＜Review Article＞

A Systematic Review of Inclusive Education for Students with Intellectual Disabilities

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Abstract

　　The current systematic literature review describes teachers' challenges and strategies for implementing inclusive education for students with intellectual disabilities (ID). Inclusive education is not just a concept but a cornerstone of an equitable and inclusive society. It presents unique challenges for students with ID, and understanding these challenges is crucial for effective policy and practice. The review delves into the specific challenges teachers encounter in inclusive classrooms and examines their strategies to foster social inclusion. The findings of this literature review are expected to significantly contribute to a deeper understanding of the complexities involved in inclusive education for students with ID, thereby providing valuable insights for the development of effective policies and practices in this area.

Keywords: Intellectual disability, inclusive education, perspectives, challenges, strategies

Introduction

　　Inclusive education ensures that students with diverse learning needs, including students with intellectual disabilities (ID), have access to general education settings (Bouck & Park, 2016). In this rapidly changing society, it is increasingly important that educational practices adapt to provide an equal and meaningful education to every student, regardless of their abilities (Casale-Giannola et al., 2023). However, the path to inclusive education for students with ID is often complex and challenging.

　　The present systematic review aims to provide an overview of the multifaceted landscape of inclusive education for students with ID. It is intended to shed light on the many challenges teachers face when providing students with a supportive and inclusive environment. In addition, it seeks to uncover the innovative strategies teachers have employed to facilitate the inclusion of students with ID. Drawing upon a wide array of academic sources, it aims to provide an in-depth understanding of the complexities at play and contribute to the ongoing discourse in this field of inclusive education for students with ID.

　　The findings provide valuable insights for practitioners and policymakers, enhancing the understanding and implementation of inclusive education for students with ID. While challenges are inherent in any transformative endeavor, strategies emerge as a beacon of hope in the landscape of inclusive education. Globally, teachers and educational institutions face challenges and develop and deploy innovative strategies to address the challenges and foster the inclusion of students with ID. These strategies, from individualized support plans to innovative teaching methods, accommodate diverse learning needs and pave the way for a more inclusive future (Chung et al., 2019; Jorgensen & Lambert, 2012; Yoro et al., 2020).

　　The current systematic review investigates the multifaceted challenges and strategies inherent in implementing inclusive education for students with ID in the existing literature. The following research questions are addressed:

- What challenges are encountered in inclusive educational settings for students with ID?
- Which strategies enhance the inclusion of students with ID?

Research Design

　　A literature search was conducted mainly using

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Academic Search Complete, one of the largest and most comprehensive databases in the Academic Search family offered by EBSCO, accessed through the Hiroshima University Library database system and other databases such as Google Scholar, ProQuest Education, ResearchGate, and Scopus. The search employed a combination of keywords: "intellectual disability" OR "mental retardation" OR "developmental disability," AND "inclusion," OR "inclusive education," OR "general education," AND "strategies," AND "challenges." This search process was carried out between August 2023 and June 2024.

This approach ensured a comprehensive review of the available literature, leveraging Academic Search Complete's extensive collection of over 8,500 full-text periodicals, including more than 7,300 peer-reviewed journals (EBSCO, 2024). The literature gathered through this review was subject to the following inclusion criteria:

- Articles described in English
- Articles based on original data and findings
- Articles published in academic journals between 2000 and 2024
- Articles focused on the inclusion of students with ID in inclusive or general education settings

Exclusion criteria were applied to studies focused solely on special needs education for students with ID. Following the methodology suggested by Fink (2010), references in the initially located articles were manually checked for additional relevant studies. A total of 102 results were identified from the initial search, including:

- 39 from EBSCO
- 12 from Google Scholar
- 18 from ProQuest Education
- 26 from ResearchGate
- Seven from Scopus

Of these, 34 duplicates were found, leaving 68 papers for screening. After this screening, seven papers were deemed irrelevant. The abstracts of 61 papers were then assessed for eligibility, resulting in 8 additional exclusions. A full-text review was conducted for 53 papers. Following the exclusion of 15 more papers for specific reasons, such as articles that lacked sufficient detail about their methods or results and papers that focused on policy analysis rather than practical implementation. After this exclusion of 15 papers, 38 papers remained. Finally, an additional ancestry search identified four more papers, resulting in a total of 42 papers included in the study (See Figure 1).
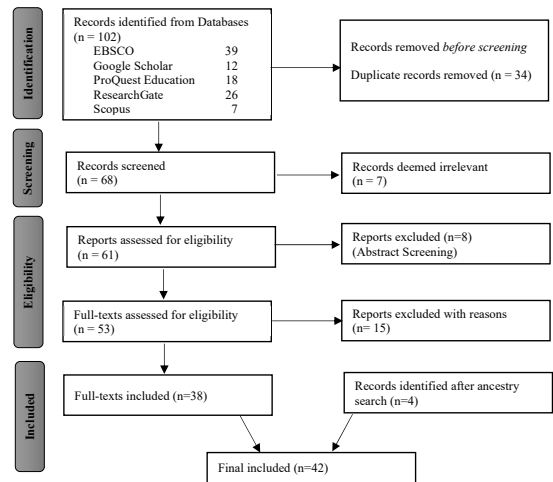

