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GLOBAL RESEARCH TRENDS IN SPECIAL EDUCATION: A BIBLIOMETRIC ANALYSIS

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Abstract:

This bibliometric analysis investigates global research trends in the field of special education over an 11-year period from 2015 to 2025. Special education has increasingly gained prominence due to its role in promoting inclusivity and addressing diverse learning needs, particularly through the integration of digital tools and evidence-based practices. Despite policy advances and technological innovations, disparities in implementation and access persist globally. To examine the evolution of scholarly focus in this area, 939 articles were systematically retrieved from the Scopus database using precise inclusion criteria, including language, publication type, and thematic relevance to students with special needs. The data were cleaned using OpenRefine and further analysed through VOSviewer to identify patterns in keyword co-occurrence, author co-citation, and country-level collaboration. The results revealed a consistent upward trend in publication output, peaking in 2024, with the United States leading in contributions, followed by Turkey, the United Kingdom, and Saudi Arabia. The most frequently cited works address critical themes such as disproportionality in special education placement, teacher attrition, and inclusive pedagogy. Prominent research clusters emerged around inclusive education policies, professional development, social equity, and mental health of educators. Keyword mapping indicated a shift from foundational topics to emerging concerns like e-inclusion, multilingual learners, and burnout among special education teachers. Co-citation and co-authorship analyses highlighted influential authors and collaborative networks shaping the discourse. While the findings underscore growing global interest in special education, they also point to underrepresentation from certain regions, signalling opportunities for broader engagement. This study not only provides a comprehensive overview of the intellectual landscape in special education but also informs future research directions, policy formulation, and professional development strategies to enhance educational equity worldwide.

Keywords:

Special Education, Inclusive Education, Educational Equity, Assistive Technology, Teacher Development

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Introduction

Special education, a field dedicated to providing tailored educational experiences for students with disabilities, has undergone significant transformations over the past few decades. The integration of Information and Communication Technologies (ICTs) has revolutionised the way special education is delivered, ensuring that students have access to knowledge and learning resources that cater to their unique needs (Drigas & Ioannidou, 2013). This shift towards technology-enhanced learning environments has not only facilitated better educational outcomes but also promoted inclusivity and accessibility in educational settings. The significance of special education lies in its ability to address the diverse needs of students, thereby fostering an inclusive society where every individual could thrive academically and socially.

Recent research in special education has highlighted several key developments and ongoing challenges. One of the most notable advancements is the use of ICTs to support both diagnosis and intervention in special education. These technologies enable teachers and parents to adapt educational content to the specific needs and abilities of students, thereby enhancing the learning experience (Drigas & Ioannidou, 2013). Additionally, the implementation of evidence-based practices, such as response to intervention (RTI) and systematic instruction, has been shown to significantly improve educational outcomes for students with disabilities (Vaughn & Swanson, 2015). These practices emphasize the importance of screening, progress monitoring, and intensive interventions tailored to individual learning needs.

Despite these advancements, there are still considerable gaps in the implementation of special education policies and practices. For instance, disparities between rural and urban areas, as well as between different educational levels, continue to pose significant challenges (Alduais et al., 2023). The need for more comprehensive and inclusive policies that address these disparities is critical for ensuring that all students receive the support they need to succeed. Furthermore, the role of special educators has evolved, with an increasing emphasis on collaboration between general and special education teachers to provide a more integrated and supportive learning environment (Volonino & Zigmond, 2007).

The field of special education has also seen a growing focus on the integration of assistive technologies and adaptive learning platforms. These tools have been instrumental in creating personalized learning experiences that cater to the diverse needs of students with disabilities (Howorth et al., 2024). However, the successful integration of these technologies requires adequate training and support for educators, as well as sufficient access to technological resources (Howorth et al., 2024). The importance of professional development in this context cannot be overstated, as it equips teachers with the necessary skills to effectively utilize these tools in their classrooms.

Moreover, legislative and policy reforms have played a crucial role in shaping the landscape of special education. In countries like China and India, recent policy changes have aimed to bridge the gap between different regions and educational levels, promoting a more inclusive and equitable education system (Alduais et al., 2023) (Srivastava, 2019). These reforms have emphasized the need for a bottom-up approach to policy implementation, where the voices of stakeholders, including educators, parents and students, are considered (Alduais et al., 2023). This approach ensures that policies are not only well-designed but also effectively implemented, leading to better educational outcomes for students with disabilities.

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In conclusion, the field of special education is characterised by continuous advancements and persistent challenges. The integration of ICTs and assistive technologies has significantly enhanced the educational experiences of students with disabilities, while evidence-based practices have improved educational outcomes. However, disparities in policy implementation and access to resources remain significant barriers. Ongoing research and policy reforms are essential to address these challenges and promote a more inclusive and equitable education system. By fostering collaboration among educators, policymakers and stakeholders, the field of special education can continue to evolve and better serve the diverse needs of all students.

