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Mapping research on inclusive education since Salamanca Statement: a bibliometric review of the literature over 25 years

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ABSTRACT

The purpose of this study is to map the research literature on inclusive education (IE) since the Salamanca Statement using metadata extracted from 7,084 Scopus-indexed publications over the last 25 years in terms of the growth trajectory, productivity, collaborative networks, and intellectual structure of the field. Main findings of the study are: (1) the academic interest on IE has risen from the Salamanca Statement to date; (2) IE research is a global phenomenon and is produced in most countries around the world, although the bulk of research is still published by a small number of authors and countries; (3) there is a noteworthy level of scientific collaboration in the field, with numerous consolidated research groups and robust research collaborations between countries; (4) four schools of thought define the intellectual structure of IE research: system and structures, special education, accessibility and participation, and critical research; (5) four general themes have been addressed in the literature over the last 25 years: IE in higher education settings, pre-service teacher education and their attitudes towards IE, teaching for inclusion and in-service professional development on IE, and practices and principles of IE. Findings are discussed and implications for the development of the field are presented.

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Inclusive education; inclusion; special education needs; Salamanca Statement; bibliometric review; science mapping; VOSViewer

1. Introduction

The United Nations Salamanca Statement (UNESCO 1994) has been described as arguably one of the most significant international treaties to emerge from the field of special education (Ainscow and César 2006). The statement, signed by 92 member countries and 25 international organisations at the World Conference on Special Needs, stated that regular schools oriented toward inclusion are ‘the more effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all’ (UNESCO 1994, 4). This statement not only marked a clear shift in mindset orienting the education for students with disabilities toward a social justice model; it placed greater responsibility on governments and society to rethink the way schools are organised. Essentially, it challenged the concept of disability that historically had been framed as the result of a lack of ability, to move the focus

away from the individual, and place the responsibility for mitigating barriers to education onto educators and school systems.

Beyond Salamanca, the notion of inclusive education (IE) as education for all has gathered international momentum with subsequent treaties and declarations building on the concept of Education for All (UNESCO 2000). These have included: the United Nations Convention on the Rights of Persons with Disabilities (2006); inclusive education as the focus of the UNESCO International Conference on Education (2008); the emphasis on inclusion and equity to address all forms of exclusion and inequality within the Education 2030 Framework for Action; and the United Nations Sustainable Development Goal (SDG) for education SDG4 aimed at creating inclusive, equitable, quality education that promotes lifelong learning for all. These treaties and initiatives bear witness to the progressive development of the field from Salamanca as the driving initiative in creating a social justice model of education and moving toward eliminating all forms of exclusion and discrimination. However, understanding around key concepts, definitions, and practices of IE have not occurred evenly across and between countries. In some contexts, the definition of IE has broadened to incorporate all forms of student diversity and include curriculum, teaching and learning, and educational leadership (Slee 2011). However, in some places, IE has emerged simply as a rebranding of special education (Brantlinger 2006; Miles and Singal 2010). Florian (2019) argues that meeting the goals of SDG4 can only be possible by 'de-coupling' the two concepts so that we may meet the challenges created by problems that are inherently related to the concepts of equity and inclusion. One of the challenges as Slee (2011) describes is the vast array of interests attached to the term IE with the term receiving intensive scrutiny and being subject to multiple definitions further problematising it. Furthermore, Messiou (2017) warns of the potential danger of focusing on defined categories as these may further marginalise children who do not fit into a prescribed category.

Different definitions and complex understandings of IE have in fact made researching the development of the field inherently problematic not only in practice but also from a methodological stance (Erten and Savage 2012). What is generally understood though is that every theoretical and methodological approach is driven by a set of personal and collective philosophies (Graham and Slee 2008) with culture often having an overarching impact on how it is understood. It is important to understand the key role of language and discourse within and across the field as it is language which frames the scope and nature of the research that is done, who it is done for, and where it is done so we can better understand what is meant when talking about IE (Slee and Allan 2001). Similarly, Reindal (2016) explains that IE should not only be seen as a social or structural issue. There is a need to create common ground and develop a mutual understanding of the field. Instead, IE should also be viewed from an ethical position. Educational systems must empower each of its community members despite unique individual differences. One of the justifications for this claim is that different practices will be initiated when interpretations of IE are driven by arguments that are either accountability driven or for the building of inclusive communities.

In general, there is considerable agreement that research on IE has made tremendous progress in recent decades (Farrell 2000). However, this progress has been fragmented and has developed in multiple and varying directions, making it extremely challenging to harmonise the diversity of existing theoretical, conceptual, and methodological approaches

into an integrated framework that enables the field to move forward (Göransson and Nilholm 2014; Hardy and Woodcock 2015; Korsgaard and Mortensen 2017). In this context, we believe that research overviews that synthesise accumulated knowledge on IE research and provide an overview of the development of the field offer invaluable insights for researchers, educators, and policy makers. This study aims to contribute in this direction by mapping the research literature on IE since the United Nations Salamanca Statement to the present. More specifically, this study performs a bibliometric review of the literature available on the Scopus database to provide a comprehensive illustration of the evolution and current state of research in IE in terms of the growth trajectory, productivity, collaborative research networks, and intellectual structure of the field over the last 25 years. First, the study examines the trends in publication and citation data to describe the growth trajectory of research in IE since the Salamanca Statement to date. Second, the study uncovers the core journals and publications in the field, as well as the leading authors and countries contributing to the development of the field. Third, the existing collaborative networks of researchers and countries in the field are identified. Fourth, the paper examines the intellectual structure of the field by identifying the key schools of thought and the topical foci (i.e. research topics) that comprise the IE knowledge base.