Figure 1
PRISMA Flow Diagram Sowing Records Identified, Screened, and Included

Figure 2 illustrates the sequential steps undertaken in conducting a research literature review. This review closely adheres to the research literature review process outlined by Fink (2010). Fink emphasizes the potential for synthesizing the literature review results in the final step. This study adopted an interpretive synthesis approach discussed by Cohen et al. (2018). This approach commences by acknowledging the tacit knowledge, values, and experiences the researchers bring to the synthesis process (Cohen et al., 2018). Coding, categorizing, and interpreting the data were conducted through an interpretive synthesis. The findings of each study were manually coded.
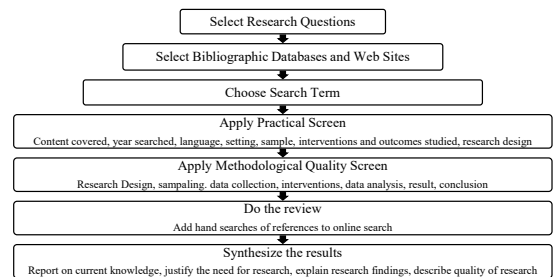

Figure 2
Steps in Conducting a Research Literature Review (Fink, 2010)

Results

Thematic analysis was used to interrogate the data. Based on the review of all included studies, the main themes for each research question were explored, as depicted in Tables 1 and 2. Based on the targeted research questions, this review is divided into two parts: part one focuses on challenges teachers face when implementing inclusive practices for students with ID, and part two explores the strategies educators utilize to foster the inclusion of students with ID.

Part One: Challenges Faced by Teachers When Implementing Inclusive Practices for Students with ID

Inclusive education, defined in the current study as including students with ID in general education classrooms, is a fundamental principle of equity and social justice in education. However, its successful implementation is fraught with challenges that educators must confront. These challenges span five

Table 1
Themes and Sub-Themes for Challenges

Main Themes	Codes
Societal Attitude-Related Challenges	Social Stigma and Stereotyping Attitudinal Barriers Behavioral Challenges Peer Relationship Challenges Discrimination and Bullying
Training and Support-Related Challenges	Lack of Training and Professional Development Resource Limitations Curriculum-Related Constraints
Challenges Related to Instruction	Diverse Learning Needs Individualized Instruction Students' Lack of Problem-Solving Skills Larger Classroom Sizes and Student-Teacher Ratio Heavy Workload and Limited Time Management
External Factors	Unsupportive Home Environments Year Retention of Students with Intellectual Disabilities Movement Between Regular and Special Classes Inadequate Collaboration Among Stakeholders

Table 2
Themes and Sub-Themes for Strategies

Main Themes	Codes
Individualized Instruction Techniques	Individualized Support Individualized Education Plans (IEPs) Functional and Age-Appropriate Curriculum Communication Enhancement
Differentiated Teaching Methods	Differentiated Instruction Universal Design for Learning (UDL) Use of Real-Life Scenarios/ Short stories
Peer Support and Positive Social Interactions	Peer Tutoring and Mentoring Social Skills Development Building Student Awareness of Disability
Collaboration and Communication	Family/ Parent Support Community Participation Collaboration and Communication with General, Special, and Other Paraprofessionals
Utilization of Assistive Technologies and Resources	Assistive Technologies

main themes in the current study. Each theme was examined in detail, drawing from a wide range of research literature, to shed light on the intricate landscape of inclusive education and its implications for teachers.

Theme 1: Societal Attitude-Related Challenges. The first theme addressed the challenges that teachers experienced from society's attitudes toward students with ID. There are five sub-themes under theme one. Each of these sub-themes will now be described.

Social Stigma and Stereotyping. One of the societal attitude-related challenges identified when implementing inclusive practices for students with ID is the persistence of social stigma and stereotyping. Nieto and Moriña (2021) mentioned that students with disabilities often contend with the negative impact of social stigma and stereotypes, which can hinder their acceptance and integration within the general education classroom. Historically, students with ID have faced exclusion from both schools and communities, leading to a lack of access to education (Cooney et al., 2006; Weiss et al., 2018).

The research highlighted another significant challenge in fostering social acceptance and inclusion of students with ID among their typically developing peers. Studies have shown that students with ID often face lower social acceptance, which can lead to social isolation and exclusion (Chung et al., 2019). Such exclusionary practices have been perpetuated by societal stereotypes and stigmatization of these students, making it difficult for them to be entirely accepted in inclusive settings (Georgiadi et al., 2012).

Attitudinal Barriers. Attitudinal barriers pose a significant obstacle to implementing inclusive education for students with ID. Nieto and Moriña (2021) highlighted the divergence of opinions among educators, scholars, and family members, indicating that negative attitudes and biases can impede the development of an inclusive environment. Negative attitudes or biases from other students, parents, or colleagues can affect the inclusive environment and hinder the inclusion of students with ID (Ajodhia, 2023; Nieto & Moriña, 2021). These attitudinal barriers can lead to exclusionary practices and limited opportunities for students with ID.

Behavioral Challenges. Behavioral challenges

are a significant concern for individuals with ID, necessitating specialized strategies for effective management and support (Hardiman et al., 2009; Weiss et al., 2018; Yoro et al., 2020). Such challenges can manifest in various forms and intensities, encompassing behaviors that may disrupt the learning environment and hinder social interactions. Addressing these behaviors is critical to ensure the overall well-being and educational progress of individuals with ID (Ajodhia, 2023). Understanding the underlying factors contributing to these challenging behaviors and implementing evidence-based interventions is imperative in fostering a supportive and inclusive environment for these individuals (Hardiman et al., 2009; Thomas, 2023).

Peer Relationship Challenges. Fostering positive peer relationships for students with ID within inclusive classrooms is a multifaceted challenge. Peer victimization and bullying, as documented by Okyere et al. (2019), are examples of the difficulties students with ID face in developing meaningful peer relationships. These challenges and varying levels of students' intellectual functioning and adaptive behavior can further isolate them within inclusive classrooms, leading to heterogeneity within the group (Thomas, 2023; Thomas & Kumar, 2020).

