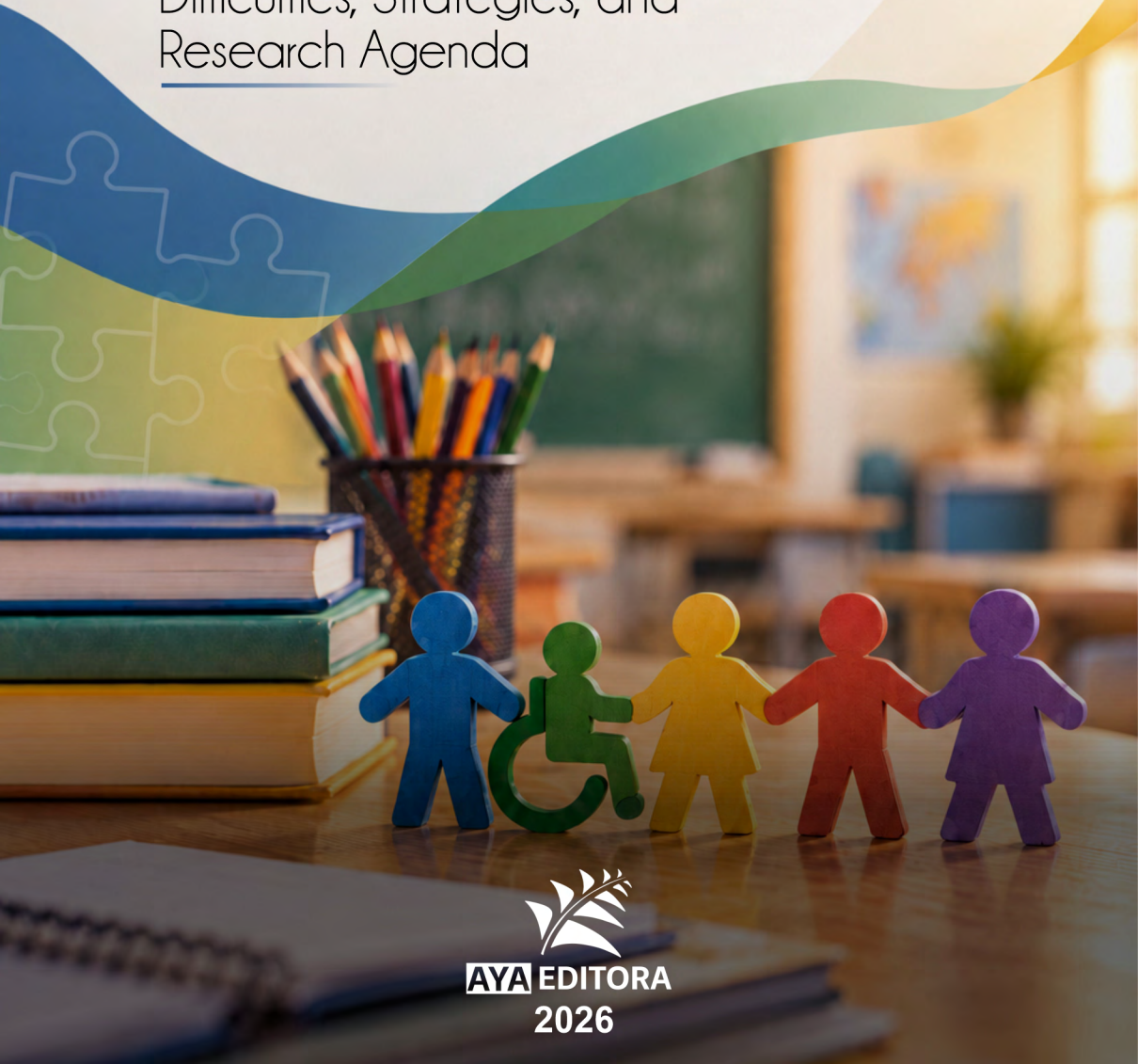


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Special and Inclusive Education:

A Systematic Literature Review of
Difficulties, Strategies, and
Research Agenda



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CONTENTS

PRESENTATION	10
INTRODUCTION.....	11
Inclusive Education.....	12
Special Education.....	13
Purpose Of The Review	14
METHOD	16
RESULTS.....	19
Overview of the Sample	19
Challenges Faced	26
Strategies	28
DISCUSSION.....	32
Trends	32
Research Agenda	33
Implications and Limitations	37
CONCLUSION	39
REFERENCES	40
ABOUT THE AUTHORS	52
INDEX	53

PRESENTATION

Special education and inclusive education represent complementary and evolving approaches within the educational field, aimed at ensuring the access and participation of students with disabilities in learning environments. These approaches reflect historical and social changes in the understanding of the rights and needs of these individuals.

The purpose of this review is to identify difficulties, strategies, and trends highlighted in research on special education and inclusive education, considering that these elements reflect the ongoing transformation in how education for people with disabilities is conceptualized. To this end, a systematic literature review was conducted, including a bibliometric analysis of 411 documents and a content analysis of 40 documents.

The bibliometric analysis revealed that the findings represent the most central and substantial themes in the literature on special and inclusive education, reflecting their continuous importance and evolution over time. The study also indicates that full and effective inclusion of students with severe disabilities still faces significant social barriers, which negatively affect their academic and social integration.

One of the main challenges concerns insufficient teacher training and resistance to institutional transformations, factors that compromise both the quality of teaching and the effectiveness of inclusive practices. The originality of this research lies in the detailed examination of trends over an extended period, identifying not only peaks of interest but also the persistence and decline of critical themes, thereby offering a comprehensive view of the trajectory of special education.

Enjoy your reading!

INTRODUCTION

Disability is part of the human experience and results from the interaction between biopsychosocial conditions and environmental and personal factors, including biological, psychological, social, and environmental elements that may limit full participation. According to the WHO, approximately 1.3 billion people—corresponding to 16% of the global population—have significant disabilities characterized by substantial impacts on functioning and social participation, requiring intensive and continuous support for daily activities. Persons with disabilities constitute a diverse group, and factors such as sex, age, gender identity, sexual orientation, religion, race, ethnicity, and socioeconomic status shape their life experiences and health needs, often resulting in more restrictive daily functioning compared with other individuals (WHO, 2023).

Although disability is an inherent dimension of human diversity and the multiplicity of human experience, it is still instrumentalized by social structures that turn it into a marker of hierarchical difference. This logic materializes in policies, services, and practices that segregate rather than include, as illustrated by the historical division between “special education” and “regular education”—a distinction that goes beyond terminology and reflects structural inequality (Pinto, 2015). Over the years, this context demanded theoretical and practical justifications that legitimized parallel practices. However, as a socio-educational practice, this context is shaped by historical movements that include people with disabilities (Sota, 2021). Such movements led, particularly in the 1990s, to the introduction in the academic field of a new concept—now defined as inclusive education (Berhanu, 2011). Inclusion is not merely a concept but a movement that calls for and demands the re-signification of educational practices within society (Borges & Paini, 2016).

For a considerable historical period, the field of special education predominated as a system detached from general education. This duality generated parallel approaches characterized by distinct spaces and practices, often based on categorization derived from medical reports and disability diagnoses (Franco *et al.*, 2010). Over time, this context required theoretical and practical justifications to legitimize separate, substitutive practices aimed at addressing the presumed limitations associated with disability (Garcia & Michels, 2008). It is important to emphasize that disability, in itself, does not impose limitations; rather, it constitutes a singular way of experiencing the world. To enhance the learning process of individuals with disabilities, an approach to special

education is adopted that constantly dialogues with the principles of inclusive education—concepts that will be examined in detail in the following sections.

Inclusive Education

Inclusive education is both a concept and an educational practice aimed at ensuring that all students have access to and remain within the school environment, regardless of their physical, cognitive, sensory, social, cultural, or other conditions (Graham, 2020). According to Robo (2014, p. 5), “educational inclusion is an approach that seeks to transform educational systems to respond to student diversity.” Grounded in the principles of equal opportunities and social justice, inclusive education seeks to eliminate the barriers that have historically marginalized certain groups, fostering a school environment that is welcoming and adapted to the needs of each individual (Salmi & D’Adio, 2020).