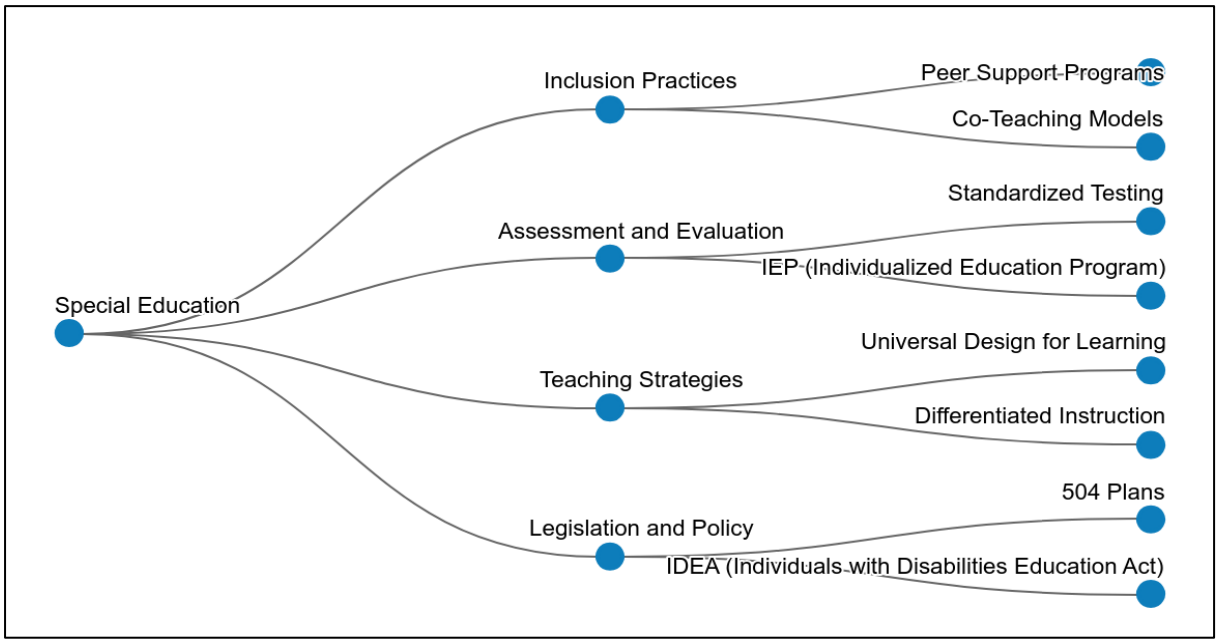

Figure 1: Concept Map of Special Education

Source: Scopus AI

Literature Review

Inclusive education aims to integrate students with special needs into general education settings, providing them with high-quality, standard-based instructions, interventions and support to ensure their success alongside their peers. Effective inclusive education relies on the collaboration between special education and general education teachers to adapt curriculum, modify assessments and provide necessary accommodations (Khazanchi & Khazanchi, 2021). Teachers' attitudes towards inclusive education are crucial and while gender and special education training do not significantly affect these attitudes, the specific branches of teaching do (Orakci et al., 2016). The philosophy of inclusive special education combines the values and practices of inclusive education with the interventions and strategies of special education, aiming to create a comprehensive approach that benefits all students with special educational needs (Hornby, 2015).

The role of technology in special education has grown significantly, enhancing learning experiences and providing new tools for individualised instruction. Assistive technologies, such as text-to-speech software and iPads, have become essential in helping students with disabilities access the general education curriculum (Moreno, 2022) (Pradeep, 2023). However, the successful integration of technology in special education classrooms depends heavily on the professional development of educators. Longitudinal training focused on active

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learner experiences has been shown to significantly increase the likelihood of technology adoption and effective implementation in the classroom (Moreno, 2022). Despite these advancements, there are still challenges, such as ensuring that all teachers are adequately trained and that technology is used effectively to support students' learning (Nordin et al., 2023).

The implementation of inclusive education varies globally, with some countries like Malaysia facing delays in policy implementation, resulting in inconsistent practices (Lee & Low, 2013). In the United States, inclusive education has been promoted through federal policies like the Individuals with Disabilities Education Act (IDEA), which mandates annual data collection to monitor special education services (Cooc, 2023). However, disparities in the provision of these services still exist, highlighting the need for ongoing research and policy adjustments to ensure equitable access to education for all students with disabilities (Kirby, 2017). The shift towards inclusive education reflects a broader movement towards social justice, aiming to normalize differences and create a supportive, democratic school culture where all students are valued (Baglieri & Knopf, 2004).

Research Questions

This bibliometric study aims to explore the current landscape, influential contributors and emerging trends in special education research. To guide this investigation, the following research questions have been formulated:

1. What is the trend / What are the research trends in special education studies according to the year of publication?
2. What are the most cited articles?
3. What are the popular keywords related to the study and have they evolved/changed during last ten years?
4. What are the research themes in special education?
5. What is co-occurrence, co-citation and countries' collaboration?

These questions are intended to provide a comprehensive overview of the field and identify areas for future research and development.

Methodology

Bibliometrics involves gathering, organising, and analysing bibliographic data from scientific publications [17]–[19]. Beyond basic statistics, such as identifying publishing journals, publication years and leading authors [20], bibliometrics includes more sophisticated techniques like document co-citation analysis. Conducting a successful literature review requires a careful, iterative process to select suitable keywords, search the literature and perform an in-depth analysis. This approach helps to compile a comprehensive bibliography and achieve reliable results [21]. The study focused on high-impact publications, as they provide meaningful insights into the theoretical frameworks that shape the research field. To ensure data accuracy, SCOPUS served as the primary source for data collection [22]–[24]. Additionally, to maintain quality, the study only considered articles published in peer-reviewed academic journals, deliberately excluding books and lecture notes [25]. Using Elsevier's Scopus, known for its broad coverage, publications were collected from 2015 through 2025 for further analysis."