Discrimination and Bullying. Discrimination and bullying pose significant challenges for students with ID in inclusive educational settings. Research indicates that these students are at a higher risk of experiencing various forms of bullying and discrimination compared to their typically developing peers (Okyere et al., 2019). This mistreatment can manifest as verbal abuse, social exclusion, or physical aggression, negatively impacting students' self-esteem, academic performance, and overall well-being (Nieto & Moriña, 2021; Thomas, 2023). Teachers often struggle to address and prevent these incidents effectively, highlighting the need for comprehensive anti-bullying strategies and awareness programs tailored to the unique needs of students with ID (Ajodhia, 2023; Ristovska et al., 2017).

Theme 2: Training and Support-Related Challenges. The second theme explored teachers' challenges due to inadequate training and professional support for working with students with ID. This theme encompasses three key sub-themes, each of which will now be discussed.

Inadequate Training and Professional Development. Many researchers highlighted that a crucial challenge in inclusive education is the lack of adequate training and professional development for teachers to support students with ID effectively (Barnitt et al., 2015; Nieto & Moriña, 2021; Shurr et al., 2023; Yoro et al., 2020). Some teachers may lack the time and skills to teach students with ID effectively in inclusive settings (Casale-Giannola et al., 2023). This deficit in training and professional development can hinder the successful implementation of inclusive practices (Carrascal & Rodríguez, 2017; Casale-Giannola et al., 2023).

Resource Limitations. Resource constraints in an inclusive education setting are another prevalent finding among scholars (Ristovska et al., 2017; Weiss et al., 2018). Inadequate resources, including specialized materials, assistive technology, and personnel, can hinder the effective implementation of inclusive practices (Weiss et al., 2018). For example, some schools may struggle with limited resources, including personnel and funding, to support inclusive practices effectively. These resource constraints can restrict the range and quality of support available to students with ID.

Curriculum-Related Constraints. A challenge within resource-related constraints is the lack of curriculum adaptations to accommodate the diverse learning needs of students with ID (Ambady et al., 2020). Okyere et al. (2019) identified limited curriculum adaptations as a significant barrier to meeting the diverse learning needs of children with ID in inclusive classrooms. The absence of specialized curriculum adaptations can impact the ability of teachers to provide appropriate support for students with ID (Nieto & Moriña, 2021; Sigstad, 2017; Yoro et al., 2020).

Theme 3: Challenges Related to Instruction. The third theme focused on teachers' challenges when instructing students with ID. Each sub-theme represents a significant hurdle for teachers in effectively educating students with ID. The following sections will describe some of these sub-themes in more detail.

Diverse Learning Needs. Inclusive classrooms accommodate students with diverse learning needs, making it challenging for teachers to address each student's unique requirements (Ambady et al., 2020). Weiss et al. (2018) emphasized the varying academic outcomes among students with ID in inclusive settings, underscoring their diverse learning needs. In such situations, teachers must adapt their practices to meet diverse learning needs within inclusive classrooms (Ristovska et al., 2017). It requires careful planning and differentiation to ensure that all students engage meaningfully with the curriculum.

Individualized Instruction. Tailoring instruction to meet the unique needs of each student with ID presents a demanding challenge for teachers. Weiss et al. (2018) agreed that students with ID have varying levels of ability and needs, making it difficult for teachers to provide individualized support within inclusive classrooms. This diversity in abilities and requirements stems from the wide range of cognitive, adaptive, and functional skills among students with ID, necessitating highly personalized educational approaches (Ajodhia, 2023). Moreover, studies identified individualized instruction as a specific teaching approach that can be particularly demanding for teachers in inclusive settings (Casale-Giannola et al., 2023; Weiss et al., 2018).

Students' Lack of Problem-Solving Skills. Many students with ID struggle with problem-solving skills, essential for social interactions, posing a significant instructional challenge. Weiss et al. (2018) highlighted students' lack of problem-solving skills as a critical issue teachers encounter in inclusive and special education settings. Teaching problem-solving skills effectively to students with ID can be challenging for educators (Weiss et al., 2018). These skills are crucial for social interactions and independence, prioritizing their development within inclusive classrooms.

Theme 4: External Factors. The final theme explored the challenges teachers face due to external factors when including students with ID in inclusive classrooms. This theme encompasses four key sub-themes, each of which will be discussed in detail.

Unsupportive Home Environments. Some students with ID face unsupportive home environments that can negatively impact their academic performance and attendance (Buthelezi & Maseko, 2023). Okyere et al. (2019) discussed the challenges posed by unsupportive home environments for children with ID in Ghana. As observed in Okyere et al.'s study (2019), balancing schoolwork with numerous household chores can be detrimental to students' academic performance and attendance. This external factor can exacerbate the challenges for students and teachers within the classroom.

Year Retention of Students with ID. Year retention is a significant concern for students with ID, as it can lead to sadness and frustration. Andriana and Evans (2021) explored students' experiences in Indonesia and identified year retention as a challenge. Students with ID may experience year retention, negatively affecting their academic progress and emotional well-being (Andriana & Evans, 2021). The absence of adequate support to facilitate their academic advancement exacerbates this difficulty.

Movement Between Regular and Special Classes. Students with ID who move between regular and special classes based on academic performance can disrupt their learning and social experiences. Andriana and Evans (2021) also discussed the challenges associated with students' movement between regular and special classes. For example, some schools implement policies that involve moving students with ID between regular and special classes based on academic performance (Andriana & Evans, 2021). This practice can disrupt students' continuity of education and social interactions.

Inadequate Collaboration Among Stakeholders. Effective inclusion of students with ID relies heavily on collaboration among various stakeholders, including teachers, parents, school administrators, support staff, and community organizations. Each stakeholder plays a vital role in creating an inclusive educational environment; teachers adapt instruction to meet diverse needs, while parents provide essential insights into their child's strengths and challenges (Buthelezi & Maseko, 2023; Tryfon et al., 2019). However, inadequate communication and

coordination among these parties can hinder the implementation of effective support strategies and lead to fragmented approaches to addressing students' unique needs (Ristovska et al., 2017).

