدمت الدراسة منهج البحث النوعي. كما أجرت مقابلات شبه منظمة مع ثمانية مشاركين من المدارس الخاصة والحكومية في المملكة العربية السعودية. كذلك استخدمت الدراسة لتحليل الموضوعي لتحليل البيانات التي تم جمعها بينما تشير نتائج الدراسة إلى موقف المعلمين الإيجابي تجاه الدمج. في حين استعداد معلمو التعليم الخاص لتبني دمج الطلاب، افتقر معلمو التعليم الحكومي إلى الثقة في كفاءتهم في تحديد الأولويات. ومع ذلك، حدد المعلمون العوائق التي تحول دون اعتماد الدمج باعتبارها تكمن في نقص التدريب والخبرة والموارد ذات الصلة. وعلى الجانب الأخر، فإن الموقف الإيجابي والعمل الجماعي والتعاون وظهور التقنيات المعينة تعد من العوامل التي تمكن من تبني ممارسات دمج الطلاب.

الكلمات المفتاحية: الدمج، طلاب اضطراب طيف التوحد، التعليم الحكومي، تصورات المعلمين

Introduction

Autism Spectrum Disorder (ASD) is a common neurodevelopment condition affecting many children worldwide. New data from the Centers for Disease Control and Prevention (CDC) indicates the prevalence of children diagnosed with developmental disabilities has increased significantly to approximately 1-in-10 children (Walker & The National Desk, 2023). It increased from 7.4% in 2019 to 8.56% in 2021, with the diagnosis of boys with ASD being three times higher compared to that of girls (Walker & The National Desk).

ASD has complex causes, with genetics being the most examined and confirmed cause (Hodges et al., 2020). Individuals with ASD are a heterogeneous group comprising different forms of autism, but most share similar characteristics. Students with ASD are often educated in segregated schools established to provide specialized education for children with disabilities. Including students with disabilities in inclusive schools has gained popularity over the past few years. The attitudes and insights from involved stakeholders, especially teachers, are critical for successful integration of students with ASD in general education classrooms.

The discussion of whether to integrate students with ASD in inclusive classes has been gaining attention in recent years. The rise of policies and laws promoting equal access to education for people with disabilities shapes the direction of integration discussion. For instance, the Individuals with Disabilities Education Act of 2004 significantly changed how education provisions are provided to students with ASD and other disabilities (Blanck, 2019). While most stakeholders in the integration discussion support it mainly due to its potential benefits, there are concerns about how students with ASD will cope in general education classes.

One rationale for including students with ASD in inclusive classes is that they deserve the same learning opportunities as neurotypical learners, facilitating their ability to learn appropriate social behavior (Blazer, 2018). In addition, students with ASD need to eventually work alongside individuals with different abilities in the community. Inclusion in general education classes provides these opportunities for students with ASD. Despite these arguments' credibility, the integration process' success and effectiveness largely depend on how lessons are structured and how diverse learning modalities, academic needs, and social issues of the learners are accommodated. Teachers and educators from general and special education settings are among the main stakeholders in integrating students with ASD in general education classes. This study aims to examine the experiences and perceptions of SET and GET regarding inclusive education. It attempts to answer the following research questions:

1. What are the SET and GET's perceptions of inclusive/mainstream special education?

2. How prepared are teachers to adopt IE practices?

3. What do SETs and GETs identify as factors that enable the successful inclusion of students with disabilities?

4. What are teachers' perceived barriers to inclusion of students with ASDs in general education settings?

Literature Review

Definition of ASD and Its Characteristics

According to the CDC (2022), ASD is a developmental disability instigated by differences in the brain. Scientists hold that ASD is caused by multiple factors that act together to alter the

typical mechanisms by which individuals develop this condition. The condition was first reported in the mid-1900s by Kanner and Asperger. The term autism is derived from the Greek term 'autos,' which translates as 'self.' According to Vander Wiele (2011), the condition is mainly a severe social disengagement that signals an isolated self.

ASD comprises a spectrum of disorders, which share impaired social communication and interaction skills as a common characteristic. The major autism disorders include Asperger's syndrome, Rett syndrome, childhood disintegrative disorder, Kanner's syndrome, and pervasive developmental disorder (Rech et al., 2019). Other than impaired social communication and interaction skills, individuals with autism also demonstrate repetitive or restricted behaviors. Individuals diagnosed with ASD also have unique ways of learning, moving, and concentrating (Wiggins et al., 2019).