The concept of inclusive education has evolved significantly over recent decades. Historically, the education of people with disabilities and other special needs was segregated, with these individuals being placed in specialized institutions separate from mainstream schooling (Graham, 2020). This practice began to be challenged with the civil rights movements of the 1960s and 1970s, leading to the adoption of integration policies that allowed students with special needs to attend regular schools, although often still in separate classrooms (Hahn *et al.*, 2018; Sota, 2021).

By the end of the twentieth century, the paradigm began to shift toward inclusion, a broader approach. The 1994 Salamanca Statement, promoted by UNESCO, was a milestone in this transition, asserting that “regular schools with an inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society, and achieving education for all” (UNESCO, 1994, p. 1). Since then, inclusion has come to be understood not merely as the right to be physically present in the regular school, but as the right to receive a quality education that respects and responds to individual differences (Carrington *et al.*, 2022; Pather, 2019).

In pedagogical terms, inclusive education entails adopting a universal design for teaching practices, prioritizing methodologies that address the diverse needs of students, such as differentiated instruction, the use of assistive technologies, and the creation of accessible learning environments (Erdem,

2017). Teacher training is also crucial to the success of inclusion, as well-prepared educators are better equipped to work with diversity in the classroom and to employ inclusive pedagogical strategies (Marino *et al.*, 2009).

Inclusive education refers to schools that welcome, respect, and value the differences present in the classroom as assets for learning. Academic research in inclusive education has focused on various aspects, ranging from the analysis of policies and practices to studies on the impacts of inclusion on students' learning and social development (Lindner & Schwab, 2020; Nilholm, 2020). A current focus of research involves evaluating inclusive policies and identifying factors that contribute to the success or failure of inclusion across different contexts (Taylor & Sidhu, 2012).

Special Education

Special education has evolved significantly over recent decades, with a growing emphasis on inclusion and on adapting learning environments to meet the needs of all students (Francisco *et al.*, 2020). It is “widely regarded as one of the mechanisms through which students with learning difficulties are included in—and excluded from—the forms of schooling otherwise available to children of similar ages” (Florian, 2008, p. 1).

Contemporary special education is grounded in principles of equity and social justice, with inclusion seeking to dismantle the barriers that have traditionally excluded students with special needs from mainstream classrooms (Polat, 2011). Recent studies highlight the importance of robust public policies, ongoing teacher professional development, and the implementation of differentiated pedagogical practices to ensure effective inclusion (Mavropoulou, 2021). The literature suggests that when there is clarity regarding the function and purpose of special education, as well as its pedagogical foundations, the inclusive perspective becomes a fundamental element that benefits not only students who are the target group of special education, but also enriches the learning environment for all students by promoting the appreciation of diversity and empathy (Bakker & Bosnian, 2003; Ileri *et al.*, 2020).

Historically, special education has functioned as an educational modality entirely separate from the general education system, operating at times more as rehabilitative and welfare-oriented practices (Bakker & Bosnian, 2003). However, as social demands evolve, special education is increasingly called back into the educational sphere—its original foundation as a teaching

modality. In assuming this role, it becomes responsible for developing specialized strategies and resources aimed at promoting equitable schooling for students with and without disabilities (Billingsley & Bettini, 2019). In this regard, technologies and assistive technologies gain prominence, as their primary purpose is to promote and ensure the effective participation of students served by special education across all environments and services.

Within this context, assistive technology has become an essential resource in special education (Demchenko *et al.*, 2021). Advances in digital technologies have enabled the creation of tools that minimize physical, cognitive, and sensory limitations, fostering greater autonomy for students (Roberts-Yates & Silvera-Tawil, 2019). Studies indicate that the use of reading software, alternative communication devices, and adapted instructional materials contributes significantly to the academic performance and active participation of students with special needs (Abuhassna *et al.*, 2020; Iglesias-Pradas *et al.*, 2021). However, the effectiveness of these technologies is directly linked to continuous teacher training and adequate financial resources (Demchenko *et al.*, 2021).

In addition to technological resources, other elements are fundamental to strengthening special education. These include the implementation of inclusive pedagogical practices that consider diverse ways of learning and curricular flexibility; collaborative work among teachers, families, and support professionals to promote joint strategies that foster the holistic development of students; and Universal Design for Learning (UDL), which proposes multiple means of engagement, representation, and expression, thereby expanding curricular access for all learners. These elements—combined with the development of an inclusive school culture and the valorization of teacher preparation—contribute to a more equitable and meaningful model of special education.

In the context of studies on special education, there is clear evidence of a shift from segregated models to inclusive models, emphasizing the importance of ensuring that students with disabilities, developmental disorders, or high abilities learn alongside their peers in regular school environments (Lee & Low, 2014).

Purpose Of The Review

Although review studies on special education (Billingsley & Bettini, 2019; Osguthorpe & Scruggs, 1986; Woodward & Rieth, 1997) and inclusive

education (Lindsay, 2003; Loreman *et al.*, 2014; Van Mieghem *et al.*, 2020) already exist, there is still a lack of research that connects these fields to the difficulties and strategies involved in implementing special education.

Special Education and Inclusive Education are two fundamental concepts in the fields of pedagogy and education, and their definitions and practices have evolved. The dynamic nature of these terms reflects both the persistence of certain interpretations and the ongoing transformation in societal understandings of disability. Analyzing the research focus on these concepts is justified as a means to better understand the social practices, relationships, and interactions that shape societal responses to people with disabilities.

Studies such as those by Wray *et al.* (2022) explore factors that influence teachers' perceived self-efficacy in inclusive schools, while De Boer *et al.* (2010) examine the influence of parents' attitudes toward inclusive education. Crockett and Martin (2024) argue that public policies and educational management decisions are fostering an optimistic future for special education; however, they highlight the need for further research in this field. Moreover, there is a shortage of studies that approach special and inclusive education from a broad, integrated perspective.

This study aims to identify, within research on special education and inclusive education, the key findings regarding difficulties, strategies, and research trends in these two areas. To achieve this, we conducted a systematic literature review following the steps proposed by Denyer and Tranfield (2009), which include: (i) data collection, (ii) bibliometric analysis of 411 documents, and (iii) content analysis of 40 documents.

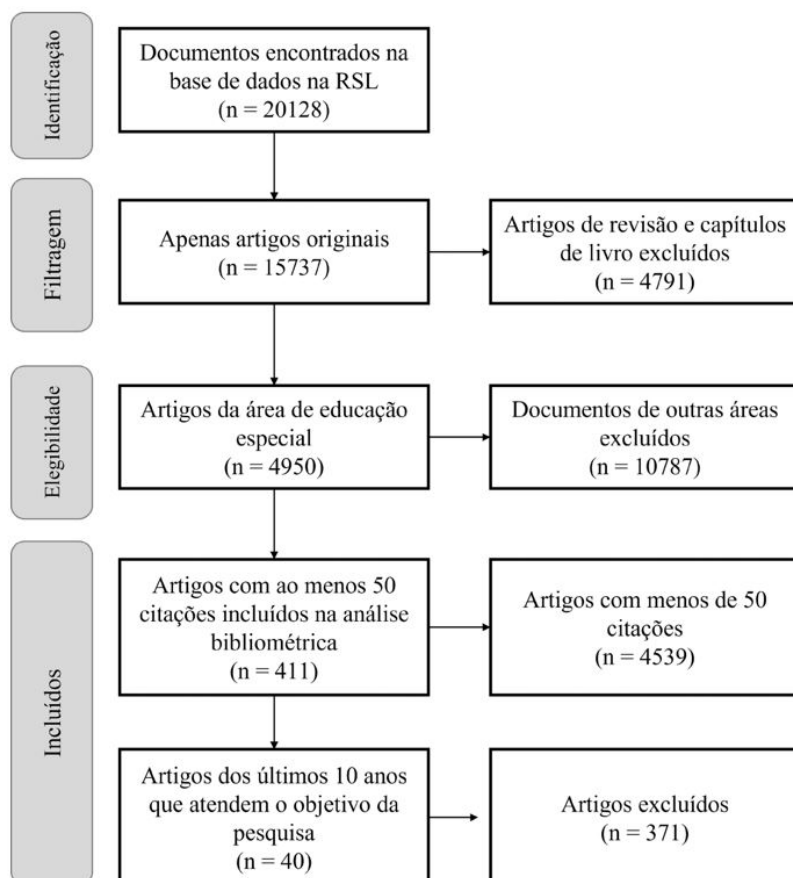
Thus, the study offers a dual contribution: theoretically, it provides an understanding of the trends, difficulties, and strategies identified in the analyzed sample, as well as a research agenda to guide future studies. Practically, it discusses, based on the analyzed literature, the pedagogical approaches used by teachers and the implications of these concepts within the relational dynamics of the teaching and learning process, in addition to informing the development of public policies aimed at strengthening special and inclusive education.