Part Two: Exploring Strategies Utilized by Teachers to Foster Social Inclusion of Students with ID

This section examines teachers' various strategies for promoting the social inclusion of students with ID. These strategies are categorized into five key themes, each drawing upon insights from relevant scholarly literature. They are individualized instruction techniques, differentiated teaching methods, peer support and positive social interactions, community engagement strategies, and the effective utilization of assistive technologies and resources.

Theme 1: Individualized Instruction Techniques.
The first theme focused on teachers' strategies to implement individualized instruction techniques for including students with ID in inclusive classrooms. This theme encompasses four key sub-themes. Each of these sub-themes will be explored in detail to highlight the various approaches teachers take to meet the diverse needs of their students.

Individualized Support. Providing individualized learning support for students with ID is essential to help them succeed in the regular classroom (Andriana & Evans, 2021). Teachers employ individualized support strategies, such as positive and adaptive behavior support, to meet the specific needs of students with ID. The re-read strategy was used to include children with mild ID in Nigeria's inclusive classrooms (Osoba et al., 2023).

Positive behavior support involves using proactive strategies to reinforce desired behaviors and minimize challenges (Chung et al., 2019). Adaptive behavior support addresses individualized adaptive skill deficits, enabling students to function effectively in daily life. For example, students with ID exhibiting disruptive behavior may receive personalized interventions and positive reinforcement to promote more appropriate conduct (Hardiman et al., 2009).

Individualized Education Plans (IEPs). Teachers collaborate with special education professionals and parents to develop and implement IEPs that cater to the unique needs of students with ID. IEPs provide a roadmap for academic and social goals tailored to individual students' strengths and challenges (Ristovska et al., 2017). They guide instruction, accommodations, and modifications to ensure meaningful progress. For instance, an IEP might include accommodations such as extended assignment time or modified assessments to facilitate learning (Ambady et al., 2020).

Functional and Age-Appropriate Curriculum. Okyere et al. (2019) highlighted the need for differentiated instruction, curriculum adaptations, and modifications in inclusive classrooms to cater for the unique learning needs of children with ID in Ghana. Occasionally, teachers utilize functional and age-appropriate curricula to ensure meaningful learning experiences for students with ID (Hervie, 2023). Functional curricula aim to equip students with practical skills that facilitate independence and participation in daily activities (Andriana & Evans, 2021; Nieto & Moriña, 2021; Okyere et al., 2019; Östlund & Hanreddy, 2020). Age-appropriate curricula are tailored to students' chronological ages and developmental levels, fostering engagement and relevance (Okyere et al., 2019). This approach ensures that learning activities are meaningful and relevant to students' lives and developmental stages.

Communication Enhancement. Teachers employ strategies to enhance communication skills among students with ID. Augmentative and alternative communication aids and approaches support language development (Ajodhia, 2023; Yoro et al., 2020). These communication aids may include visual aids, communication boards, speech-generating devices, and sign language (Okyere et al., 2019). By utilizing these tools, teachers can help students improve their expressive and receptive communication skills, facilitating better interaction within the classroom and beyond (Andriana & Evans, 2021; Nieto & Moriña, 2021).

Theme 2: Differentiated Teaching Methods.
The second theme focused on teachers' strategies for adapting teaching methods for students with ID in inclusive classrooms. This theme includes three main sub-themes, which will be discussed in detail to understand how they help create an inclusive learning environment.

Differentiated Instruction. Differentiated instruction involves adapting teaching methods, materials, and assessments to meet students' diverse needs and learning styles (Ristovska et al., 2017). This approach allows students to engage with content at their own pace and level, promoting better understanding and participation (Hudson et al., 2013; Weiss et al., 2018). Ristovska et al. (2017) highlighted differentiated instruction techniques in the Republic of Macedonia to support students with ID by customizing teaching approaches to individual needs. Examples of differentiated instruction include creating learning stations where students rotate through activities designed for different skill levels, using tiered assignments that teach the same concept with varying levels of support, and offering multiple types of learning materials such as videos, texts, or hands-on tools to cater to different learning styles (Ristovska et al., 2017).

Universal Design for Learning (UDL). UDL can resonate with individual teachers who learn to apply the UDL framework in their instruction as a transformative framework (Ralabate & Berquist, 2020). It enables educators to craft flexible learning environments that accommodate diverse learning needs. UDL underscores the importance of providing multiple means of representation, engagement, and expression, aligning with the principles of differentiated instruction (Al Hazmi & Ahmad, 2018; Ambady et al., 2020; Weiss et al., 2018).

Use of Real-Life Scenarios/ Short stories. According to Vlachou and Stavroussi (2016), teachers should incorporate real-life scenarios into their teaching methods to create a more meaningful and captivating learning experience for students with ID. These real-life scenarios, such as practical problem-solving tasks, establish a direct connection between classroom instruction and everyday life situations, promoting better comprehension and practical application of knowledge (Lidubwi et al., 2023; Weiss et al., 2018). Weiss et al. (2018) highlighted that short stories can be highly engaging instructional tools for teaching social problem-solving skills. By exploring fictional scenarios, students can develop valuable attributes like empathy, perspective-taking, and decision-making prowess (Lidubwi et al., 2023).

Theme 3: Peer Support and Positive Social Interactions.

The third theme explored teachers' strategies for fostering peer support and positive social interactions for students with ID in inclusive classrooms. This theme encompasses three key sub-themes, each of which will be described in detail.