Other scholars have mapped the literature on IE before us to elucidate patterns in the evolution of the field in the four areas mentioned above. However, these studies have predominantly used systematic and non-systematic literature review approaches to achieve this goal. For example, several authors have reviewed the research literature to investigate how IE has been conceptualised in different contexts and times (Erten and Savage 2012; Göransson and Nilholm 2014; Nilholm and Göransson 2017). Amor et al. (2019) examined the productivity and geographical distribution of research in the field of IE conducting a systematic review of the literature in English and Spanish languages over a 15-year period. The authors found that studies in the English literature were mostly produced in the US, Australia, the UK, and Canada, while papers in the Spanish literature came from predominantly from Spain, Chile, Mexico, and Costa Rica. In addition to that, the authors found some evidence of international research collaboration between researchers in different countries in Europe, Asia, the Middle East, and Africa in the production of research in the field of IE. Similarly, Alkhateeb, Hadidi, and Alkhateeb (2016) reviewed the available literature in Arab countries and found that, in general, research on IE is relatively scarce, although it has become considerably popular in the region over the last 10 years, especially in the United Arab Emirates, Jordan, and Saudi Arabia.

Allan and Slee (2008) used a slightly different approach to examine the intellectual structure of the field and capture different schools of thought on IE research. Using a qualitative study on IE researchers, the authors identified that scholars in the field tend to position themselves around four different groups based on the foundations of knowledge about the nature of their work: special education research, school improvement/reform, disability activism, and critical research. Reviews examining the research themes that have been addressed on the IE literature are also available. For instance, Messiou (2017) found that disability, SEN and special education, and diversity were the topics of focus most frequently addressed in the articles published in the *International Journal of Inclusive Education* between 2005 and 2015. Similarly, Van Mieghem et al. (In Press) analysed the content of 26 previous literature reviews in the field and identified

five recurrent research areas of interest: teachers, parents and peers' attitudes towards IE; professional development of teachers promoting IE, practices promoting IE; SEN student participation; and critical reflections on IE.

Systematic and non-systematic literature reviews are valuable approaches to mapping a research field and particularly useful to explore theoretical perspectives, methodological approaches, and key findings from previous studies. However, the scope of a literature review tends to be limited to a specific question and narrow topics of interest. Also, literature reviews are very time consuming and are prone to introduce bias to the selection, interpretation, integration, and presentation of key ideas, approaches, and outcomes of the studies under scrutiny. Bibliometric reviews offer an alternative approach to mapping a research field that allows considerably wider coverage, less investment of time and resources, and greater objectivity when selecting and analysing the available literature. Bibliometric approaches have been generally defined as data-driven methods that use 'a set of quantitative methods used to measure, track, and analyse print-based scholarly literature.' (Roemer and Borchardt 2015, 28). The use of bibliometric approaches in the field of education is relatively new and only a few studies have used these approaches to map the literature on IE in recent years. However, these bibliometric studies have been limited to the mapping of the literature on IE produced in a single country or territory (e.g. Travers et al. 2018) and to the analysis of the growth of scientific production and the identification of key actors, journals, and publications in the field (e.g. Amor et al. 2019). Therefore, no comprehensive review of the literature on IE has been conducted using bibliometric procedures to date. This study aims to fill this gap.

2. Materials and methods

This study applied a bibliometric approach to reviewing the research literature on IE using metadata extracted from the Scopus database over 25 years (1994–2019). The methodological framework used in this study is illustrated in Figure 1 and further elaborated in the paragraphs below.

It is important to acknowledge that the bibliometric approach used in this study undoubtedly determines the number and type of publications retrieved for analysis and might exclude relevant journals, publications, researchers, or countries contributing to research on IE. However, the objective of this study is not to evaluate the productivity of journals and leading actors, but to offer a general description of the evolution and current state of the field since the Salamanca Statement. Therefore, the omission of certain publications, although a limitation of this study, should not significantly alter the broader picture of the field that we intend to illustrate through our research.

2.1. Creation of the dataset

Three parallel searches were conducted in the Scopus database to build a comprehensive corpus of the literature on IE over the last 25 years. The searches were conducted in the first week of October 2019 and were limited to articles and review documents published between 1994 and 2019. The first search, which was limited to the title, abstract, and keywords fields, included the following keywords: ['inclusive education' OR 'inclusive learning' OR 'inclusive environment' OR 'inclusive school*' OR 'inclusive teach*' OR 'inclusive