METHOD

This study is characterized as a mixed-methods approach (Venkatesh *et al.*, 2013), as it employs both quantitative methods (bibliometric analysis) and qualitative methods (content analysis). The research is motivated by the need to evaluate what has been investigated regarding inclusive and special education. This aim was pursued through a Systematic Literature Review (SLR). An SLR is used to examine each selected article uniquely and methodically, restricting and synthesizing the content of the documents to yield specific results consistent with the research objectives (Graciano *et al.*, 2023; Kuakoski *et al.*, 2023; Skrzyzowski *et al.*, 2024).

Accordingly, this study applied the three steps proposed by Denyer and Tranfield (2009): (i) data collection, (ii) bibliometric analysis, and (iii) content analysis. In the first step (i), studies related to inclusive education and special education were retrieved from a reputable database. The Web of Science database was selected, and the scope of its journals and content coverage was examined (Hu *et al.*, 2020). The choice of keywords was based on variations of the studied theme, combining terms related to inclusive education and special education. This selection resulted in an optimized search string: ("special education" OR "inclusive education"). The search examined titles, abstracts, and keywords (conducted in October 2023), and the results are presented in Figure 1 following the PRISMA protocol (Moher *et al.*, 2015).

Figure 1 – PRISMA Protocol.



The initial search resulted in 20,128 documents, which, after filtering for full articles, were reduced to 15,737. Focusing specifically on studies in the field of special education yielded a sample of 4,950 articles. Subsequently, studies with at least 50 citations—those with greater visibility and scholarly impact—were examined, resulting in a sample of 411 documents. After a more detailed reading and analysis of the abstracts and final considerations, 40 articles published in the past 10 years that met the objectives of this research were selected for content analysis.

In the second phase (ii), Bibliometrix was chosen to support the scientific mapping due to its freeware nature (Rodríguez-Soler *et al.*, 2020). This tool provides a comprehensive set of functions for quantitative bibliometric research and is a unique open-source instrument capable of conducting ex-

tensive scientific mapping analyses. The package was implemented in RStudio®, as developed by Aria and Cuccurullo (2017), offering fast and efficient integration with other statistical packages—an important feature in a rapidly evolving field such as bibliometrics.

Bibliometrix was employed because of the large amount of relevant information the software can process (Aria & Cuccurullo, 2017). The program runs the code and opens a tab in the main browser known as Biblioshiny. This application provides a web interface for Bibliometrix; it is through this interface that the downloaded data are converted into a more user-friendly environment, displaying graphics, tables, spreadsheets, and other rich visual outputs (Srisusilawati *et al.*, 2021). Accordingly, we analyzed the number of publications per year, per journal, global citation counts, and authors by country, as well as thematic evolution and the thematic map of the sample.

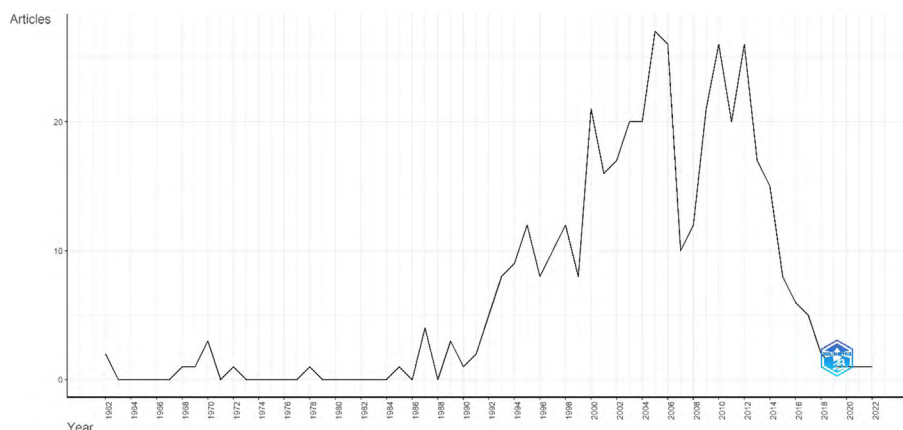
Finally, content analysis was used to categorize all articles in the final sample according to the topics addressed in the research (Spens & Kovács, 2006). This analysis followed the steps proposed by Elo and Kyngäs (2008), including open coding, categorization, and abstraction. The abstraction phase supported the discussions among the authors during the interpretation of the results. This process involved retrieving information from the articles according to predefined categories addressed by the researchers in each study. The categories used were: (i) difficulties, (ii) strategies, and (iii) trends. Based on these categories, a detailed reading of the documents in the final sample was conducted to identify information relevant to each category.

RESULTS

Overview of the Sample

The bibliographic analysis method was selected to illustrate the dynamic nature of the terms special education and inclusive education. Initially, to understand the profile of the sample, the number of publications was identified, as presented in Figure 2.

Figure 2 – Number of Publications per Year.

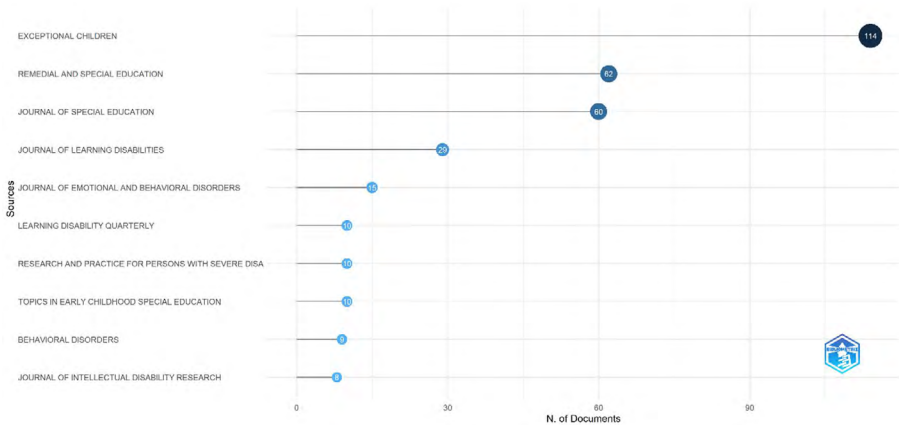


The peak in publications in the field occurred in 2005, with 27 documents, followed by additional peaks in 2006, 2010, and 2012. Two early articles on special education stand out: the first, by Johnson (1962), questions the effectiveness of educational programs for students with intellectual disabilities, despite the availability of resources and teacher training. Johnson concludes that these programs, although well equipped, do not achieve better outcomes than those observed among children who remain in regular classrooms. The second article, by Reynolds (1962), examines the implications of classifications and terminology in special education, suggesting that the categorization of children should be more flexible and less rigid, and that greater attention should be given to program classification.