Peer Tutoring and Mentoring. When facilitated by teachers, peer tutoring and mentoring programs can play an important role in nurturing positive interactions and mutual learning among students (Chen, 2017; Nowicki & Brown, 2013). These initiatives pair students with ID with their peers, who serve as academic and social support providers (Ajodhia, 2023; Ristovska et al., 2017; Nieto & Moriña, 2021). By doing so, they cultivate an environment that fosters constructive relationships and collaborative learning experiences. A good example of peer tutoring is Class Wide Peer Tutoring (CWPT), a strategy highlighted by Al Hazmi and Ahmad (2018). Teachers employ CWPT to amplify social interaction, diminish negative behaviors, and stimulate learning. This approach revolves around students tutoring one another, nurturing social bonds, and establishing a supportive classroom environment. In this way, efforts could be made to address peer victimization and bullying of children with ID in inclusive schools (Okyere et al., 2020).

Social Skills Development. Teachers play an important role in supporting students with ID by offering explicit instruction and opportunities for these students to cultivate social skills and enhance their communication abilities (Vlachou & Stavroussi, 2016). As Andriana and Evans (2021) highlighted, social skills are essential for students with ID to adapt to their school environment. Developing social skills involves creating inclusive settings that encourage social interactions and the formation of friendships.

Building Student Awareness of Disability
Building student awareness of disability is crucial for creating an inclusive classroom environment. Teachers can implement various strategies to educate students about disabilities and promote understanding. These may include incorporating books and resources featuring characters with disabilities, inviting guest speakers with disabilities to share their experiences, or conducting disability awareness activities (Ristovska et al., 2017). Peer mentoring programs can be

particularly effective in raising awareness and fostering student empathy. These programs provide opportunities for students without disabilities to gain firsthand experience interacting with and supporting their peers with ID (Nieto & Moriña, 2021; Okyere et al., 2019). Such interactions can help challenge stereotypes, promote acceptance, and create a more inclusive school culture where all students feel valued and respected (Okyere et al., 2019).

Theme 4: Family and Community Engagement.

The fourth theme explored teachers' strategies to enhance collaboration and communication and improve the inclusion of students with ID. This theme encompasses three key sub-themes that highlight the importance of a comprehensive approach to inclusive education beyond the classroom.

Family/ Parent Support. Schools and teachers are dedicated to fostering a strong partnership with parents, working hand in hand to ensure students receive support and care in the home and school environments (Tryfon et al., 2019). This collaborative effort between educators and parents creates a support network that addresses students' educational and social needs. It is imperative to recognize the vital role of parental involvement, as Ristovska et al. (2017) emphasized, advocating for students' inclusion and providing valuable insights into their unique strengths and challenges. This synergy between parents and educators is a foundation for promoting student success (Alshemari et al., 2023; Georgiadi et al., 2012; Martinez et al., 2012).

Community Participation. Teachers play a role in fostering the holistic development of students with ID by promoting community engagement. Educators facilitate the acquisition of essential skills and nurture social inclusion by encouraging students to actively participate in various community activities, such as volunteering and job training (Okyere et al., 2020). These invaluable experiences equip students with the readiness to contribute meaningfully to society. Ristovska et al. (2017) noted that community participation extends beyond the classroom, actively engaging the broader community in championing inclusive practices and advocating for inclusive education policies. With this support, students with ID benefit from enriching real-life experiences and may thrive as integral members of a more inclusive and accepting society.

Collaboration and Communication with General, Special, and Other Paraprofessionals. Effective collaboration and communication among educational professionals are essential for successfully including students with ID. This sub-theme focuses on teachers' strategies to work collaboratively with general education teachers, special education specialists, and paraprofessionals. Regular team meetings, shared planning time, and open communication channels are crucial for developing and implementing individualized education plans (Jorgensen & Lambert, 2012). By involving various stakeholders, including general and special education teachers, specialists, and parents, educators can develop personalized plans that address the unique needs of each student (Carrascal & Rodríguez, 2017). This collaborative approach ensures that all professionals involved in a student's education work toward common goals and use consistent strategies (Ristovska et al., 2017).

Theme 5: Utilization of Assistive Technologies and Resources. Teachers are increasingly integrating assistive technology into their classrooms, recognizing its invaluable role in improving access to educational materials for students with ID (Niure & Shrestha, 2023). Researchers such as Okyere et al. (2020) have proposed that computer-assisted learning holds a promise to support the academic achievements of children with ID within inclusive school settings. Similarly, Ristovska et al. (2017) underscored the importance of facilitating access to assistive technology and tools, further advocating for their integration to support the learning journey of students with ID.

The implementation of assistive technology promotes independence and self-reliance among students with ID, preparing them for future academic and professional endeavors (Casale-Giannola et al., 2023). Text-to-speech and speech-to-text software, graphic organizers, and mind-mapping tools help students overcome challenges in reading, writing, and organizing information (Hudson et al., 2013; Jorgensen & Lambert, 2012). These technologies enable students to focus on content rather than mechanics, boosting their confidence and ability to engage with complex material. However, the effectiveness of these tools relies on proper

implementation and personalization. Educators must collaborate with students, parents, and specialists to identify and tailor the most appropriate technology and tools for each student's unique needs (Carrascal & Rodríguez, 2017; Chen, 2017).

Discussion

The literature review provides an overview of the challenges and strategies for implementing inclusive education for students with ID. Attitudes and practices toward ID have shifted from exclusion and discrimination to more inclusive and rights-based approaches. However, despite these positive changes, numerous challenges persist.

One of the critical challenges is the issue of attitudinal barriers (Bouck & Park, 2016; Ristovska et al., 2017). Negative stereotypes and biases can hinder the social inclusion of students with ID (Bouck & Park, 2016; Weiss et al., 2018). These attitudes not only affect their acceptance within the classroom but also their access to quality education. Addressing attitudinal barriers remains a fundamental task in promoting inclusive education.