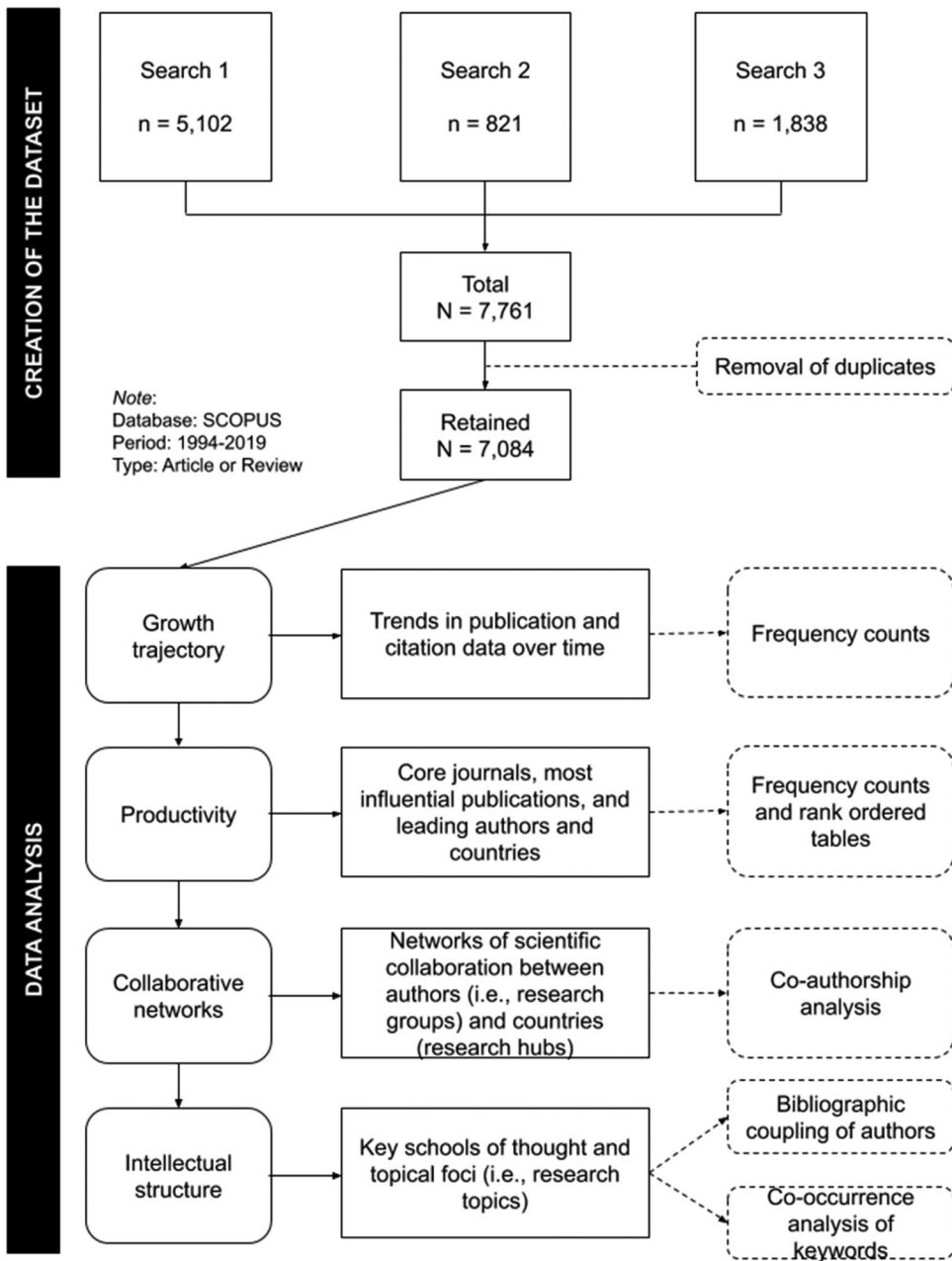


Figure 1. Methodological Framework of the Study.

classroom’]. This search yielded 5,102 documents. The second search was limited to the title field and included two keywords: [‘inclusion’] AND [‘education’], revealing a total of 821 documents. The third search was also limited to the title field and included the following keywords: [‘special education* needs’ OR ‘additional education* needs’ OR ‘disability’] AND [‘inclusion’], which yielded 1838 documents. In total, 7,761 documents were retrieved from the search process. After the removal of the duplicates, 7,084

documents were retained for the analysis. For each of the documents retained, the authors extracted metadata information about the year of publication, the number of citations, the name of the journal, as well as the name of the authors and their affiliated country. The title, abstract, keywords and cited references of the documents were also retrieved.

2.2. Data analysis

Frequency counts of the publication and citation data per year were used to describe the growth trajectory of research on IE over the last 25 years. The productivity of the field was examined using ranked order frequency tables of the journals with the highest number of publications (i.e. core journals), the publications with the highest number of citations (i.e. most influential papers), and the top authors and countries in number of publications (i.e. leading authors and countries) in the dataset.

The VOSViewer software version 1.6.11 was used to examine the collaborative networks of researchers and countries and the intellectual structure of the field. VOSViewer is a freely available software (www.vosviewer.com) for constructing and visualising bibliometric maps based on network data (Waltman, Van Eck, and Noyons 2010). The software takes a distance-based approach to constructing and visualising bibliometric networks in three steps: normalisation, mapping, and clustering (Van Eck and Waltman 2014). In the software, the units of analysis are the publications, authors, countries, citations, journals, keywords, or cited references, depending on the focus of the analysis. The units of analysis are represented in the maps as circular nodes. Related nodes are connected by lines, which receive the name of links or edges. The relative position of the nodes in the map represent the inter-relatedness of these nodes, so closer nodes are more strongly related to each other than nodes located further apart. Thus, two authors with a higher number of co-authored publications would be placed closer to each other in the map than another pair of authors with no co-authored publications. The thickness of the line connecting them represents the strength of the relationship between the two nodes. Finally, related nodes are grouped into clusters, which are denoted by the colour of the nodes on the map (Waltman, Van Eck, and Noyons 2010).

Co-authorship analyses were conducted using VOSViewer to identify the networks of scientific collaboration at the author and country level. In these analyses, the nodes are the authors and the countries publishing research on IE included in the dataset, and the links represent the relationships between them. The higher the number of co-authored publications between a pair of authors or countries, the stronger their co-authorship relationship. The colour of the nodes indicates the cluster to which each author or country has been assigned to. For authors, clusters are interpreted in this study as research groups of authors who have co-authored multiple papers on IE over the last 25 years. Clusters of countries, on the other hand, can be interpreted as collaborative research hubs where knowledge and expertise on IE is produced and disseminated.