More recently, Yarimkaya and Esentürk (2022) published an article on promoting physical activity for children with autism spectrum disorder during the COVID-19 pandemic. They emphasize that online learning environments may increase sedentary behavior and offer strategies for incorporating phys-

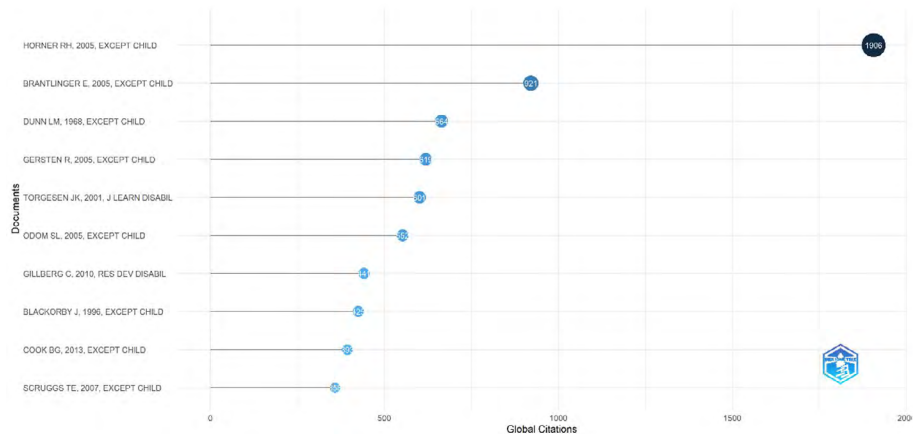
ical activities into the home environment. These studies, both from 1962 and the more recent ones, demonstrate a continued focus on disability, with critiques of the segregated educational model and adaptations to emerging needs, as shown by the most recent publication. Figure 3 presents the main journals in which the sample articles were published.

Figure 3 – Number of publications by journal.



In the journal *Exceptional Children*, 114 documents were published, including the study by Gage *et al.* (2017), which examines publication bias in educational meta-analyses. The authors identify that studies reporting large and statistically significant effects are disproportionately represented in the published literature, thereby inflating perceptions of intervention effectiveness. In contrast, the journal *Remedial and Special Education* published 62 documents, among which the study by Bouck *et al.* (2017) stands out. Their work reviews the evidence-based practice of the concrete–representation–al–abstract (CRA) approach for students with mathematics difficulties. Additionally, the *Journal of Special Education* featured 60 documents, including the study by West *et al.* (2016), which critiques the lack of racial and ethnic diversity in research on evidence-based practices for students with autism spectrum disorder. Figure 4 presents the most frequently cited articles within the sample analyzed.

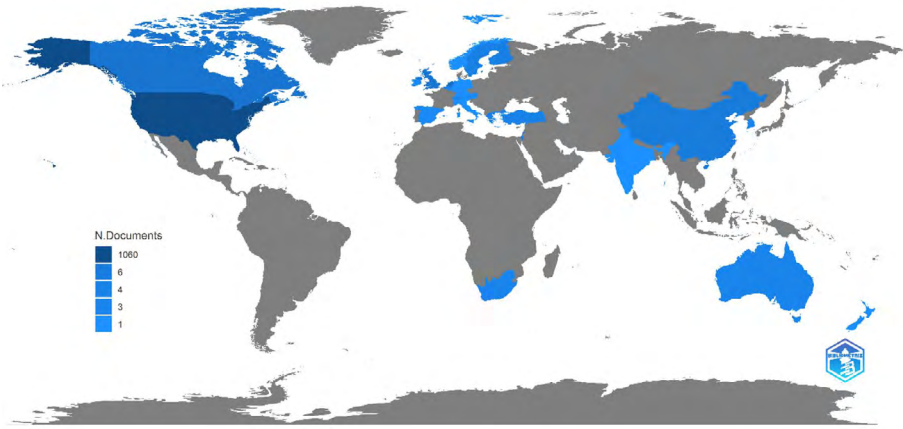
Figure 4 – Global citations of the studies in the sample.



The most cited study in the sample is Horner *et al.* (2005), published in *Exceptional Children*, with 1,906 citations, entitled “The use of single-subject research to identify evidence-based practice in special education.” The authors examine the fundamental role of single-subject research in developing evidence-based practices in special education. They highlight the characteristics and contributions of this approach, which is particularly useful for documenting practices and validating procedures as evidence-based. The study provides a foundation for assessing whether a specific investigation constitutes a reliable example of single-subject research.

Next is the study by Brantlinger *et al.* (2005), also published in *Exceptional Children* and with 921 citations, entitled “Qualitative studies in special education.” The authors provide an overview of different types of qualitative research, addressing tools, strategies, and credibility measures used to ensure the trustworthiness of studies. They review examples of qualitative research, including those focused on evidence-based practices, and underscore the importance of such studies within the field. The review emphasizes the significant contribution of qualitative research to special education. Next, we present Figure 5, which shows a world map featuring the main authors who have conducted studies in the areas addressed in this article.

Figure 5 – World map of co-authors in the sample.



The data presented in Figure 5 highlights, through darker shades of blue, the regions with the highest concentration of published articles. Considering the distribution by continent, the Americas accounted for 1,076 authors (90.5%), followed by Europe with 82 authors (6.9%), Asia with 22 authors (1.9%), Oceania with 6 authors (0.5%), and Africa with 3 authors (0.3%), totaling 1,189 authors. The United States is the leading country in terms of research output on this topic, showing the highest publication frequency. Other countries with notable, although smaller, contributions include the Netherlands, the United Kingdom, Germany, and China.

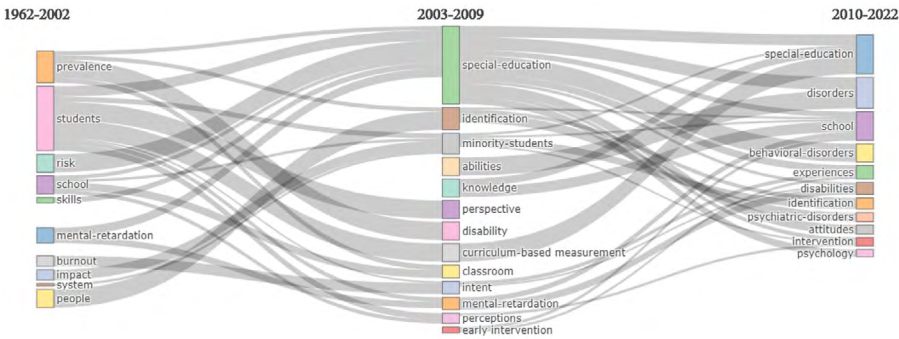
The United States leads the sample with 1,060 authors. A representative example is the study by Farmer *et al.* (2012), published in the *Journal of Emotional and Behavioral Disorders*, which examined bullying involvement and school adjustment among 1,389 fifth-grade students—including 145 students with disabilities—across 35 rural schools in the U.S. The findings indicated that school adjustment difficulties, such as internalizing and externalizing behavior problems, were more prevalent among students identified as victims of bullying. Students receiving special education services showed higher rates of victimization, though not of perpetration, compared to their peers without disabilities.

The Netherlands ranks second with 21 authors. A key study from this group is Koster *et al.* (2010), published in the *International Journal of Disability, Development and Education*. This research investigated the social participation of students with special educational needs in mainstream primary schools. The authors found that, while social participation was generally sat-

isfactory, these students still experienced significant challenges compared to peers without special needs. They tended to have fewer friendships, lower levels of social acceptance, and interacted more frequently with teachers than with classmates.

Aligning with the objectives of this study, Figure 6 presents the thematic evolution of the research sample across three distinct periods.

Figure 6 – Thematic Evolution Map.