Furthermore, teachers' lack of adequate training and professional development is a significant concern among educators, researchers, and policymakers (Barnitt et al., 2015; Vlachou & Stavroussi, 2016). Educators often struggle to provide individualized instruction and support to students with ID due to the workload required to support students' varying abilities and needs within inclusive classrooms. While substantial research exists, the implementation gap between existing knowledge and classroom practice persists. Further exploration is needed to identify and disseminate effective strategies for teacher development that can be practically applied in diverse educational settings (Carrascal & Rodríguez, 2017). This includes investigating how to overcome barriers to implementing evidence-based practices, such as time constraints, resource limitations, and ongoing support and mentoring (Hudson et al., 2013; Jorgensen & Lambert, 2012).

Resource limitations in inclusive education stem from various factors, including inadequate funding, uneven resource distribution, and insufficient investment in specialized materials. Many schools face financial constraints that hinder the implementation of inclusive education policies and programs (Casale-Giannola et al., 2023). This lack of financial resources often results in insufficient investment in necessary materials, assistive technologies, and specialized training for educators. Additionally, schools in underserved or rural areas may have limited access to specialized resources and technology, leading to inconsistent implementation of inclusive practices (Chen, 2017).

While resource limitations pose challenges, it is important to note that inclusive practices can be implemented without extensive resources. Many schools have adopted inclusive approaches by focusing on attitudinal changes, creative problem-solving, and community partnerships (Jorgensen & Lambert, 2012). However, addressing resource constraints remains crucial for enhancing the effectiveness and sustainability of inclusive education practices.

The current review pointed to collaboration among educators, parents, and caregivers. Collaborative efforts are important for creating a supportive school culture and tailoring educational plans to meet the unique needs of students with ID (Al Hazmi & Ahmad, 2018; Alshemari et al., 2023; Ristovska et al., 2017). However, the previous studies need to delve deeper into the strategies and best practices for fostering effective collaboration, leaving room for future research that focuses on innovative methods of collaboration that leverage digital tools and platforms to enhance communication and shared decision-making among stakeholders.

As the educational landscape evolves, there is a growing need to refine collaborative strategies and integrate new technologies and pedagogical approaches (Chen, 2017). One example is using UDL principles in collaborative planning. UDL emphasizes providing multiple means of representation, expression, and engagement to remove barriers to learning (Ralabate & Berquist, 2020). In practice, this could involve using digital platforms that allow teachers, special educators, and support staff to collaboratively design lessons incorporating various modalities (visual, auditory, kinesthetic) to cater to diverse learning needs. Moreover, online platforms can be used to create virtual collaborative spaces where educators, families, and community partners can share insights, track student progress, and make collective decisions about educational strategies (Jorgensen & Lambert, 2012). This could include features like shared calendars for IEP meetings, digital portfolios of student work, and real-time communication channels.

While some studies discussed various strategies educators employ to promote social inclusion, it is

important to note that their primary focus may not have been on evaluating these strategies' effectiveness or applicability across different contexts. The purpose of these papers was likely to identify and describe existing practices rather than provide an in-depth analysis of outcomes. Therefore, future research could build on this foundation by examining the effectiveness of these strategies and exploring their applicability in diverse educational settings, thereby enhancing the understanding of best practices for the inclusion of students with ID.

Conclusion

The current systematic review of inclusive education for students with ID revealed a complex landscape of challenges and strategies, highlighting the ongoing need for innovative approaches and systemic transformations in inclusive educational practices. The review underscored that significant challenges persist while inclusive education is crucial for promoting equity and social justice. Teachers face multifaceted challenges, including societal stigma, inadequate training, and resource limitations, which can impede the creation of genuine inclusive learning environments. These challenges not only affect educators but also impact the social and academic experiences of students with ID, often leading to issues such as peer relationship difficulties and behavioral challenges (Nieto & Moriña, 2021; Okyere et al., 2019).

Despite these challenges, the review also illuminated a range of strategies that educators have developed to enhance inclusion. From IEPs to differentiated teaching methods and the use of assistive technologies, these approaches demonstrate that overcoming barriers is possible with creativity and dedication. The emphasis on collaboration among stakeholders, including families and communities, also emerged as a crucial strategy for creating supportive and inclusive learning environments (Chung et al., 2019; Jorgensen & Lambert, 2012).

In conclusion, the current review served as a call to action for policymakers, educators, and researchers to continue developing and implementing evidence-based practices that promote inclusive education. The journey toward inclusive education is ongoing, but the current review demonstrated that significant progress is possible with continued effort, research, and dedication. Through this collective commitment, educational

environments that foster the full participation and success of students with ID can be created, paving the way for a more inclusive and equitable society.

Conflict of Interest Disclosure
The authors have reported no potential conflicts of interest.

Ethical Considerations
This study reviews previously published works and relies on secondary data. As per the guidelines established by the Hiroshima University Ethics Committee, ethical approval was deemed unnecessary for this research.