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Data Search Strategy

Study employed a screening sequence to determine the search terms for article retrieval. Study was initiated by querying Scopus database with online TITLE (special AND education) AND (LIMIT-TO (PUBYEAR, 2015) OR LIMIT-TO (PUBYEAR, 2016) OR LIMIT-TO (PUBYEAR, 2017) OR LIMIT-TO (PUBYEAR, 2018) OR LIMIT-TO (PUBYEAR, 2019) OR LIMIT-TO (PUBYEAR, 2020) OR LIMIT-TO (PUBYEAR, 2021) OR LIMIT-TO (PUBYEAR, 2022) OR LIMIT-TO (PUBYEAR, 2023) OR LIMIT-TO (PUBYEAR, 2024) OR LIMIT-TO (PUBYEAR, 2025)) AND (LIMIT-TO (SUBJAREA, "SOCI")) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (SRCTYPE, "j")) AND (LIMIT-TO (EXACTKEYWORD, "Special Education") OR LIMIT-TO (EXACTKEYWORD, "Special Education Teachers") OR LIMIT-TO (EXACTKEYWORD, "Special Educational Needs") OR LIMIT-TO (EXACTKEYWORD, "Special Education Teacher") OR LIMIT-TO (EXACTKEYWORD, "Students With Disabilities") OR LIMIT-TO (EXACTKEYWORD, "Special Needs") OR LIMIT-TO (EXACTKEYWORD, "Special Needs Education") OR LIMIT-TO (EXACTKEYWORD, "Special Education Needs")), thereby assembling 10,355 articles. Afterwards, the query string was revised so that the search terms “special education” should be focussed on students as learners. This process yielded 989 results which were additionally scrutinised to include only research articles in English and articles reviews were also excluded. The final search string refinement included 939 articles which was used for bibliometric analysis. As of 2025, all articles from Scopus database relating to special education and focusing on students, were incorporated in the study.

Table 1: The Search String

Scopus	**TITLE (special AND education) AND (LIMIT-TO (PUBYEAR, 2015) OR LIMIT-TO (PUBYEAR, 2016) OR LIMIT-TO (PUBYEAR, 2017) OR LIMIT-TO (PUBYEAR, 2018) OR LIMIT-TO (PUBYEAR, 2019) OR LIMIT-TO (PUBYEAR, 2020) OR LIMIT-TO (PUBYEAR, 2021) OR LIMIT-TO (PUBYEAR, 2022) OR LIMIT-TO (PUBYEAR, 2023) OR LIMIT-TO (PUBYEAR, 2024) OR LIMIT-TO (PUBYEAR, 2025)) AND (LIMIT-TO (SUBJAREA, "SOCI")) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (SRCTYPE, "j")) AND (LIMIT-TO (EXACTKEYWORD, "Special Education") OR LIMIT-TO (EXACTKEYWORD, "Special Education Teachers") OR LIMIT-TO (EXACTKEYWORD, "Special Educational Needs") OR LIMIT-TO (EXACTKEYWORD, "Special Education Teacher") OR LIMIT-TO (EXACTKEYWORD, "Students With Disabilities") OR LIMIT-TO (EXACTKEYWORD, "Special Needs") OR LIMIT-TO (EXACTKEYWORD, "Special Needs Education") OR LIMIT-TO (EXACTKEYWORD, "Special Education Needs")) AND (LIMIT-TO (LANGUAGE, "English")) AND (LIMIT-TO (PUBSTAGE, "final"))**

Source: Query String Scopus

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Table 2: The Selection Criterion is Searching

Criterion	Inclusion	Exclusion
Language	English	Non-English
Timeline	2015 – 2025	< 2015
Literature type	Journal (Article)	Conference, Book, Review
Publication Stage	Final	In Press

Source: Scopus

Data Analysis

VOSviewer is a user-friendly bibliometric software developed by Nees Jan van Eck and Ludo Waltman at Leiden University, Netherlands [26], [27]. Widely utilized for visualising and analysing scientific literature, the tool specializes in creating intuitive network visualisations, clustering related items and generating density maps. Its versatility allows for the examination of co-authorship, co-citation and keyword co-occurrence networks, providing researchers with a comprehensive understanding of research landscapes. The interactive interface, coupled with continuous updates, ensures efficient and dynamic exploration of large datasets. VOSviewer's ability to compute metrics, customise visualisations, and its compatibility with various bibliometric data sources make it a valuable resource for scholars seeking insights into complex research domains.

One of the standout features of VOSviewer is its capacity to transform intricate bibliometric datasets into visually interpretable maps and charts. With a focus on network visualisation, the software excels in clustering related items, analysing keyword co-occurrence patterns and generating density maps. Researchers benefit from its user-friendly interface, enabling both novice and experienced users to explore research landscapes efficiently. VOSviewer's continuous development ensures it remains at the forefront of bibliometric analysis, offering valuable insights through metrics computation and customisable visualisations. Its adaptability to different types of bibliometric data, such as co-authorship and citation networks, positions VOSviewer as a versatile and indispensable tool for scholars seeking deeper understanding and meaningful insights within their research domains.