The first phase of selection covers the period from 1962 to 2002, identifying key publications that outline the evolution of the topics under focus. The most prominent themes include students (Deci *et al.*, 1992; Gersten & Woodward, 1994; Soodak & Podell, 1993), school (Duncan *et al.*, 1995; Miller *et al.*, 1999; Sale & Carey, 1995), and prevalence (Litt *et al.*, 2005; Reschly & Hosp, 2004), which expand to incorporate additional topics in the second stage of analysis. The emphasis on the student-related theme highlights preferences for activity-based learning strategies rather than textbook-centered approaches, particularly for special education students (Scruggs *et al.*, 1993). According to the literature reviewed, the school theme underscores the need for comprehensive assessment and treatment for students facing socio-emotional challenges within the school environment, as proposed by Sabornie (1994). In parallel, the discussion on prevalence addresses the significant increase in childhood disabilities and its correlation with socioeconomic conditions, as discussed by Fujiura & Yamaki (2000). Beyond these central topics, less frequent themes also play a fundamental role in shaping the research landscape over the years. Although initially less prevalent, these themes contributed to broader perspectives and approaches that later gained prominence.

The second period, from 2003 to 2009, concentrates on key themes that emerged during this interval. Among the most notable are special educa-

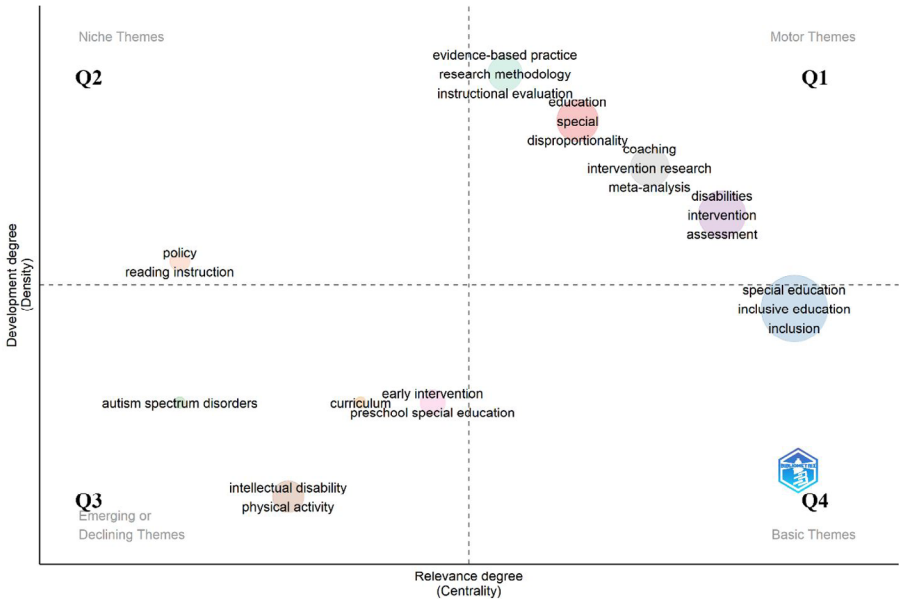
tion (Baker *et al.*, 2003; Brantlinger *et al.*, 2005; Grigal *et al.*, 2003), minority students (Ford, 2012; Hosp & Reschly, 2004), and curriculum-based measurement (Browder *et al.*, 2006; Deno, 2003; Turnbull III *et al.*, 2003). A key contribution, presented by Fletcher *et al.* (2004), suggests changes in federal regulatory approaches for identifying learning disabilities within special education. Regarding the theme of minority students, the literature highlights the importance of investigating educational equity for this group, moving beyond conventional disability categories, as emphasized by De Valenzuela *et al.* (2006). In the context of curriculum-based measurement, it is observed that professional development is more successful when researchers work closely with school districts, ensuring alignment between the practices taught by researchers and district curricula and standards, as highlighted by Klingner *et al.* (2004). These perspectives paved the way for a more comprehensive and applied understanding of the challenges faced in special education during this period.

The third and final period, spanning from 2010 to 2022, highlights the predominant themes that evolved from previously explored issues. As in the second phase, the most frequently addressed theme is special education (Brunsting *et al.*, 2014; Cook *et al.*, 2013; Leko *et al.*, 2015), followed by disorders (Gillberg, 2010; Hawkins & Heflin, 2011; Rose & Espelage, 2012) and school (Brownell *et al.*, 2010; Dessemontet & Morin, 2012; Mazzotti *et al.*, 2021). Compared to the second period, there is a strengthened emphasis on the crucial importance of valid scientific research in evaluating the effectiveness of instructional techniques for students with disabilities, aiming to inform evidence-based practices and policies (Cook, 2015). Within the theme of disorders, it is noteworthy that professionals—such as teachers and school psychologists—who work with students with disorders and special needs tend to possess higher levels of experience, training, and knowledge than their counterparts in general education (Senegall & Campbell, 2012). Regarding the theme of school, research highlights continuous efforts to improve the social and learning experiences of students with severe disabilities in inclusive classrooms, which has been a consistent focus in research, legislation, and advocacy (Carter *et al.*, 2016). These advancements reflect a persistent quest for effective strategies that promote inclusive and equitable educational environments.

Across all periods, there has been a remarkable evolution in special education research, beginning with an initial focus on students, prevalence,

and schools, and gradually incorporating more refined topics such as disorders and the dynamics of inclusive classrooms. Alongside the major themes, others—such as professional development and students’ social experiences—have also gained prominence. Figure 6 proved essential for visualizing this evolution, facilitating the identification of patterns and interconnections over time. This graphical representation contributes to a deeper understanding of the trajectory of research in special education. This dynamic is further illustrated in the thematic map presented in Figure 7, which displays the main research lines in the field.

Figure 7 – Thematic Map of the Sample.



The upper right quadrant (Q1) of the analysis represents the main themes explored in the literature, including evidence-based practice, research methodology, instructional assessment, and various aspects of special education and intervention. The upper left quadrant (Q2) encompasses specific and niche topics, such as educational policy and reading instruction. The lower left quadrant (Q3) contains emerging and declining themes, including autism spectrum disorder, early intervention, and preschool special education. The lower right quadrant (Q4) shares themes with Q3, highlighting special education and inclusion, thus demonstrating the dynamic evolution of these concepts over time.

The interrelationship between the development, density, relevance, and centrality of the themes is crucial for understanding the evolution of the literature. Policy and reading instruction are areas of continuous development, reflecting a higher density of discussions within broader contexts that include special education and inclusion. Special education has remained a highly relevant field over the years, with a significant increase in research and diversification of information, particularly since 2002, although decreasing in the following decades, possibly due to technological advances and social changes.

The analysis reveals a significant interconnectedness between the themes in quadrants Q1 and Q2, with an emphasis on research related to evidence-based practice and the evaluation of interventions. This emphasis highlights the need to integrate scientific methodologies into special and inclusive education, fostering the development of more robust knowledge and practices. Future research should explore the integration between theory and practice to advance the consolidated implementation of interventions and improve the inclusive educational context.

Challenges Faced

The development of studies and research in the field of special education and inclusion may encounter a series of challenges and difficulties that can affect the quality and applicability of the results. Among the most common difficulties identified in this study are issues related to acceptance, inclusion, and recognition; environmental and social adaptations and emerging standards; the lack of teacher training and collaboration; and the overall complexity of implementing inclusive practices in educational settings.

It is evident that determining the real impact of inclusion on the academic and social experiences of students with and without disabilities is a complex task. Among the major challenges is the goal of achieving full social acceptance of students with significant disabilities by their peers. Although inclusion yields notable benefits, social barriers persist, often hindering full integration.

The adversities encountered underscore the need for a multifaceted and well-structured approach, calling for comprehensive and organized investigation in the field of special and inclusive education. Such an approach must prioritize continuous professional development and the use of methods aimed at enhancing the educational experience while improving the understanding

and quality of educational research. The most recurrent difficulties can be observed in Table 1, which examines them in detail across the three dimensions identified in the studies analyzed in this review.

Table 1 – Difficulties Encountered in Special and Inclusive Education.