References

Ajodhia, A. (2023). Cambodian teachers' experiences of inclusive education for students with neuro-developmental disabilities. *Asian Journal of Inclusive Education, 11*(1), 3–30. https://doi.org/10.59595/ajie.11.1.1

Al Hazmi, A. N., & Ahmad, A. C. (2018). Universal design for learning to support access to the general education curriculum for students with intellectual disabilities. *World Journal of Education, 8*(2), 66–72. https://doi.org/10.5430/wje.v8n2p66

Alshemari, H., Stansberry Brusnahan, L. L., & Albagshi, A. (2023). Kuwait parents' attitudes toward inclusive education for students with intellectual disabilities in general education. *International Journal of Special Education, 38*(1), 118–130. https://doi.org/10.52291/ijse.2023.38.11

Ambady, K. G., Mathew, S., Joseph, J., & Sukumaran, P. S. (2020). Accommodation as a means of differentiating instructions for students with intellectual disability in inclusive classrooms: Classroom teachers views. *Strad Research, 7*(6), 423–434. https://doi.org/10.37896/sr7.6/046

Andriana, E., & Evans, D. (2021). Voices of students with intellectual disabilities: Experiences of transition in "inclusive schools" in Indonesia. *British Journal of Learning Disabilities, 49*(3), 316–328. https://doi.org/10.1111/bld.12411

Barnitt, V., Jones, P., & Thomas, D. (2015). Including learners with severe intellectual disabilities: System planning and support for greater inclusive practices. In E. A. West (Ed.), *Including learners with low-incidence disabilities (International perspectives on inclusive education;* Vol. 5; pp. 63–87). Emerald Group Publishing Limited. https://

doi.org/10.1108/S1479-363620140000005003

Bouck, E. C., & Park, J. (2016). Inclusion and students with an intellectual disability. In J. P. Bakken & F. E. Obiakor (Eds.), *General and special education inclusion in an age of change: Impact on students with disabilities (Advances in special education;* Vol. 31; pp. 49-64). Emerald Group Publishing Limited. https://doi.org/10.1108/S0270-401320160000031004

Buthelezi, N., & Maseko, N. (2023). Family support for learners with mild intellectual disabilities during transition. *Recovering Education: Using the Experiences and Learning Acquired to Build New and Better Education Systems BCES Conference Books, 21,* 61-67. https://eric.ed.gov/?id=ED629361

Carrascal, S., & Rodríguez, Y. G. (2017). The influence of teacher training for the attention of students with intellectual disabilities in the transitional period to adulthood. *Universal Journal of Educational Research, 5*(11), 1863–1868. http://dx.doi.org/10.13189/ujer.2017.051102

Casale-Giannola, D., Delisio, L., Sardo, L., & Kline, K. (2023). Research and reality: A survey of educators' perceptions about evidence-based practices in inclusive settings for students with intellectual disabilities. *Education Sciences, 13*(6), 1–18. https://doi.org/10.3390/educsci13060558

Chen, L. J. (2017). Critical components for inclusion of students with moderate intellectual disabilities into general junior high school. *International Journal of Developmental Disabilities, 63*(1), 8–16. https://doi.org/10.1080/20473869.2015.1108006

Chung, Y. C., Douglas, K. H., Walker, V. L., & Wells, R. L. (2019). Interactions of high school students with intellectual and developmental disabilities in inclusive classrooms. *Intellectual and Developmental Disabilities, 57*(4), 307–322. https://doi.org/10.1352/1934-9556-57.4.307

Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (8th ed). Routledge.

Cooney, G., Jahoda, A., Gumley, A., & Knott, F. (2006). Young people with intellectual disabilities attending mainstream and segregated schooling: Perceived stigma, social comparison and future aspirations. *Journal of Intellectual Disability Research, 50*(6), 432–444. https://doi.org/10.1111/j.1365-2788.2006.00789.x

EBSCO. (2024). *Academic search ultimate.* https://www.ebsco.com/products/research-databases/academic-search-ultimate

Fink, A. (2010). *Conducting research literature reviews: From the internet to paper* (3rd ed.). Sage Publications, Inc.

Georgiadi, M., Kalyva, E., Kourkoutas, E., & Tsakiris, V. (2012). Young children's attitudes toward peers with intellectual disabilities: Effect of the type of school. *Journal of Applied Research in intellectual disabilities, 25*(6), 531–541. https://doi.org/10.1111/j.1468-3148.2012.00699.x

Hardiman, S., Guerin, S., & Fitzsimons, E. (2009). A comparison of the social competence of children with moderate intellectual disability in inclusive versus segregated school settings. *Research in Developmental Disabilities, 30*(2), 397–407. https://doi.org/10.1016/j.ridd.2008.07.006

Hervie, V. M. (2023). Social inclusion of children with intellectual disabilities in Accra, Ghana: Views of parents/guardians and teachers. *Children and Youth Services Review, 147*,1–10. https://doi.org/10.1016/j.childyouth.2023.106845

Hudson, M. E., Browder, D. M., & Wood, L. A. (2013). Review of experimental research on academic learning by students with moderate and severe intellectual disability in general education. *Research and Practice for Persons with Severe Disabilities, 38*(1), 17–29. https://doi.org/10.2511/027494813807046926

Jorgensen, C. M., & Lambert, L. (2012). Inclusion means more than just being "in:" Planning full participation of students with intellectual and other developmental disabilities in the general education classroom. *International Journal of Whole Schooling, 8*(2), 21–36.

Lidubwi, J., Bosire, J., & Mutua, J. (2023). Television story angle and the involvement on learners with intellectual disability in inclusive education in Kenya. *International Journal of Communication and Public Relation, 8*(1), 1–11. https://doi.org/10.47604/ijcpr.1779

Martinez, D. C., Conroy, J. W., & Cerreto, M. C. (2012). Parent involvement in the transition process of children with intellectual disabilities: The influence of inclusion on parent desires and expectations for postsecondary education. *Journal of Policy and Practice in intellectual disabilities, 9*(4), 279–288. https://doi.org/10.1111/jppi.12000

Nieto, C., & Moriña, A. (2021). Mainstream or special educational settings: The views of Spanish people with intellectual disability. *Journal of Policy and Practice in intellectual disabilities, 18*(3), 187–196. https://doi.org/10.1111/jppi.12372