Datasets comprising information on the publication year, title, author name, journal, citation and keywords in PlainText format were procured from the Scopus database, spanning the period from 2015 to 2025. These datasets were then analysed using VOSviewer software version 1.6.19. Through the application of VOSviewer clustering and mapping techniques, this software facilitated the examination and generation of maps. Offering an alternative to the Multidimensional Scaling (MDS) approach, VOSviewer focuses on situating items within low-dimensional spaces, ensuring that the proximity between any two items accurately reflects their relatedness and similarity [27]. In this respect, VOSviewer shares a similarity with the MDS approach [28]. Diverging from MDS, which primarily engages in the computation of similarity metrics like cosine and Jaccard indices, VOS utilizes a more fitting method for normalising co-occurrence frequencies such as, the association strength (ASij) and it is calculated as [29]:

$$AS_{ij} = \frac{C_{ij}}{w_i w_j}$$

which is "proportional to the ratio between on the one hand the observed number of cooccurrences of i and j and on the other hand the expected number of co-occurrences of i and j under the assumption that co-occurrences of i and j are statistically independent" [16].

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Findings

This section presents the results of the bibliometric analysis conducted to answer the research questions related to special education studies. The findings provide insights into the publication trends over time, identify the most cited works and influential authors, explore the evolution of research keywords and uncover the major research themes within the field. Additionally, the analysis highlights patterns of co-occurrence, co-citation and international collaboration among countries involved in special education research. Each research question is addressed in the subsections that follow.

RQ1: What Is The Trend / What Are The Research Trends In Special Education Studies According To The Year Of Publication?

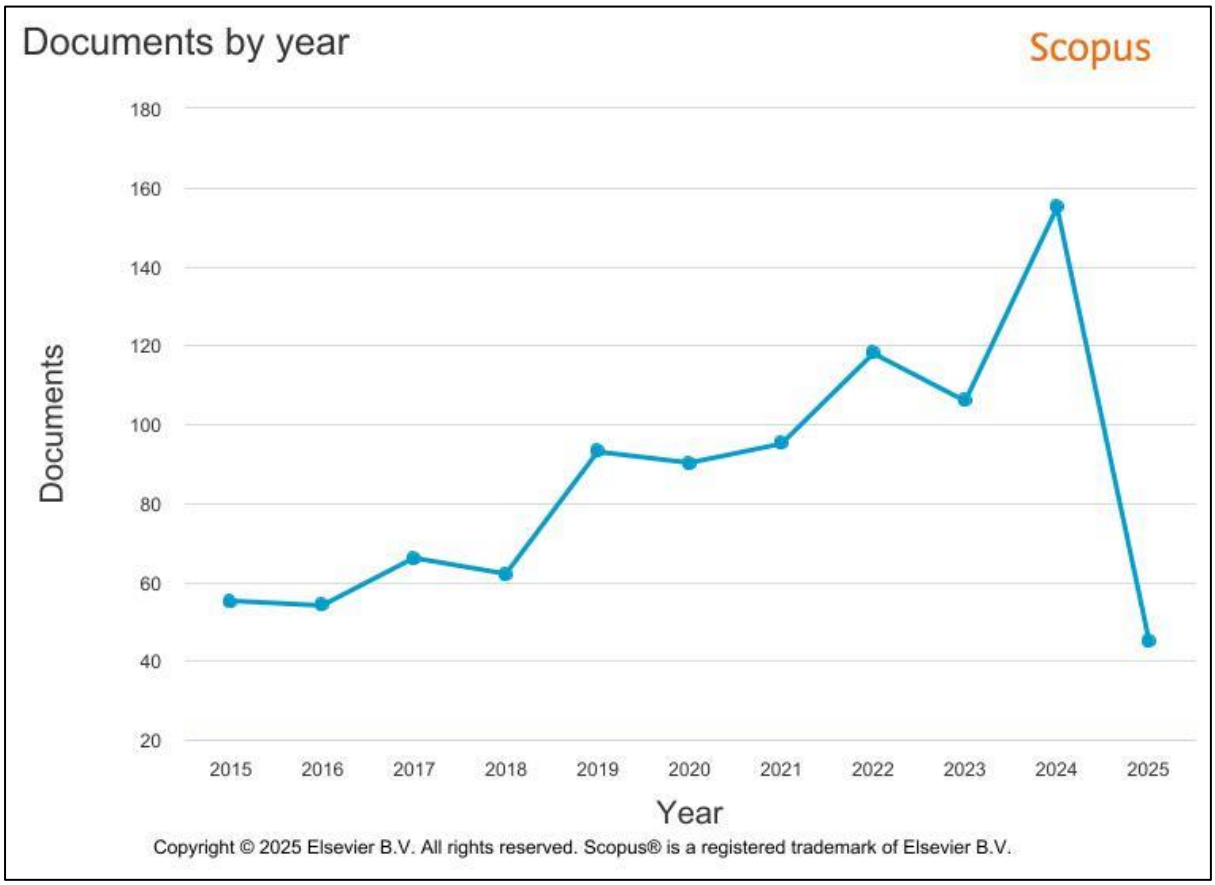

Figure 2: Trend of Research in Special Education by Years

Source: Scopus

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Table 3: Total Publications and Percentage in Special Education by Years