Dimension	Code	Difficulties	Authors
Teacher Training and Professional Practice	D1	Teacher burnout negatively affects the stability of the teaching workforce and may influence the quality of instruction and student learning outcomes, especially in special education contexts.	Wong <i>et al.</i> (2017); Moriña (2017).
	D2	Resistance to change from both teaching staff and school administration can be a significant obstacle. The shift toward an inclusive approach requires institutional commitment, which may encounter resistance due to entrenched perceptions and long-standing practices.	
Acceptance, Impact, and Inclusion	D3	Many children with disabilities face significant barriers to entering inclusive preschool environments due to inadequate infrastructure, insufficiently trained personnel, and limited resources.	Barton & Smith (2015); Espelage <i>et al.</i> (2015).
	D4	Finding appropriate ways to include students with disabilities in randomized studies can be challenging due to the varied needs and the diversity of conditions within this group.	
Methodological Limitations	D5	The predominance of studies demonstrating experimental control may yield an artificially inflated view of the efficacy of interventions in special education.	Tincani & Travers (2018); West <i>et al.</i> (2016).
	D6	Many studies fail to adequately report contextual factors that may influence intervention efficacy, such as socioeconomic status, parental education level, and other important demographic characteristics.	

The difficulties D1 and D2 stem from teacher training and professional practice. The authors highlighted challenges related to the low effectiveness of instructional practices (Kurth *et al.*, 2016), teacher preparation (Moriña, 2017), collaboration among teachers (Bottge *et al.*, 2001), and the fact that teachers' contributions are often overlooked (Farmer *et al.*, 2018). Studies also addressed issues associated with teacher burnout and its core components (Wong *et al.*, 2017). Additional difficulties involve researcher preparation and

training (Kozleski, 2017), cultural and institutional resistance (Moriña, 2017), constraints within schools and colleges of education (Leko *et al.*, 2015), insufficient training and support for professionals (Brock & Carter, 2016), and variability in the definitions and components of explicit instruction (Hughes *et al.*, 2017).

Difficulties D3 and D4 relate to acceptance, impact, and inclusion. The authors describe challenges involving the acceptance and recognition of qualitative research in special education (Kozleski, 2017), unequal access across schools (Barton & Smith, 2015), differing parental attitudes depending on the type of disability (Paseka & Schwab, 2019), the inclusion of students with disabilities (Espelage *et al.*, 2015), involvement in and victimization through bullying (Rose & Gage, 2017), and context-sensitive measurement of bullying outcomes (Espelage *et al.*, 2015). Researchers also report that many students with emotional and behavioral disorders do not receive adequate support due to systemic educational barriers (Mitchell *et al.*, 2019), as well as difficulties in perceiving inclusive practices in relation to available resources (Paseka & Schwab, 2019).

Finally, the last dimension encompasses D5 and D6, which concern methodological limitations. The analysis identified several less frequent difficulties, such as challenges in adapting to distance education (Yarimkaya & Esentürk, 2022), adapting special and inclusive education principles in higher education (Moriña, 2017), the increase in sedentary behavior, obesity, and health problems aggravated during the COVID-19 pandemic (Yarimkaya & Esentürk, 2022), the substantial differences in the implementation and structure of Response to Intervention (RTI) between the United States and Finland (Björn *et al.*, 2016), and concerns regarding the adequate representation of Black children in special education (Morgan *et al.*, 2017).

Strategies

The authors analyzed in the sample elucidated strategies to understand potential alternatives for addressing the aforementioned difficulties. These strategies are essential, as they guide the investigative processes of the studies and are selected according to the context, objectives, or activities of the proposed research. In the sample examined, it was possible to identify strategies across three dimensions—corresponding to the same order and sequence presented in the previous section—namely teacher training and

professional practice (E1, E2, and E3), acceptance, impact, and inclusion (E4, E5, and E6), and methodological limitations (E7, E8, and E9). The most frequent strategies can be consulted in Table 2, which provides a detailed exploration of the three dimensions identified in the studies discussed in this analysis.

Table 2 – Strategies to Mitigate Difficulties Encountered in Special and Inclusive Education.

Dimension	Code	Strategies	Authors
Teacher Professional Development and Work	E1	Enhancing teaching practices: Development and implementation of more effective teaching strategies adapted to the specific needs of students with significant cognitive disabilities.	Maslach & Leiter (1999); Espelage <i>et al.</i> (2015); Leko <i>et al.</i> (2015); Kurth <i>et al.</i> (2016); Wong <i>et al.</i> (2017).
	E2	Adapted curriculum: Development of curricula that are both challenging and accessible for these students, providing them with appropriate learning opportunities.	
	E3	Specialized support: Implementation of specialized instruction and intensive pedagogical support to better meet the educational needs of students with cognitive disabilities (CD).	
Acceptance, Impact, and Inclusion	E4	Policy strengthening: Development and implementation of educational policies that guarantee equitable access to inclusive preschool environments, including adequate funding and technical support for schools and institutions.	Barton & Smith, (2015); Shogren <i>et al.</i> (2015); Brock & Carter (2016); Kurth <i>et al.</i> (2016); Kozleski (2017); Moriña (2017); Paseka & Schwab (2019); Mazzotti <i>et al.</i> (2021); Nilholm (2020).
	E5	Professional capacity building: Investment in continuous training programs for educators and support professionals, focusing on inclusive practices, curriculum adaptation, and individualized teaching strategies.	
	E6	Community engagement: Promotion of effective partnerships among schools, families, health professionals, and local communities to support the comprehensive development of children with disabilities in inclusive preschool settings.	

Dimension	Code	Strategies	Authors
Metho- dological Limitations	E7	Development of structured programs: Implement structured peer-support programs that include detailed training, continuous supervision, and periodic evaluation to ensure the effectiveness and sustainability of the arrangements.	Cook <i>et al.</i> (2018); Reichow <i>et al.</i> (2018); Gage <i>et al.</i> (2017).
	E8	Promoting awareness and acceptance: Implement educational activities and initiatives to raise awareness regarding the needs and abilities of students with severe disabilities, thereby facilitating greater social acceptance.	
	E9	Integration of long-term strategies: Incorporate sustainability components into peer-support programs, such as strategies to strengthen and expand social networks over time.	

For the first dimension (E1, E2, and E3), authors such as Wong *et al.* (2017) indicate that an important strategy for addressing teacher burnout is the application of the Maslach and Leiter (1999) model, which seeks to understand the direct and indirect effects of teacher burnout on instructional quality and the outcomes of individualized educational programs. Espelage *et al.* (2015) point out that, for inclusion to be effective, it is necessary to ensure continuous support for teachers, providing robust assistance for the qualitative implementation of curricula involving social and emotional competencies, including initial training, regular supervision, and ongoing resources over time. Supporting this perspective, Leko *et al.* (2015) emphasize the importance of implementing training models that not only teach theoretical concepts but also provide practical and immersive experiences that prepare teachers for the real challenges of the classroom.

In addition, other strategies seek to uncover ways to validate studies related to special and inclusive education, such as the creation of inclusive policies (Moriña, 2017), teacher professional development (Brock & Carter, 2016), investment in educational programs and awareness initiatives on inclusive education (Paseka & Schwab, 2019), expanded use of case studies on inclusive practices (Nilholm, 2020), continued teacher training (Kozleski, 2017), improvements in teaching practices and adapted curricula (Kurth *et al.*, 2016), standardization and clarification of concepts (Mazzotti *et al.*, 2021), and the adoption of positive behavior support systems and co-teaching (Shogren *et al.*, 2015).

Regarding the strategies related to acceptance, impact, and inclusion (E4, E5, and E6), authors report the importance of implementing social validity assessments to understand the acceptance, feasibility, and relevance of interventions from the perspective of participants and implementers (Ledford *et al.*, 2016); strengthening educational policies, professional training, and community engagement (Barton & Smith, 2015); and establishing policies and incentives that promote the replication of studies in special education (Travers *et al.*, 2016). Researchers in this dimension also highlight the importance of developing communication skills in students with disabilities so they can express their needs and emotions. In line with this idea, direct instruction in social skills is also suggested as a viable strategy (Rose & Gage, 2017).

Among the strategies identified in the methodological limitations dimension (E7, E8, and E9), notable examples include the adoption of incentives for researchers (Cook *et al.*, 2018), the development of tools (Reichow *et al.*, 2018), and transparency in study selection (Gage *et al.*, 2017). Other strategies were recorded in this systematic review but are not described in this analysis, as many of these studies focus primarily on methodological aspects of research rather than the field of special and inclusive education itself. In this sense, research strategies become essential for carrying out successful investigations, as they help ensure that objectives are achieved efficiently and with scientific rigor.