According to Lei et al. (2022), ASD is diagnosed at three levels, indicating the severity of the condition and the level of support needed. Level 1 describes high-functioning ASD, such that the impaired social communication and interaction skills are only visible without support. In level 2, the core characteristics of ASD are still visible to casual observers even with support, while individuals with level 3 autism require extensive assistance since this is the most severe level. The ability of students with ASD to effectively interact with typical learners in regular settings is largely determined by the diagnostic level of ASD.

The Concept of Inclusive Education (IE)

The concept of IE is mainly concerned with the provision of education to the student world indiscriminately. In the previous century, IE was mainly hindered by social stigma and

misconceptions about children with developmental disabilities, such as ASD (Barua et al., 2019). During this period, it was assumed that a slowed-down curriculum would enhance the ability of students with ASD to learn basic educational skills more intensively. Thus, separate special education schools were established to cater to their unique needs.

Although inclusion may be mistaken for simply placing students with disabilities in general education classes, the concept entails a complex practice (Reagan, 2012). Inclusive education is needed to ensure a system that accommodates all children as active and fully participating members of public education and perceives diversity as the norm (Paraskevi, 2021). IE requires teachers to adapt their lessons and teaching approach to the needs of all students (Lindner & Schwab, 2020). The education system, including the mode of instruction and curricula, should be developed so students with ASD can have developmentally appropriate education settings. IE is critical in accommodating the social, spiritual, and personal integration of all individuals in the education system (Paraskevi, 2021). Therefore, the main purpose of IE is to expose students with ASD to natural environments, which will create settings suitable for their social development and inclusion in the larger society.

Importance of Special and General Education Teachers' Perceptions of IE

Professional attitude and perception may promote or hinder the execution and efficacy of various changes. According to Cassady (2011), identifying teachers' attitudes and perceptions towards IE is critical as they can affect teachers' performance and success with students with ASD. Despite the established advantages of IE, these benefits can only be attained if teachers' experiences and attitudes align with IE's core objectives.

Ryan (2009) revealed that teachers who are receptive to IE approaches recorded a high level of commitment and high-quality instruction, effectively meeting the unique needs of a diverse student body. According to Bolourian et al. (2021), negative attitudes towards students with ASD and inclusive practices undermine teachers' confidence and preparedness to adopt IE. Further, Jury et al. (2021) establish that SET, who better understand the experiences of students with ASD, demonstrate more efficacy in implementing inclusion practices than GET. In addition, the latter is likely to associate students diagnosed with ASD with difficult behaviors, an aspect that contributes significantly to their experiences and attitude towards IE. Based on the existing literature, teachers' perception of IE is vital to ensuring the successful adoption of IE.

Factors Facilitating Inclusive Education

Ensuring that both SET and GETs are prepared and able to accommodate students with ASD in general education classrooms is essential for adopting inclusive practices. Various factors influence teachers' experience and ability to adapt IE. Segall and Campbell (2012) highlight teachers' understanding of the importance of inclusion determines the success of inclusive education. Teachers' knowledge of the needs of students with ASD informs their opinion and inclusion strategies that ensure equity for all students. Herman et al. (2018) establish that children's behavior is among the leading influence on teaching efficacy and determining student-teacher relationships in an inclusive setting. General education teachers' confidence in adapting to the unique behaviors needs of students with ASD is determined by their past experiences and awareness of these needs.

A supportive climate is another significant factor influencing inclusive education. According to Cassady (2011), a supportive

school administration encourages teachers to accommodate inclusion of students requiring special education supports and services. A study by Humphrey and Symes (2013) also established that schools with special education coordinators reported more efficacy in adopting inclusive practices in Japan. The organizational environment enhances educational professional attitudes and compensates for any insecurities among general education teachers, who are more challenged by teaching students with ASD (Cassady, 2011). Additonally, a supportive climate enhances collaboration among various stakeholders, especially SET and GETs, in the pursuit of IE.

Method

A qualitative approach was deployed to collect and analyze teachers' experiences with and perceptions of inclusive education. Qualitative research design is suitable for developing a deeper understanding of a particular concept or people's experiences (Mohajan, 2018). The study targeted both SET and GETs in Saudi Arabian schools.