In order to examine the intellectual structure of the field, two different analyses were performed in VOSViewer. First, a bibliographic coupling analysis of authors in the dataset was used to uncover the key schools of thought in IE research. In this analysis, two authors share a bibliographic coupling if they cite the same publication. The more cited references that two authors have in common, the higher their bibliographic coupling relationship. Thus, the clusters of authors emerging from this analysis are considered to share similar theoretical

perspectives and methodological approaches to IE and to be influenced by the same types of ideas, and therefore, can be interpreted as schools of thought in the IE arena. Second, a co-occurrence analysis of author keywords was used to elucidate the topical foci of the research on IE over the last 25 years. In this analysis, the unit of analysis are the authors' keywords. The more often two keywords appear together in the same publication, the higher their co-occurrence relationship. Clusters of co-occurring keywords represent recurrent research topics in the literature and broadly reflect the IE knowledge base.

3. Results

3.1. The growth trajectory of inclusive education research

The growth trajectory of IE research based on the trends of publication and citation data for the period 1994–2019 is presented in Figure 2. The position of each bubble indicates the number of publications in the dataset for a given year, while its size denotes the accumulated number of citations in the dataset up to that year. Overall, the trends show a progressive and steady increase of publications and citations in the field across time. A detailed examination of the trends reveal that the number of publications and citations remained relatively constant for the first decade but has significantly risen from the year 2004 until today. Thus, the number of publications and accumulated citations in 1994 was 29 and 1,259, respectively. In 2004, scholars generated 124 publications on IE and the accumulated citations reached 24,407. In 2014, the number of publications and accumulated citations was 535 and 64,607, respectively. In 2018, the last complete year for which publication and citation data were extracted, these numbers reached 719 and 71,785, respectively thus demonstrating the exponential growth of each decade.

3.2. Productivity in the field of inclusive education

The 7,084 documents in the dataset have been published in 1,669 different journals, which suggest that the field of IE is quite large. Still, more than a half of the journals (54%) have

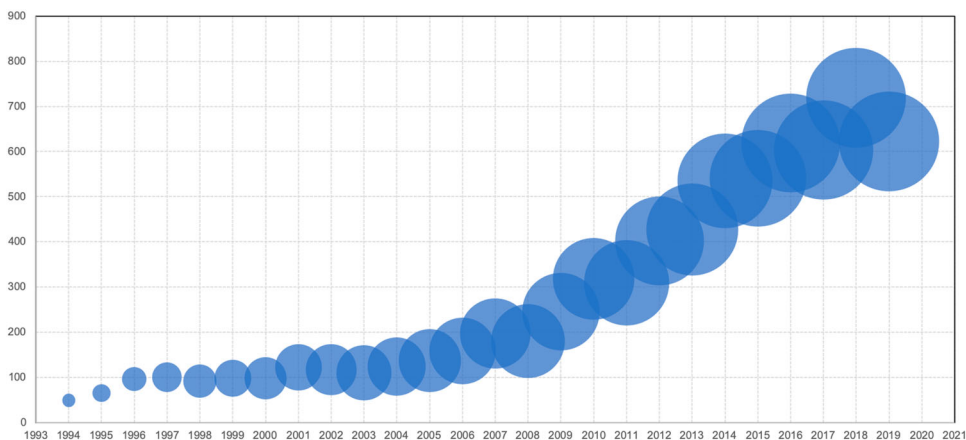


Figure 2. Trends in Publication and Citation Data for the Period 1994–2019.

published only one publication in the dataset and 15% are responsible for two publications. The bulk of research on IE seems to be published in a few journals. Table 1 presents the core research journals on IE ranked by the number of publications. The *International Journal of Inclusive Education* clearly stands out as the main venue for IE research. Other publications in the list are scattered across a range of journals on special education and disability studies, such as the *European Journal of Special Needs Education*, the *International Journal of Special Education*, the *Journal of Research in Special Educational Needs*, and the *International Journal of Disability, Development and Education*. All of these journals publish research in the English language except for one: *Revista Brasileira de Educação Especial*.

Table 2 lists the most influential papers ranked by the number of publications. A recurrent topic in these publications is the examination of teachers' attitudes towards IE. Other influential publications address issues related to inclusive learning environments, SEN's views and experiences in inclusive settings, and the effectiveness of IE. Interestingly, around half of the publications in the ranking are not empirical studies but offer theoretical interpretations, conceptual discussions, and literature reviews around general issues in the field of IE.

The totality of publications in the dataset has been published by 13,164 authors in 151 countries around the world. Tables 3 and 4 identify the leading authors and countries in the field of IE ranked by the number of publications, respectively. Sharma U. appears as the most prolific and cited researcher in the dataset, followed by Forlin C. and Pijl S.J., all with more than a thousand citations each. In addition to that, the United States of America, the United Kingdom, and Australia stand out as the leading countries in the generation and dissemination of knowledge on IE. Other productive countries on the list are Spain, Canada, Brazil, and South Africa, which account for more than 200 publications each.

A closer look at the geographical distribution of publications internationally provides evidence that research on IE has been in fact produced in many other countries and territories around the world, although with different degrees of productivity (see Figure 3). This include all countries and territories in North America and Europe, a majority of those in Central America, South America and Australasia, many of the Commonwealth of Independent States (CIS) and the countries of the Middle East, and some of the countries and territories in Africa.