DISCUSSION

Trends

Research trends aim to address pressing issues and challenges, directing attention toward improvements related to the problems identified. The authors in the sample presented trends that seek to enhance both inclusive teaching and teacher preparation, as well as pedagogical practices. Understanding this analysis enables the expansion of new discussions and studies aimed at improving the inclusive process. It is important to highlight the relevance of employing diverse research methods beyond case studies—such as meta-analyses, systematic reviews, and longitudinal studies—to broaden the knowledge base on inclusive practices and their outcomes (Nilholm, 2020).

Among the most frequently explored trends, teacher burnout and instructional quality (Wong *et al.*, 2017) emerge as central paths for new investigations, as does the use of evidence-based interventions (Espelage *et al.*, 2015). Authors such as Moriña (2017), Kurth *et al.* (2016), and Mazzotti *et al.* (2021) emphasize trends grounded in the effectiveness of inclusive teaching, improving methods to better integrate students with a strong focus on adaptive skills and self-determination. It is essential to understand the importance and quality of interventions through longitudinal studies that aim to promote long-term inclusion (Barton & Smith, 2015), potentially guiding research toward an emphasis on competency-based evidence.

Competency-based evidence has become increasingly important, supporting the evaluation of specific practices that foster crucial skills for the transition of students with disabilities to post-school life (Rowe *et al.*, 2021). For this purpose, it becomes necessary to investigate the impact of educational policies and examine how institutional guidelines influence the replication of studies and the adoption of evidence-based practices in special education, particularly across different educational systems (Travers *et al.*, 2016). This context also encourages reflection on teacher preparation, where there is growing interest in understanding the factors that contribute to educators' well-being, especially early in their careers, and how this affects their retention in the profession (Bettini *et al.*, 2017).

It is therefore significant to consider improvements in research quality through the adoption of open science practices, increasing reliability and rep-

licability in special education research (Cook *et al.*, 2018). Additionally, there is increasing interest in enhancing research methodologies, particularly in fields such as special education where single-case designs are prevalent (Reichow *et al.*, 2018). Consequently, the trends identified highlight the importance of more qualitative and evidence-based inclusive teaching, particularly in relation to teacher education and pedagogical practices, thus fostering significant advancements in special education. Based on these trends, it becomes possible to outline future research agendas, which will be presented in the next section.

Research Agenda

Defining the difficulties, strategies, and trends leads to the creation of a research agenda, which becomes essential for guiding investigative efforts and ensuring that new studies can be conducted efficiently in response to the most relevant and urgent issues. Well-formulated research questions assist new investigators by ensuring that their work contributes meaningfully to advancing knowledge in the field of interest. Accordingly, we propose several guiding questions to support future studies aiming to improve teaching practices, inclusive pedagogies, school inclusion, as well as the acceptance and recognition of special and inclusive education by society. Table 3 presents the research agenda.

Table 3 – Research Agenda for Special and Inclusive Education.

Dimension	Authors	Future Research Question	Methodological Suggestion
Teacher Professional Development and Work	Kurth <i>et al.</i> (2016); Farmer <i>et al.</i> (2018); Mazzotti <i>et al.</i> (2022).	How do different instructional approaches directly impact the engagement and academic progress of students with significant cognitive disabilities?	Conduct a longitudinal study testing different approaches with similar populations.
		How can teachers positively influence social dynamics in the classroom?	Adopt a participatory action research approach, engaging teachers in cycles of planning, action, observation, and reflection; social dynamics would be observed and recorded using semi-structured interviews.
		How to develop educational and support interventions that are adapted to individual and specific needs?	Employ a multiple case study design to develop and test personalized interventions. Select a small number of students with different types of disabilities and, in collaboration with specialists, create individualized intervention plans.
Acceptance, Impact, and Inclusion	Barton & Smith, (2015); Carter <i>et al.</i> (2016); Umansky <i>et al.</i> (2017).	How can educational systems ensure the provision of quality education for all students?	Apply statistical methods, such as structural equation modeling (SEM), to identify variables associated with quality education, for instance, through hypothesis testing.
		How to strengthen family involvement in the preschool inclusion process, ensuring their voices are heard, and their needs are effectively met?	Utilize an ethnographic approach to study family involvement in the preschool inclusion process. Conduct participant observations during school meetings, home visits, and community events, in addition to in-depth interviews with parents, teachers, and administrators.

Dimension	Authors	Future Research Question	Methodological Suggestion
		How can research findings inform the formation of educational policies that promote inclusive and effective practices for students with disabilities?	Conduct workshops with policymakers, educators, and researchers to interpret study findings and discuss how they can be applied in practice.
Methodological Limitations	Cook <i>et al.</i> (2015); Carter <i>et al.</i> (2016); Tincani & Travers (2018).	What are the main educational standards for special and inclusive education?	Conduct a meta-analysis of existing studies that have evaluated the application of educational standards across different contexts and disability types. Furthermore, conduct case studies in schools with varying characteristics to corroborate the findings of the meta-analysis.
		In what way does transparency in research reporting affect the replicability of studies on educational standards across different contexts and disability types?	Implement a replicability analysis, wherein previously published studies utilizing educational standards across different contexts and with various disability types are selected for replication.
		How to improve transparency in research reporting?	Implement a content analysis of published articles, focusing on transparency in methods, results, and discussion. Propose improvements and create a practical guide for researchers, aiming to increase transparency in future reports.

When considering questions for future research, it is essential to reflect on how new academic studies should be conducted to guide emerging objectives and methodologies grounded in the data collected and analyzed. This ensures that research remains relevant not only to other scholars but also to society at large. In our analysis, we examined special and inclusive education with the aim of contributing to new studies, given that persistent issues still require reconsideration, revision, and deeper reflection. In this regard, we considered possible pathways to be pursued based on the evidence gathered

in our analysis, particularly those related to teacher training and professional practice, acceptance, impact, and inclusion, as well as methodological limitations.

Studies by Kurth *et al.* (2016), Farmer *et al.* (2018), and Mazzotti *et al.* (2022) raise questions specifically connected to teacher preparation and professional practice. The inquiries presented in Table 3 illustrate how various teaching strategies directly influence the participation and academic development of students with disabilities across different areas and levels of need. In this sense, Universal Design for Learning (UDL) offers a promising approach, as it seeks to establish instructional practices that are responsive to all students. Furthermore, reflecting on how to better prepare teachers to provide high-quality, equitable, and socially just education to students requiring substantial to very substantial support—including those with significant disabilities—becomes imperative. Ongoing in-service professional development may assist in this process by promoting discussions grounded in real cases, thereby strengthening inclusive practices. Participating teachers would engage with critical elements of personalized curricula while maintaining academic rigor. Collaborative teaching can further enrich this process through the exchange of experiences and information, continually aiming for activities that foster student engagement and learning.

Barton and Smith (2015), Carter *et al.* (2016), and Umansky *et al.* (2017) address dimensions of acceptance, impact, and inclusion, questioning how to ensure that all children with disabilities have equitable access to inclusive preschool environments, regardless of geographic location or socioeconomic conditions. Public forums for discussion and policy development may be a viable pathway for constructing inclusive systems that serve all children. Moreover, examining how to strengthen family engagement in the inclusion process—ensuring that parents' perspectives are considered and their needs effectively addressed—highlights the importance of investigating the home environment, the child's development outside school, and parents' knowledge of their rights. Such inquiry can also help secure the long-term sustainability of high-quality inclusive preschool practices, promoting research on potential political, economic, and social changes.

To address questions about methodological limitations in special and inclusive education research, Cook *et al.* (2015), Carter *et al.* (2016), and Tincani & Travers (2018) reflect on how educational policies can foster effectively inclusive practices for students requiring intensive and continuous supports.