Participants

The study included eight participants from public and private schools. Two teachers were selected from the two public and two private schools, so each school contributed one special education teacher and one general education teacher (See figure 1 for details). A purposive sampling method was utilized, where researchers explained the purpose of the study to teaching staff in the respective schools and selected suitable participants from the interested parties. Participants were selected if they were Saudi Arabians and had at least years of experience in IE settings (See Table 1 for the teachers'

demographic data). The participants were labeled one through eight to ensure confidentiality.
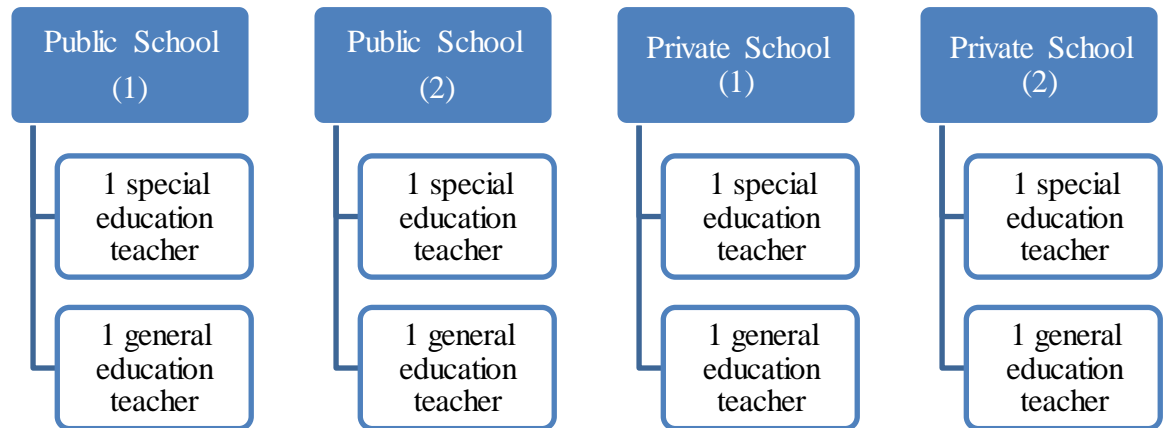

Figure 1 *Teacher Selection Criteria*

Table 1 *Participants' Demographic Data*

Participant	Education Level	Years of experiences	School Type
Teacher (1) (Special Education)	Master's degree	8 years	Public School
Teacher (2) (General Education)	Bachelor degree	10years	Public School
Teacher (3) (Special Education)	Master's degree	5 years	Public School
Teacher (4) (General Education)	Bachelor degree	12 years	Public School
Teacher (5) (Special education)	Bachelor degree	13 years	Private School
Teacher (6) (General Education)	Bachelor degree	11 years	Private School
Teacher (7) (Special education)	Master's degree	10 years	Private School
Teacher (8) (General Education)	Bachelor degree	8 years	Private School

Instrument

A semi-structured interview was used to collect data for this study. This approach is suitable for this study because it allows interviewers to ask relevant questions without restricting the scope of the interviewees' responses (Brown & Danaher, 2019). Consequently, adequate and more reliable data can be collected from participants.

Procedure

The research was commenced after obtaining approvals from the relevant bodies. The Univeristy's Institutional Review Board approved the research for ethical compliance, while individual schools provided approval for their staff to be interviewed. The semi-structured interview took place in each participant's place of work, taking about 45 minutes per interview. Participants' responses were recorded and later transcribed for analysis.

Analysis

Strauss and Corbin's grounded theory approach informed the thematic analysis framework utilized to examine data for this study (Kim, 2019). The transcribed data was read several times as researcher coded important sub-themes. Similarities between the identified sub-themes were examined and combined to formulate major themes more relevant to the research questions. The evaluation and theme development were completed in the original language, Arabic, with only a few passages translated to alleviate the accidental loss of meaning during analysis (Merriam & Grenier, 2019). The main themes were examined based on the original transcripts and original recordings to ensure accurate interpretation of the collected data.

Results

Teachers' Perception of Inclusive Education in General Classes

Both SET and GETs viewed inclusive education as an opportunity for students with ASD to overcome their social and learning challenges. According to Teacher 1, "Some of my students with autism enjoy being in the regular classroom." Inclusion was also perceived as an opportunity to alleviate the misunderstanding and misconception surrounding ASD. Teacher 2 notes that "regular classroom setting greatly improves the attitudes of students towards ASD and individuals with this condition." Overall, the respondents demonstrated a positive attitude toward inclusive education, with the majority perceiving the inclusion as a milestone towards enhancing the welfare of the children.

Teachers' Readiness for Inclusive Education

Special education teachers demonstrated high preparedness and acceptance of IE practices. According to Teacher 3, "inclusion creates a realistic environment that they [students with autism] need." Additionally, experience makes special education teachers more prepared to adopt IE. Teacher 7 notes that "teachers with more experience teaching students… have clear strategies to address the unique communication and learning needs among students with ASD." Conversely, general education teachers report being less ready for IE practices. Teacher 4 highlights, "As a regular classroom teacher, I do not have the knowledge or much background to educate and treat students with autism properly." Unlike their special education counterparts, general education teachers demonstrated little confidence in their efficacy when dealing with students with ASD.