Year	Total publication	Percentage (%)
2025	45	4.8
2024	155	16.5
2023	106	11.3
2022	118	12.6
2021	95	10.1
2020	90	9.6
2019	93	9.9
2018	62	6.6
2017	66	7.1
2016	54	5.7
2015	55	5.8
TOTAL	**939**	**100**

Source: Scopus

The bibliometric data on "special education" publications from 2015 to 2025 reveals a steady upward trend, with a notable surge in the past two years. In 2024, publication output peaked at 155 articles, representing the highest annual contribution (16.5%) within the 11-year span. This significant increase may indicate growing academic interest and policy focus on inclusive education, possibly influenced by global post-pandemic educational reforms. The data for 2025, although partial, already shows 45 publications (4.8%), suggesting that the momentum is likely to continue.

Between 2020 and 2023, publication numbers remained consistently high, averaging around 102 articles annually. This period aligns with heightened discourse around online learning accessibility and adaptive teaching strategies during and after the COVID-19 pandemic. The years 2021 (10.1%) and 2022 (12.6%) demonstrate sustained scholarly attention, likely reflecting research on challenges and innovations in remote learning for students with special needs. These years mark a transition from crisis response to deeper inquiry into sustainable special education practices.

Earlier years, specifically 2015 to 2019, show more modest publication numbers, ranging from 54 to 93 articles annually, with percentages between 5.7% and 9.9%. This gradual build-up highlights a foundational phase where interest in special education was growing but had not yet reached peak momentum. The increase in research output in subsequent years may be attributed to greater global advocacy for inclusive education, advancements in assistive technologies, and increased research funding in this area. Overall, the data underscores a growth trajectory and increasing prioritisation of special education in academic research.

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RQ2: What Are The Most Cited Articles?

Table 4: The most cited articles

Author	Document Title	Source	Year	Number of cited
Morgan, Paul L; Farkas, George; Hillemeier, Marianne M; Mattison, Richard; Maczuga, Steve; Li, Hui; Cook, Michael (Morgan et al., 2015)	Minorities are Disproportionately Underrepresented in Special Education: Longitudinal Evidence Across Five Disability Conditions	Educational Researcher, 44(5), pp. 278–292	2015	286
Billingsley, Bonnie; Bettini, Elizabeth (Billingsley & Bettini, 2019)	Special Education Teacher Attrition and Retention: A Review of the Literature	Review of Educational Research, 89(5), pp. 697–744	2019	261
Leko, Melinda M.; Brownell, Mary T.; Sindelar, Paul T.; Kiely, Mary Theresa (Leko et al., 2015)	Envisioning the Future of Special Education Personnel Preparation in a Standards-Based Era	Exceptional Children, 82(1), pp. 25–43	2015	122
Hornby, Garry (Hornby, 2015)	Inclusive Special Education: Development of a New Theory for the Education of Children with Special Educational Needs and Disabilities	British Journal of Special Education, 42(3), pp. 234–256	2015	117
Vilcekova, Silvia; Meciarova, Ludmila; Burdova, Eva Kridlova; Katunska, Jana; Kosicanova, Danica; Doroudiani, Saeed (Vilcekova et al., 2017)	Indoor Environmental Quality of Classrooms and Occupants' Comfort in a Special Education School in Slovak Republic	Building and Environment, 120, pp. 29–40	2017	111
Coyne, Michael D.; Cook, Bryan G.; Therrien, William J. (Coyne et al., 2016)	Recommendations for Replication Research in Special Education: A Framework of Systematic, Conceptual Replications	Remedial and Special Education, 37(4), pp. 244–253	2016	109
Travers, Jason C.; Cook, Bryan G.; Therrien, William J.;	Replication Research and Special Education	Remedial and Special	2016	104

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Coyne, Michael D. (Travers et al., 2016)		Education, 37(4), pp. 195–204		
Siyam, Nur (Siyam, 2019)	Factors Impacting Special Education Teachers' Acceptance and Actual Use of Technology	Education and Information Technologies, 24(3), pp. 2035–2057	2019	101
Gage, Nicholas A.; Cook, Bryan G.; Reichow, Brian (Gage et al., 2017)	Publication Bias in Special Education Meta-Analyses	Exceptional Children, 83(4), pp. 428–445	2017	101
Parmigiani, Davide; Benigno, Vincenza; Giusto, Marta; Silvaggio, Chiara; Sperandio, Sara (Parmigiani et al., 2021)	E-Inclusion: Online Special Education in Italy During the Covid-19 Pandemic	Technology, Pedagogy and Education, 30(1), pp. 111–124	2021	93

Source: Scopus

The Scopus analyser data reveals that the most cited authors in the field of special education have predominantly contributed to foundational and policy-driven discussions. Morgan et al. (2015) top the list with 286 citations, highlighting their significant impact in addressing racial disparities in special education placement. Their work offers critical longitudinal insights into how minority groups are underrepresented across five disability categories, making it a frequently referenced study in policy, equity and educational reform discourse. The second most cited article by Billingsley and Bettini (2019), with 261 citations, reflects sustained concern about teacher attrition and retention, indicating that workforce stability in special education remains a pressing challenge requiring systemic interventions.