Table 1. Core journals publishing on inclusive education.

| Journal | Documents | Citations |
|--|-----------|-----------|
| International Journal of Inclusive Education | 569 | 6182 |
| European Journal of Special Needs Education | 186 | 3661 |
| International Journal of Special Education | 122 | 1106 |
| Journal of Research in Special Educational Needs | 117 | 1261 |
| International Journal of Disability, Development and Education | 113 | 1348 |
| Revista Brasileira de Educacao Especial | 110 | 233 |
| British Journal of Special Education | 91 | 1391 |
| Disability and Society | 88 | 1543 |
| International Perspectives on Inclusive Education | 85 | 107 |
| Remedial and Special Education | 83 | 2211 |
| Research and Practice for Persons with Severe Disabilities | 78 | 1968 |
| Teaching and Teacher Education | 74 | 1480 |
| Support for Learning | 69 | 565 |
| Intervention in School and Clinic | 64 | 479 |
| Exceptional Children | 51 | 2712 |

Table 2. Most influential publications on inclusive education by number of citations.

| Title | Authors | Source title | Year | Citations |
|---|------------------|--|------|-----------|
| Inverting the classroom: A gateway to creating an inclusive learning environment | Lage et al. | Journal of Economic Education | 2000 | 856 |
| Teachers' attitudes towards integration/inclusion: A review of the literature | Avramidis et. al | European Journal of Special Needs Education | 2002 | 539 |
| Inclusive schools movement and the radicalisation of special education reform | Fuchs et al. | Exceptional Children | 1994 | 343 |
| A review and synthesis of research evidence for self-efficacy-enhancing interventions for reducing chronic disability: Implications for health education practice (Part II) | Marks et al. | Health Promotion Practice | 2005 | 321 |
| A survey into mainstream teachers' attitudes towards the inclusion of children with special educational needs in the ordinary school in one local education authority | Avramidis et al. | Educational Psychology | 2000 | 281 |
| Co-teaching in inclusive classrooms: A metasynthesis of qualitative research | Scruggs et al. | Exceptional Children | 2007 | 243 |
| Augmented reality trends in education: A systematic review of research and applications | Bacca et al. | Educational Technology and Society | 2014 | 237 |
| Regular primary schoolteachers' attitudes towards inclusive education: A review of the literature | De Boer et al. | International Journal of Inclusive Education | 2011 | 232 |
| Educational psychology and the effectiveness of inclusive education/mainstreaming | Lindsay | British Journal of Educational Psychology | 2007 | 222 |
| Make me normal': The views and experiences of pupils on the autistic spectrum in mainstream secondary schools | Humphrey et al. | Autism | 2008 | 214 |

Table 3. Top authors by number of publications in the database.

| Author | Institution | Country | Documents | Citations |
|----------------|-----------------------------|--------------|-----------|-----------|
| Sharma U. | Monash U. | Australia | 49 | 1043 |
| Forlin C. | Private Consultant | Australia | 37 | 1075 |
| Pijl S.J. | U. of Groningen | Netherlands | 32 | 1179 |
| Carrington S. | Queensland U. of Technology | Australia | 27 | 448 |
| Florian L. | U. of Edinburgh | Scotland | 25 | 763 |
| Loreman T. | Concordia U. | Canada | 22 | 754 |
| Giangreco M.F. | U. of Vermont | USA | 21 | 672 |
| Carter E.W. | Vanderbilt U. | USA | 20 | 638 |
| Engelbrecht P. | N.W.U. of South Africa | South Africa | 20 | 470 |
| Slee R. | U. South Australia | Australia | 19 | 780 |
| Moriña A. | U. de Sevilla | Spain | 18 | 76 |
| Savolainen H. | U. of Jyväskylä | Finland | 18 | 350 |
| Norwich B. | U. of Exeter | U.K. | 17 | 812 |
| Schwab S. | U. of Vienna | Austria | 17 | 95 |
| Shevlin M. | U. of Dublin | Ireland | 17 | 275 |
| Walton E. | U. of Nottingham | U.K. | 16 | 81 |
| Ainscow M. | U. Manchester | U.K. | 15 | 742 |
| Angelides P. | U. of Nicosia | Cyprus | 15 | 168 |
| Naraian S. | Columbia U. | USA | 15 | 86 |

3.3. Collaborative research networks on inclusive education research

The research networks of collaboration between authors are presented in [Figure 4](#). Only authors with five or more publications in the dataset were considered in the co-authorship analysis ($n = 248$) and authors with no links with other authors in the map were excluded. In general, the results revealed numerous author collaborative networks with abundant connections between them. Each of these networks can be interpreted as a relatively formal research group comprised of a variable number of authors who have co-authored

Table 4. Top countries by number of publications in the database.

| Country | Documents | Citations |
|--------------------|-----------|-----------|
| United States | 2059 | 30569 |
| United Kingdom | 931 | 15147 |
| Australia | 581 | 6506 |
| Spain | 392 | 1679 |
| Canada | 371 | 4342 |
| Brazil | 324 | 650 |
| South Africa | 236 | 1707 |
| Norway | 151 | 2063 |
| Russian Federation | 143 | 199 |
| Sweden | 138 | 1298 |
| Netherlands | 129 | 2248 |
| Germany | 120 | 574 |
| Finland | 105 | 936 |

multiple publications on IE in the last 25 years. Interestingly, Forlin C. appears at the centre of the map and seems to serve as a nexus between several research groups.