Niure, D. P., & Shrestha, M. K. (2023). Strategies for including the excluded in education: A case of children with ID. *Education Quarterly, 4*(1), 17–30. https://doi.org/10.3126/jeqtu.v4i1.57243

Nowicki, E. A., & Brown, J. D. (2013). "A kid way": Strategies for including classmates with learning or intellectual disabilities. *Intellectual and Developmental Disabilities, 51*(4), 253–262. https://doi.org/10.1352/1934-9556-51.4.253

Okyere, C., Aldersey, H. M., & Lysaght, R. (2019). The experiences of children with intellectual and developmental disabilities in inclusive schools in Accra, Ghana. *African Journal of Disability, 8*(0), 1–11. https://doi.org/10.4102/ajod.v8i0.542

Okyere, C., Aldersey, H. M., & Lysaght, R. (2020). Strategies for engagement of children with intellectual and developmental disabilities: Reflections from a study in inclusive schools in Accra, Ghana. *International Journal of Research & Method in Education, 44*(4), 379–394. https://doi.org/10.1080/1743727X.2020.1796959

Osoba, M. A., Aramide, K. A., & Olutoki, A. E. (2023). Reread Strategy for the inclusion of children with mild intellectual disorder in qualitative education in Nigeria. *Library Philosophy and Practice, 7750*, 1–14.

Östlund, D., & Hanreddy, A. (2020). Alternate curricula as a barrier to inclusive education for students with intellectual disabilities. *International Electronic Journal of Elementary Education, 12*(3), 235–247. https://www.iejee.com/index.php/IEJEE/article/view/1086

Ralabate, P. K., & Berquist, E. (2020). Your UDL journey: A systems approach to transforming instruction (Illustrated). Cast, Inc. https://publishing.cast.org/catalog/books-products/your-udl-journey-ralabate-berquist?srsltid=AfmBOoqCaXQTfk4kvBw5Orq1y8T4-alkiKsQ-jFcu9VCYoPKCNyx04xD

Ristovska, A. K., Karovska-Andonovska, B., Stanojkovska-Trajkovska, N., & Georgievska, S. (2017). Educational policies and practical implications for children with intellectual disability in the Republic of Macedonia. *International Journal of Cognitive Research in Science, Engineering and Education, 5*(2), 27–39. http://dx.doi.org/10.5937/ijcrsee1702027K

Shurr, J., Minuk, A., Holmqvist, M., Östlund, D., Ghaith, N., & Reed, B. (2023). Parent perspectives on inclusive education for students with intellectual disability: A scoping review of the literature. *International Journal of Developmental Disabilities, 69*(5), 633–643. https://doi.org/10.1080/20473869.2021.2003612

Sigstad, H. M. H. (2017). Successful inclusion of adolescent students with mild intellectual disabilities: Conditions and challenges within a mainstream school context. *International Journal of Special Education, 32*(4), 767–783

Taub, D., & Foster, M. (2020). Inclusion and intellectual disabilities: A cross cultural review of descriptions. *International Electronic Journal of Elementary Education, 12*(3), 275–281. https://www.iejee.com/index.php/IEJEE/article/view/1090

Thomas, Fr. B. (2023). Status of implementation of inclusive education schemes for students with intellectual disabilities in the State of Kerala. *Journal of Psychology and Political Science, 3*(3), 26–35. https://doi.org/10.55529/jpps.33.26.35

Thomas, Fr. B., & Kumar, S. L. (2020). The challenges and barriers encountered by educators in managing students with intellectual disabilities (SWIDS) in inclusive classroom settings. *Open Access International Journal of Science & Engineering, 5*(2), 16–21.

Tryfon, M., Anastasia, A., & Eleni, R. (2019). Parental perspectives on inclusive education for children with intellectual disabilities in Greece. *International Journal of Developmental Disabilities, 67*(6), 397–405. https://doi.org/10.1080/20473869.2019.1675429

Vlachou, A., & Stavroussi, P. (2016). Promoting social inclusion: A structured intervention for enhancing interpersonal problem-solving skills in children with mild intellectual disabilities. *Support for Learning, 31*(1), 27–45. https://doi.org/10.1111/1467-9604.12112

Weiss, S., Markowetz, R., & Kiel, E. (2018). How to teach students with moderate and severe intellectual disabilities in inclusive and special education settings: Teachers' perspectives on skills, knowledge and attitudes. *European Educational Research Journal, 17*(6), 837–856. https://doi.org/10.1177/1474904118780171

Yoro, A. J., Fourie, J. V., & Van Der Merwe, M. (2020). Learning support strategies for learners with neurodevelopmental disorders: Perspectives of recently qualified teachers. *African Journal of Disability, 9*(0),1–10. https://doi.org/10.4102/ajod.v9i0.561

知的障害のある生徒に対するインクルーシブ教育に関する系統的文献レビュー

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　本研究は、知的障害のある生徒のためにインクルーシブ教育を実施する際に教員が直面する課題と、その解決に向けた戦略を包括的に明らかにすることを目的とする系統的文献レビューである。インクルーシブ教育は単なる概念を超えて、公平で包括的な社会の基盤としての役割を果たすものであり、知的障害のある生徒にとっては特有の課題が伴う。これらの課題を把握することは、効果的な教育政策や実践を構築する上で欠かせない要素である。本レビューでは、知的障害のある生徒が在籍する通常の学級において教員が直面する具体的な課題を探り、ソーシャルインクルージョンを促進するための教育的な戦略について検討した。その結果、知的障害のある生徒に対してインクルーシブ教育の実践を推進するための貴重な示唆得られた一方で、今後、通常の学級における知的障害のある生徒の経験を探り、その視点やニーズを明らかにする研究が求められる。

キーワード：知的障害、インクルーシブ教育、視点、課題、戦略