Several other top-cited works, such as those by Leko et al. (2015) and Hornby (2015), delve into personnel preparation and theoretical frameworks in inclusive education. These studies, each cited over 100 times, emphasise the evolving demands of teacher competency and the shift toward inclusive practices that better serve students with disabilities. Hornby's proposition of a new theory for inclusive special education has spurred academic dialogue on rethinking traditional segregated models. Likewise, research by Coyne, Cook and Therrien across two articles (with 109 and 104 citations respectively) demonstrates the academic community's growing interest in replication research, addressing the need for methodological rigor and evidence-based practices in special education research.

The remaining articles shed light on emerging or context-specific themes. For example, Vilcekova et al. (2017) studied indoor environmental quality in special education settings, linking physical learning environments to comfort and learning outcomes. Siyam (2019) explored technology acceptance among special education teachers, a topic increasingly relevant in digital and blended learning contexts. Parmigiani et al. (2021), though relatively recent, received 93 citations, reflecting the global interest in e-inclusion during the COVID-19 pandemic. These studies underline a diversification in research interests from infrastructure

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and technology use to systemic bias and policy change that illustrating how the field is responding to both long-standing and newly emerging challenges in special education.

RQ3: What Are The Popular Keywords Related To The Study And Have They Evolved/Changed During Last Ten Years?

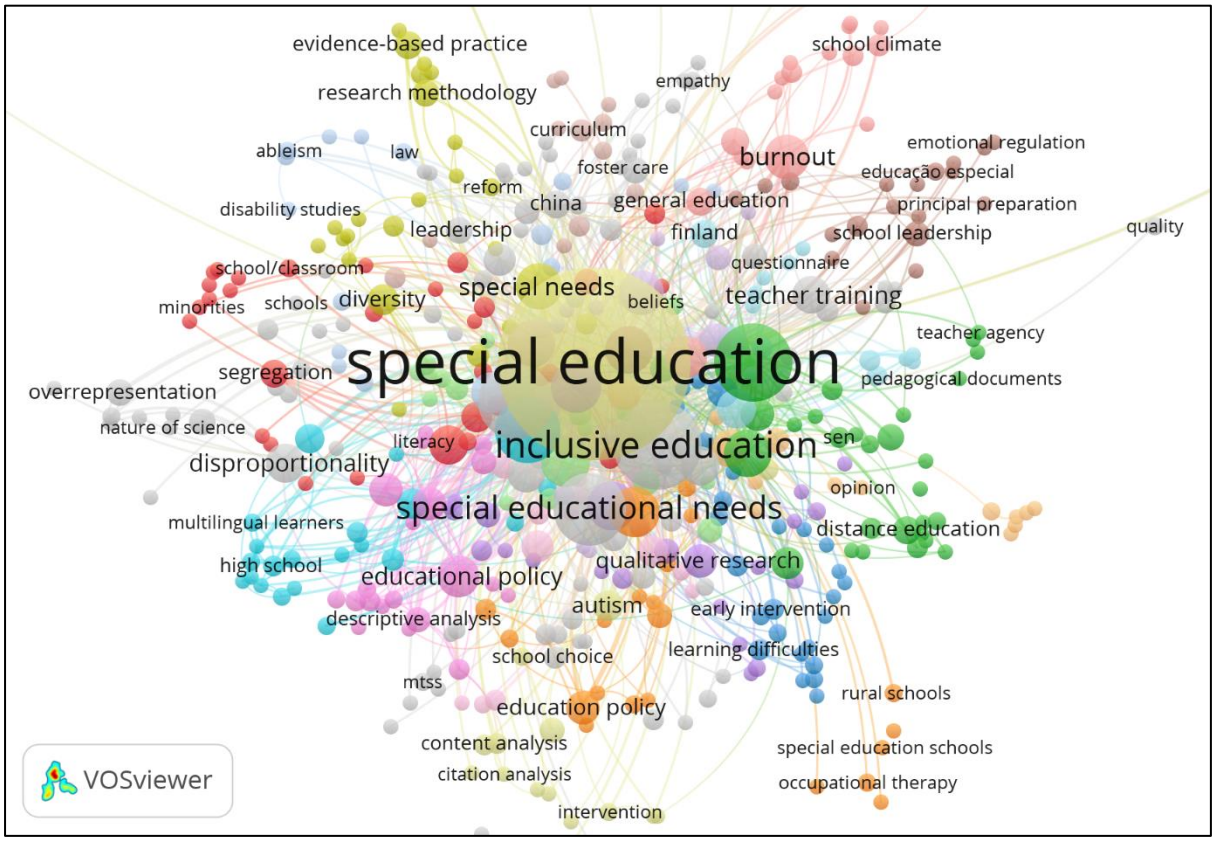

Figure 3: Network Visualisation Map of Keywords' Co-Occurrence
Source: VOSviewer

The VOSviewer map illustrates a rich network of co-occurring keywords in the domain of special education, highlighting key research trends and interconnections. The most prominent term, "special education," occupies a central position with the highest occurrence and total link strength, indicating its foundational role across the literature. Closely linked terms such as "inclusive education," "special educational needs" and "educational policy" suggest a strong thematic emphasis on integrating students with disabilities into mainstream educational settings while addressing policy-level frameworks. These connections reveal a growing focus on systemic inclusivity and the broader implementation of educational equity.