Figure 5 depicts the collaborative research networks on inclusive education research at the country level. Only countries and territories with five or more publications in the dataset were considered in the co-authorship analysis ($n = 78$) and those who had no relationship with other nodes in the map were excluded. Overall, the analysis illustrates a dense network of international research collaborations in the field of IE characterised by abundant links between researchers and groups located in different regions of the world. The US, the most prolific and influential country on IE research in our study, is located at the heart of the map and demonstrates collaborative ties with almost all other countries and territories included in the analysis. With a few exceptions, the majority of nodes tend to gather together around the central areas of the map, indicating considerable levels of relatedness among them. Still, most countries and territories seem to form stronger collaborative networks with other countries that are geographically proximal

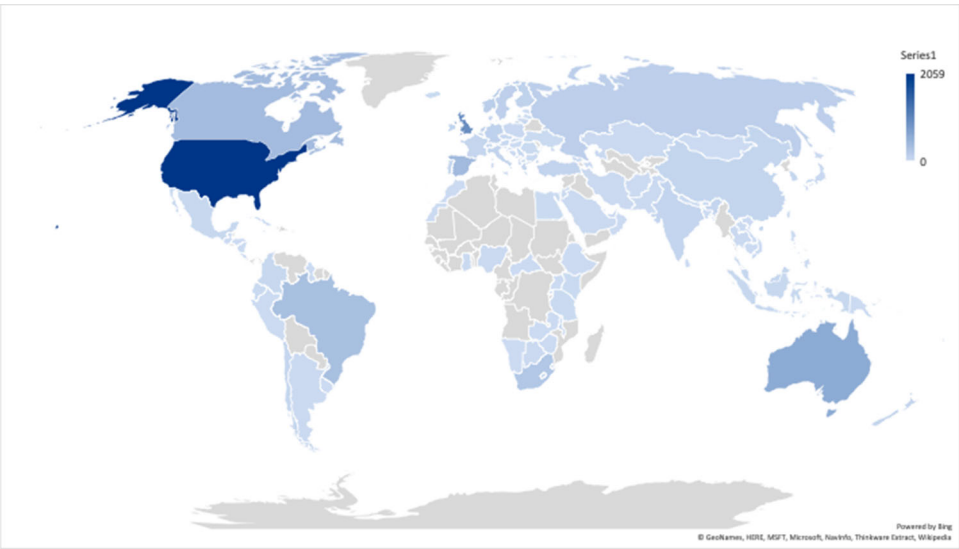


Figure 3. Distribution of Publications on Inclusive Education around the World.

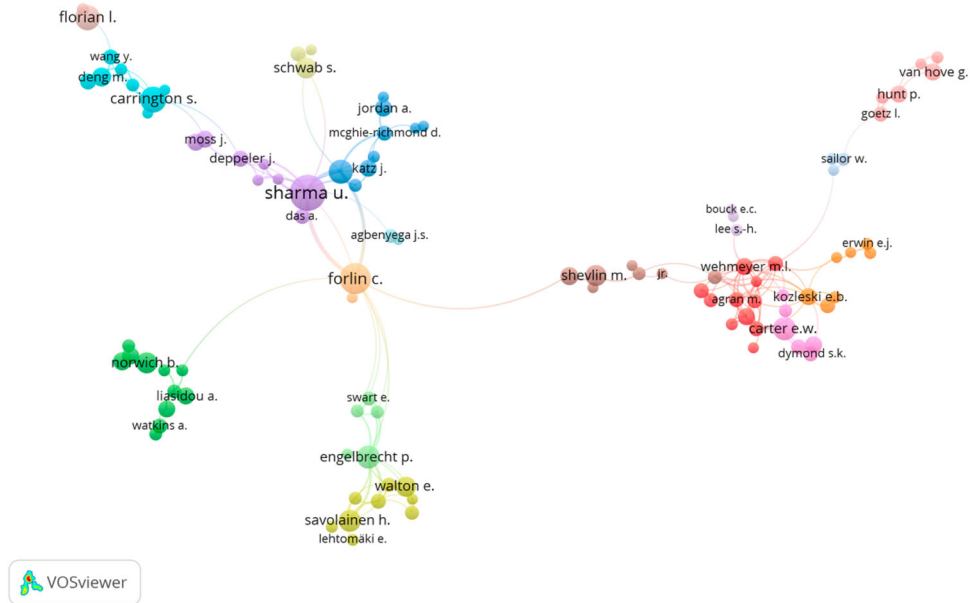


Figure 4. Collaboration Networks between Top Authors on Inclusive Education. Note: Only authors with five or more publication were considered in the analysis ($n = 248$).

or share similar cultural and historical backgrounds. For example, all clusters located to the right in the map are countries and territories in the Australasian region. Similarly, the green cluster mostly is comprised of a number of post-Soviet countries, while the purple cluster incorporates European and South American countries where Spanish and Portuguese languages are predominant.