Factors Facilitating Inclusion

Teamwork between SET and GETs was the most common factor facilitating the successful inclusion of students with disabilities in general education classes. Teacher 2 believes that "regular and special education teachers must work as a team to meet the needs of these students daily." Teacher 4 adds, "SETs must play an important role in general education."

Incorporating technology is another factor leveraging inclusive education. Teacher 7 notes that "recently, we started using technology to help students with autism to focus and grab their attention. Even the regular teacher likes to use it." Knowledge exchanged between special and general education teachers also enhanced inclusive education.

Barriers to Successful Inclusive Education

Insufficient training among general education teachers was reported to be the main barrier to successful inclusion. General education teachers highlight factors like "lack of sufficient knowledge" and "need for training" as the main challenges associated with inclusive education. Also, limited resources to meet the needs of students with ASD in general school limits IE practices. Both special and general education teachers cited insufficient resources in the resource room and staffing as the main challenges. Lastly, the degree and level of severity of autism is another limiting barrier. Aspects like non-verbal students, time-consuming instruction, and unique learning preferences were cited as the main factors hindering inclusive education.

Discussion

This study examined teachers' experiences regarding including students with ASD in general education classes. Despite the growing trends in adopting IE, the inclusion rate of students with ASD in general education classes remain low (McDonald et al., 2019). Such factors, coupled with the growing discussion of IE approaches, have shifted the attention towards teachers' experiences. The study's findings indicate that SET and GETs have positive attitudes and support inclusive education. Participants felt that having students with disabilities integrated in general education settings would be more beneficial. These findings resonate with past research on teachers' attitudes toward inclusion. Garrad et al. (2018) and Tarantino et al. (2022) indicate that teachers' attitudes toward inclusion have greatly improved over the years, with most teachers convinced that IE is more beneficial and vital for all students. Leonard and Smyth (2020) establish that increased awareness about ASD and recommendations by humanitarian agencies fostered a positive attitude towards IE.

Interestingly, positive attitudes toward including students with ASD in Saudi Arabia does not match teachers' readiness to adopt IE practices. This study's findings revealed that most GET lacked the confidence to assume responsibility for educating and supporting students with ASD. A study by Garrad et al. (2018) established similar findings in Australia. Most teachers cited insufficient training and knowledge to assume these responsibilities. According to Ravet (2018), despite the growing need for IE, teachers' training programs worldwide have yet to include inputs on ASD. Conversely, SETs are more ready to embrace IE as they have the proper training and adequate experiences to address the needs of students with autism.

This study established teamwork and collaboration between SET and GETs as factors fostering the education of students with disabilities in inclusive settings. According to Paulsrud and Nilholm (2023), cotaught settings recorded the highest success in including students with autism in inclusive classes. Such settings facilitate knowledge sharing between SET and GETs while complementing both professionals in meeting the learning needs of all learners.

The incorporation of assistive technology was also reported as a facilitating factor. Zilz and Pang (2021) note that technology effectively fosters IE, but the high cost and inaccessibility in public learning institutions is a significant barrier. Participants noted that most of the communication and social problems faced by students with autism in general education settings can be offset with assistive technology.

Insufficient training and knowledge, as mentioned before, are the main barriers to adopting IE among teachers. Also, the lack of sufficient resources and equipment in schools, especially public schools, was reported to significantly hinder IE. Able et al. (2015) established that the main interventions teachers require are the development of school facilities and the provision of the necessary equipment. Consequently, sufficient resources are crucial for the success of the adoption of IE.

Conclusion

Providing IE is vital to ensuring all children, including those with ASD, have equal access to education and development opportunities. Teachers, being the primary stakeholders, largely determine the effectiveness and success of IE. Their experiences and perceptions contribute significantly to the implementation and success of IE practices.

This qualitative study examined the experiences of SET and GETs about IE, focusing on barriers and facilitating factors. The study's findings showed that teachers have a positive attitude toward IE and believe it is more beneficial for neurotypical learners and those with ASD. While special education teachers demonstrated readiness to adopt IE, GETs lacked confidence in their efficacy in an inclusive setting. Inadequate training, experience, and relevant resources are among teachers' leading barriers to IE adoption. However, positive attitude, teamwork and collaboration, and the emergence of assistive technologies are among the factors enabling the adoption of IE practices. The primary limitation of this study is the small number of participants. Although these findings provide the necessary framework for future research, the small number of participants undermines their applicability in other settings.

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