Another noteworthy cluster revolves around terms like "disproportionality," "diversity," "segregation" and "minorities," underscoring critical discussions around equity, representation and justice within special education. This cluster likely reflects studies examining racial, linguistic and socio-economic disparities in special education placement and services. The recurring appearance of "overrepresentation" and "multilingual learners" further suggests concern with how certain demographic groups may be disproportionately identified for special education, pointing to systemic biases that affect access to appropriate educational supports.

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Emerging from the map are also terms associated with professional practice and mental health, such as “teacher training,” “burnout,” “school leadership” and “emotional regulation.” These keywords signal growing scholarly interest in the preparedness and well-being of educators working in special education contexts. The appearance of “research methodology,” “qualitative research” and “evidence-based practice” indicates methodological diversity and an emphasis on rigor in evaluating interventions and policies. Overall, the map reflects a dynamic research field that bridges policy, practice, equity and pedagogy, with increasingly nuanced explorations of how to support diverse learners effectively.

RQ4: What Are The Research Themes In Special Education?

The research themes in special education, as reflected in the VOSviewer co-occurrence map, broadly encompass inclusive education and policy frameworks. Central keywords such as “special education,” “inclusive education” and “educational policy” highlight a dominant research focus on integrating students with disabilities into mainstream education systems and the policies that support such inclusion. Studies under this theme explore legislative reforms, curriculum adaptations, teacher agency and school choice to ensure equitable access to quality education for all learners. This theme underscores the global shift toward inclusive practices that promote the rights and participation of students with special needs.

A second major theme involves equity, representation and social justice in special education. This is evidenced by the presence of terms like “diversity,” “disproportionality,” “segregation,” “overrepresentation” and “minorities.” These keywords reflect research concerns with how students from marginalized backgrounds especially those who are multilingual, from minority communities, or economically disadvantaged that are disproportionately represented in special education programs. Studies in this theme critically examine systemic biases, cultural competence and the intersection of race, language and disability, aiming to reform identification processes and promote fair educational practices.

The third prominent theme focuses on teacher preparation, mental health and professional challenges. Terms such as “teacher training,” “burnout,” “school leadership” and “emotional regulation” indicate a strong interest in the experiences and support systems of educators in the special education field. This includes research on professional development, emotional resilience, school climate and leadership strategies. Closely related are studies on evidence-based practice and research methodologies, which emphasise the need for effective and research-informed interventions. Together, these themes reflect a comprehensive research landscape that addresses not only the needs of students with disabilities but also the structures, people and policies that shape their educational experiences.

RQ5: What Is Co-Occurrence, Co-Citation And Countries’ Collaboration?

In bibliometric analysis, co-occurrence refers to the frequency with which specific terms (such as keywords) appear together in the same documents. The second image illustrates a co-occurrence map where terms like *"special education"*, *"inclusive education"* and *"special educational needs"* are dominant and centrally located, indicating their high relevance and strong interconnectedness within the literature. Clusters formed by different colours signify thematic groupings that each cluster represents a conceptual field or research theme. For example, one cluster might focus on educational policy, while another centres on teacher training or learning difficulties. The denser the links between terms, the more those themes are studied in relation to each other.

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On the other hand, co-citation measures how often two documents, authors or sources are cited together by later works. The first image represents a co-citation network of authors. Prominent authors like *Kauffman J. M.*, *Creswell J. W.* and *Artiles A.J.* appear in bold, indicating frequent co-citation. These central figures act as intellectual anchors in their respective domains, suggesting that their work is often referenced together, potentially shaping foundational frameworks or theories in special or inclusive education. Colour-coded clusters indicate scholarly communities with shared citation patterns where red might focus on inclusion policies, green on teacher practices, and so on which highlighting how academic discourse groups around influential authors.

Lastly, countries' collaboration refers to co-authorship patterns across nations, showing how countries contribute jointly to scientific publications. Based on the provided statistics, the United States leads significantly with 361 publications, accounting for over half of the total (689), showcasing its dominant role in special education research. Turkey, the United Kingdom and Saudi Arabia follow, indicating growing global interest and collaborative efforts. Countries like Malaysia and Finland, though smaller in output, show valuable regional contributions, often in partnership with higher-output countries. Such collaboration enhances research quality by integrating diverse perspectives, educational systems and cultural contexts, ultimately strengthening the global discourse on inclusive education.