3.4. Intellectual structure of inclusive education research

A bibliographic coupling of authors was implemented to identify schools of thought in the field of IE. The analysis included authors with five or more publications in the dataset ($n = 248$) and excluded those with no bibliographic coupling relationship with other authors. The results are presented in Figure 6 and suggest the existence of four main schools of thought, represented by the yellow, light blue, red, and green clusters. The other clusters in the figure are comparatively smaller, demonstrate fewer relationships between their nodes, and appear dispersed across the map, thus contributing less explicitly to the intellectual structure of the field. Publications from authors such as Sharma, Forlin, Boyle, Deppele, and Sokal connected to the yellow cluster are predominantly concerned with teachers and schools. The red cluster including the publications of authors Giangreco, Hunt, Theoharis, and Scruggs are often related to students with disabilities. This cluster although connected with others is placed well to the right of the other clusters in the bibliometric map. Sitting between the yellow and red clusters is the light blue cluster and includes authors such as Pijl, Koster, Schwab and Petry. The green cluster is representative of relationships in areas such as IE policy, social, justice, marginalisation, politics, and ideology. The publications in the darker blue colour of Duke, Carrington, Shelvin, and Radford represent topics such as

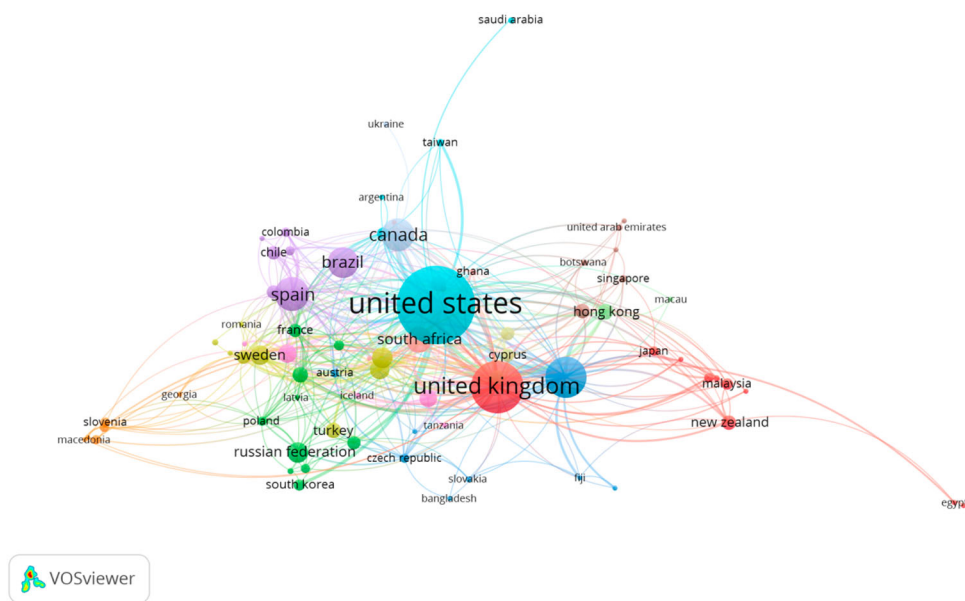


Figure 5. Collaboration Networks between Top Countries on Inclusive Education. Note: Only countries with five or more publication were considered in the analysis ($n = 78$).

schools, practices, and higher education. These are dispersed through the centre of the map and appear to be connected to most of the other clusters.

A co-occurrence analysis of author keywords was conducted to elucidate recurrent research topics addressed in the literature, which form the knowledge base on IE research over the last 25 years. Only keywords occurring 25 or more times in the dataset were included in the analysis ($n = 89$). The analysis revealed that there are four large, primary research topics that have been explored in the literature (see Figure 7). The first one addresses IE in higher education settings (dark blue cluster), with a concentration on issues related to accessibility, disability, transition, employability, and sexual education. The second refers to initial teacher education and pre-service teachers' attitudes and beliefs about IE (yellow cluster). The third involves teaching for inclusion and the professional development of in-service teachers on IE (green cluster), agglomerating frequently co-occurring keywords such as co-teaching, collaboration, and intervention. The fourth primary research area explored in the literature covers the practices and principles of the inclusive classroom in school settings (red cluster), and includes keywords such as curriculum, assessment, pedagogy and learning, as well as equity, diversity, and social justice. In addition to this, Figure 7 also suggests that there are three small, secondary research topics that complement the knowledge base on IE research. These are the participation of SEN students in education (purple), special education and disability studies (light blue), and educational policy for inclusion (orange).

4. Discussion

This bibliometric review aimed to map the literature on IE available in the Scopus database between 1994 and 2019. The study provides an overall picture of the development of the



Indeed, research on IE is published in a wide range of journals, with the *International Journal of Inclusive Education* standing out as the core site in the field. However, a considerable proportion of the most important journals publishing research on IE belong to the areas of special education and disability studies. This result may seem paradoxical due to the notable differences in the philosophical and paradigmatic approaches to special education and IE (Erten and Savage 2012; Florian 2019). A plausible explanation is that research on IE, despite having grown in volume over the last decades, has never completely detached from special education beliefs and is still rooted in its principles, as suggested by Armstrong (2002). However, Figure 6 shows publications from authors related to disability or special educational needs (red cluster) are connected but set apart from the other three more