In light of this, we suggest investigating the actual effectiveness of policies within the studied context, comparing their stated guarantees with the real conditions observed.

In this line of analysis, when considering the generalization of results, it is necessary to reflect on dimensions that may influence pedagogical practices across different disability areas, population diversity, specific school contexts, available resources, and teacher preparation. Adapting inclusive practices to diverse individual needs requires confronting both specificities and universalities, yet such considerations are crucial to ensuring that benefits are widely realized. Hence, future investigations may focus on understanding collaboration between families and schools, including how information about children's needs and preferences is shared. This can contribute to the development of strategies that promote genuine and lasting social connections. Synthesizing collaborative teaching with universal practices—such as those grounded in Universal Design for Learning—emerges as an urgent priority.

Implications and Limitations

Analyses of the concepts of special education and inclusive education reveal significant challenges that carry important theoretical implications. First, the resistance to accepting and including students with more severe disabilities suggests a gap in the theoretical understanding of how to construct social acceptance that enables meaningful integration and participation in school environments. This underscores the need for theories that address not only pedagogical aspects but also the social and cultural dimensions of inclusion. Another theoretical implication concerns the need for more comprehensive educational theories that integrate flexible, universalist teaching practices with personalized approaches whenever the context demands.

Furthermore, within the realm of theoretical implications, the lack of teacher training and collaboration highlights the urgency of theories that examine existing models of continuous professional development and establish guidelines for more collaborative teaching practices, potentially resulting in pedagogical approaches grounded in evidence-based practices. The absence of clarity and consistency in the definitions and components of explicit instruction, coupled with the methodological difficulties identified, indicates a shortage of theoretical formulations that promote systematized practices with objectivity and clear guidance regarding educational and assessment strategies that emphasize student potential rather than limitations.

The practical implications for educational administrators, policymakers, and teachers are substantial. From an educational management perspective, the findings emphasize the urgent need to design and implement continuous professional development programs and support systems for teachers that directly address the challenges associated with the inclusion of students with disabilities. This includes the development of strategies to address teacher burnout and the promotion of collaborative practices aimed at improving instructional impact, integration, and students' active participation. It is particularly urgent that administrators foster work environments that value and encourage ongoing professional development and in-service training for educators.

From a public policy standpoint, the study highlights the need for policies that promote effective and equitable inclusion. This includes the creation of policies that guarantee adequate resources, support for implementing inclusive practices, and strategies for overcoming cultural and institutional barriers to the acceptance of students with disabilities—policies that require engagement with initial, continuing, and in-service teacher education grounded in special and inclusive education. Policies should also focus on ensuring equitable access to education for all students, which requires that administrators, teachers, and policymakers recognize that special education and inclusive education are complementary dimensions of the same goal: education for all. In this context, it becomes essential to establish guidelines for consolidating an inclusive system that responds to diverse student needs and is capable of adapting to changing educational demands.

The main limitations of this study include the restricted scope of the sample, composed of 40 documents, which may not fully reflect the diversity of research in the fields of special and inclusive education. Additionally, the analysis may not capture the most recent publications, potentially resulting in an outdated view of current trends and developments; this is due to the reduction of articles based on the 10-year and citation criteria. The reliance on secondary sources and the heterogeneity of the studies analyzed may also introduce biases and hinder the comparison and generalization of results.

CONCLUSION

This study aimed to identify the main challenges, strategies, and research trends in special education and inclusive education, providing a comprehensive overview of the issues and advances in the field. The analyses revealed that the predominant challenges are associated with teacher training, the acceptance and implementation of inclusive practices, and methodological limitations present in current research. Teacher preparation and adequate support are crucial for overcoming obstacles related to the teaching and learning of students with disabilities. Teacher burnout, cultural resistance, and institutional barriers continue to hinder the advancement of effective inclusion. Furthermore, the limited and often fragmented understanding of special education and inclusive education has contributed to the perpetuation of dual practices that reinforce educational exclusion.

The strategies identified suggest that continuous professional development, the strengthening of educational policies, and the adoption of more rigorous research methods are essential for consolidating inclusive education. Emerging trends highlight the importance of evidence-based interventions and teaching models that promote active participation and autonomy among students with disabilities.

We also conclude that various studies have addressed the themes of special education and inclusive education separately. Our findings, based on the review of articles, indicate that while special education initially developed as a system distinct from general education, thematic evolutions occurred without a substantive departure from the initial conceptual foundations. From the 2000s onward, thematic focus concentrated on challenges within special education, and discussions surrounding inclusive education only became more prominent after 2010. Despite progress, the terms are still treated as distinct, and overcoming these categorizations requires recognizing that they were originally shaped by the classification of human groups, deeply influenced by social tendencies and ideologies.

The assimilation of a social and human-rights-based perspective is crucial for transforming special education into an inclusive approach for all. Although significant movement and new inquiries are emerging in the field, the need for further research and more rigorous filtering remains essential to advance our understanding of education.

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INDEX

A

Acceptance 23, 26, 28, 29, 30, 31, 33, 36, 37, 38, 39

Accessibility 12, 29

Assessment 23, 25, 31, 37

Assistive technology 12, 14

Autism spectrum disorder 19, 20, 25

B

Bibliometric analysis 10, 15, 16, 17, 18

Burnout and attrition 27, 30, 32, 38, 39

C

Challenges 10, 23, 24, 26, 27, 28, 30, 32, 37, 38, 39

Citation analysis 17, 18, 21, 38

Classroom 12, 13, 19, 24, 25, 30, 34

Content analysis 10, 15, 16, 17, 18

Co-teaching 30, 36, 37

COVID-19 pandemic 19, 28

Curriculum adaptation 14, 24, 29

D

Differentiated instruction 12

E

Educational policy 11, 12, 13, 15, 24, 25, 26, 29, 30, 31, 32, 35, 36, 37, 38, 39

Equity 13, 14, 24, 29, 36, 38

Evidence-based practices 20, 21, 24, 25, 26, 32, 33, 37, 39

Exclusion 39

F

Family and parental involvement 14, 15, 27, 28, 29, 34, 36, 37

Funding and resources 14, 19, 27, 28, 29, 30, 37, 38

H

Higher education 28

Human rights 39

I

Implementation 13, 14, 15, 26, 28, 29, 30, 31, 38, 39

Inclusion 10, 11, 12, 13, 25, 26, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39

Intervention 20, 25, 26, 27, 28, 31, 32, 34, 39

L

Learning disabilities 24

Legislation 24

Limitations 11, 14, 27, 28, 29, 30, 31, 35, 36, 37, 38, 39

M

Mainstreaming 12, 13, 22

O

Outcomes 19, 27, 28, 30, 32

P

Participation 10, 11, 14, 22, 36, 37, 38, 39

Pedagogical practices 13, 14, 32, 33, 37

Peer support 30

Positive behavior support 30

PRISMA 16, 17

Professional development 13, 24, 25, 26, 30, 36, 37, 38, 39

R

Research agenda 15, 33, 34

Response to Intervention (RTI) 28

S

Salamanca Statement 12

Sample 15, 17, 18, 19, 20, 21, 22, 23, 25, 28, 32, 38

School culture 14

Severe disabilities 10, 24, 30, 37

Social barriers 10, 12, 13, 26, 27, 28, 38, 39

Social integration 10

Social justice 12, 13

Special educational needs 22

Students with disabilities 10, 14, 22, 24, 27, 28, 31, 32, 35, 36, 38, 39

Support services 11, 14, 29, 30, 38

Sustainability 30, 36

Systematic literature review 10, 15, 16

T

Teacher attitudes 12, 15, 28

Teacher resistance 10, 27, 28, 37, 39

Teacher self-efficacy 15

Teacher training 10, 13, 14, 19, 26, 27, 28, 29, 30, 33, 36, 37, 38, 39

Thematic clusters 18, 23, 25, 39

Trends 10, 15, 18, 32, 33, 38, 39

U

UNESCO 12

Universal Design for Learning (UDL) 14, 36, 37

W

Web of Science 16

World Health Organization (WHO) 11



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2026