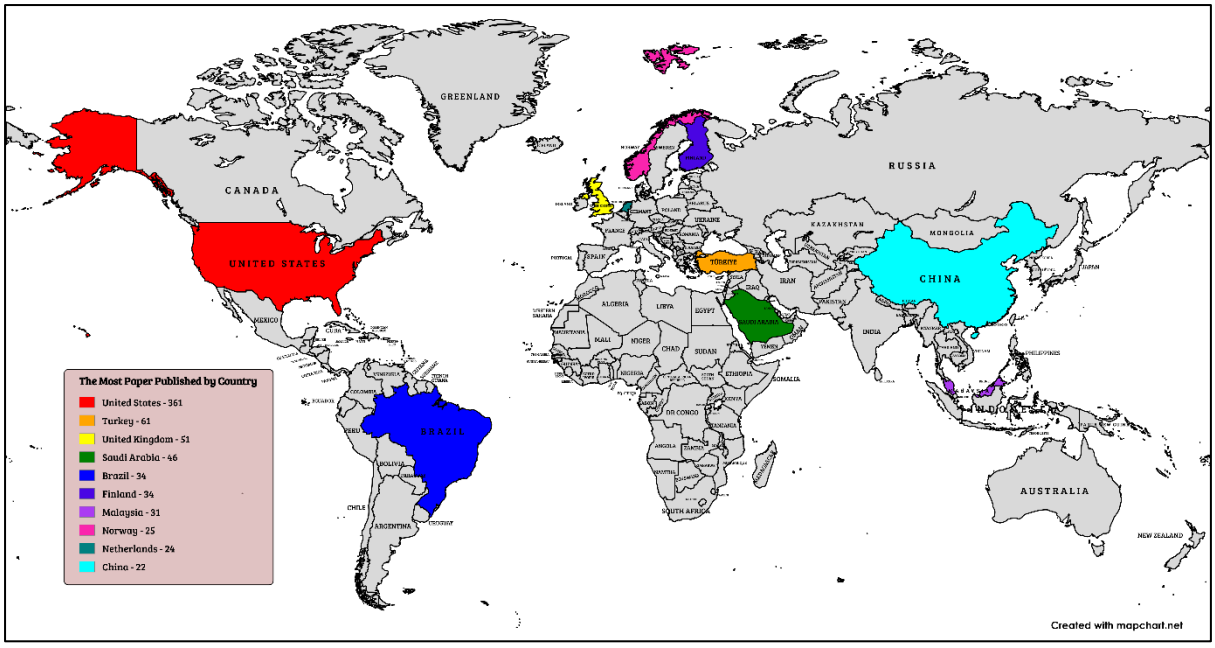

Figure 4: Map of Most Paper Published

Source: MapChart

Table 5: The Most Paper Published by Country

Country	Total publication
United States	361
Turkey	61
United Kingdom	51
Saudi Arabia	46
Brazil	34
Finland	34

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Malaysia	31
Norway	25
Netherlands	24
China	22
TOTAL	689

Source: Scopus

The Scopus analyser results reveal that the United States is the dominant contributor to research output in this field, with a significant margin; 361 published papers, accounting for more than half (approximately 52.4%) of the total 689 publications. This highlights the country's strong academic infrastructure, extensive funding and institutional emphasis on research, which likely support large-scale investigations and innovation. The United States' leadership may also reflect its role in setting global research agendas, publishing in high-impact journals and leading collaborations with other countries.

Following the United States, Turkey (61), the United Kingdom (51) and Saudi Arabia (46) make up the second tier of contributors. While their numbers are considerably lower than the United States, these countries show active engagement and growing interest in the research topic. The presence of Turkey and Saudi Arabia may suggest rising academic development and investment in niche areas within these countries. The United Kingdom, a traditional research powerhouse, maintains its relevance, likely due to its strong higher education institutions and well-established research networks.

The third tier includes countries like Brazil and Finland (both 34), Malaysia (31), Norway (25), the Netherlands (24) and China (22). These countries contribute more modestly but still play meaningful roles in the global research landscape. Malaysia's presence, for instance, may reflect regional research priorities and government-led initiatives to boost research productivity in specific educational or health-related fields. The relatively even distribution among these countries also suggests a diversification of research interest and collaboration potential beyond the Western-dominated sphere. Collectively, these figures point toward a multi-regional research effort with emerging contributions from developing and non-Western countries.

Conclusion

This study aimed to map the landscape of global research in special education through a bibliometric lens, focusing on publication trends, influential works, dominant themes and international collaboration over the past decade. The analysis offered a comprehensive overview of the evolution of scholarly focus and identified key patterns that have shaped the field between 2015 and 2025.

Findings revealed a steady increase in publication output, with notable surges in recent years, possibly linked to global educational shifts and technological adaptation following the Covid-19 pandemic. Prominent keywords indicated a strong emphasis on inclusive education, equity, teacher preparedness and policy frameworks. Frequently cited works addressed foundational issues such as disproportionality in placement, teacher retention and the theoretical underpinnings of inclusive practices, reflecting the field's enduring concerns and areas of innovation.

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The research contributes meaningfully to the special education literature by offering empirical insight into its developmental trajectory, highlighting the most influential scholarly contributions and identifying countries leading the discourse. It also brings attention to underrepresented regions that are gradually becoming active contributors, reflecting a widening interest and diversity in perspectives.

Practically, these findings can inform educational planning, policy reform and professional development by identifying gaps in regional research, areas in need of deeper inquiry and patterns of collaboration that can be strengthened. Stakeholders may use this information to support evidence-based decision-making and resource allocation in inclusive education practices.

Limitations of the study include its exclusive reliance on Scopus-indexed journal articles in English, which may omit relevant research published in other languages or databases. Additionally, the focus on metadata analysis means that in-depth content-level insights are limited. Future research could expand to other databases, include qualitative analysis of article content or explore longitudinal impacts of specific policy interventions highlighted in the literature.

Ultimately, this bibliometric investigation underscores the importance of data-driven synthesis in understanding the direction and depth of academic inquiry. Such analyses not only document the evolution of research but also serve as critical tools in identifying emerging trends, fostering collaboration and guiding the strategic growth of knowledge in special education.

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