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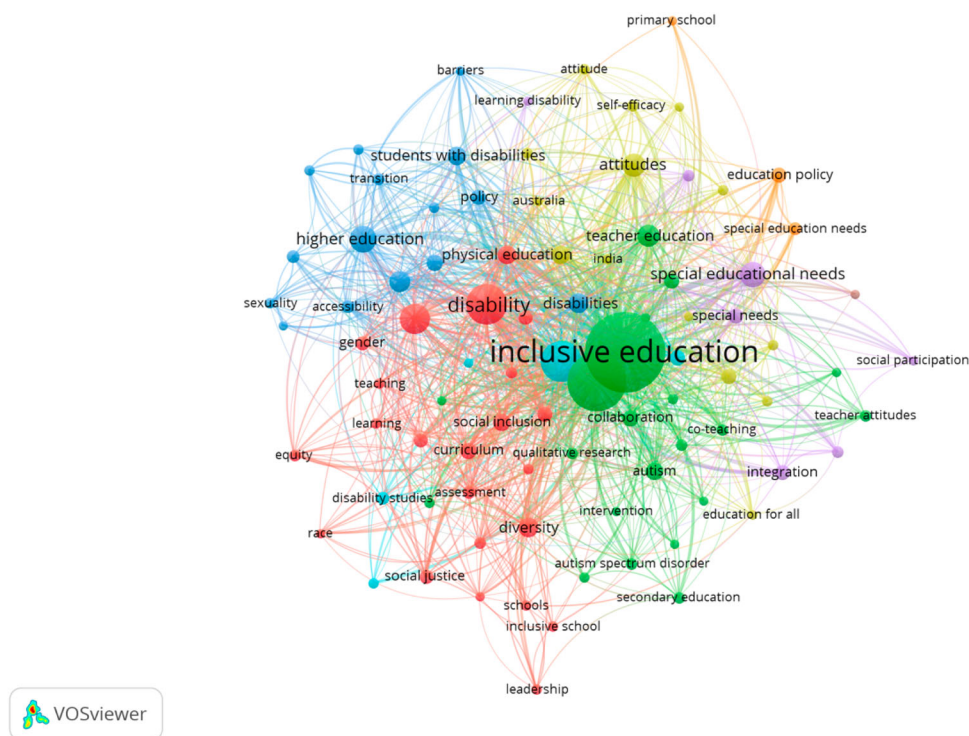


Figure 7. Topical Foci of Research on Inclusive Education over the Period 1994–2019. Note: Only keywords occurring 25 or more times were considered in the analysis ($n = 89$).

closely related clusters. This may be evidence of a growing conceptual separation between disability studies and IE more broadly or alternatively, the current connections although not as strong as those between other clusters could simply be a symptom of the lack of available journals explicitly aimed at publishing research on IE thus forcing scholars to publish their research in special education journals. Publishing companies, research institutions, professional organisations, and scholars might consider launching new journals with a specific focus on IE to contribute to the development of the IE research agenda.

There is no doubt that the Salamanca Statement was a turning point in the development of IE ideologies, policies and practices (Ainscow and César 2006; Ainscow, Roger, and Marnie 2019). However, one of the criticisms to the document is that it was not explicit enough and has led to different interpretations of the definition of IE and the placement of SEN students (Magnússon 2019). Although we did not analyze the implicit and explicit definitions of IE in the articles retrieved, the multitude of interpretations of what inclusion means seems to be partially reflected in our study. Productivity analyses revealed that half of the most influential articles in the field (i.e. most cited) are theoretical reviews and positional papers on IE, which tend to provide broader definitions of IE, while the other half are empirical studies, which normally emphasise placement-based definitions (Amor et al. 2019; Nilholm and Göransson 2017).

IE research is unquestionably a global phenomenon as demonstrated by the great geographical diversity of the authors publishing research on the topic. Our findings show that

scholars in most countries of the world have contributed with at least one publication to the dataset. Likewise, at least one country on each continent is ranked among the top ten countries with the highest IE research productivity. This should be regarded as a very positive feature of the field and indicates that a diversity of perspectives on IE across different contexts does indeed exist. However, the bulk of research on IE still emerges from a limited number of countries. For example, the United States, the United Kingdom, Australia, and Canada, accumulate more than half of the publications and 75% of citations in the dataset. Similarly, the most productive and influential researchers identified in this study come from a few countries located in the most developed regions of the world. This disparity in the production of research on IE across areas is surely a consequence of the differences in research capacity and infrastructure between countries (Wang, Peters, and Guan 2006), as well as the fact that most scholarly journals on IE indexed in Scopus publish research using English language (Mongeon and Paul-Hus 2016). Nevertheless, the absence of a solid body of research in many countries of the world represents a challenge for the advancement of the global agenda of IE. This is because ‘there is no one single model of inclusive education that suits every country’s circumstances’ (Mitchell 2005, 19) and those countries that lack research tend to borrow notions and strategies on IE from other countries that may conflict with local needs, values, and traditions (Armstrong et al. 2005; Artiles and Dyson 2005).

Another interesting insight emerging from the study is the remarkable level of scientific collaboration in the field of IE. The analyses revealed the existence of numerous consolidated research groups and robust research collaborations between countries in this area. Although international collaborations tend to be restricted, at least to a certain extent, by geographical proximity and cultural and linguistic bonds, this panorama is encouraging and denotes a very positive aspect of the development and current status of IE research, since scientific progress depends largely on researchers’ ability to exchange ideas and confront methodological and theoretical approaches (Hunter and Leahey 2008). This is particularly notable considering that international scientific collaborations in the field of education are normally perceived ‘agentive’ and ‘depart from their scholarly community norms, which reflect conflicting expectations.’ (Yemini *In Press*, 14). In addition, it is reasonable to argue that a research dialogue between scholars from diverse geographic and cultural backgrounds has the potential to provide better-informed IE strategies and practices to address social and educational complexities and dilemmas that might be common across nations (Pather 2007).

The map showing the bibliographic coupling of authors in Figure 6 illustrates the interconnectivity, relationship, and positioning of researchers publishing in IE. The titles and abstracts of authors within the yellow cluster show IE research that is mostly concerned with teachers and schools and inclusion. This cluster could be broadly characterised as *inclusive systems and structures* and is clearly positioned centrally between the light blue and the green clusters and distinct from the cluster in red that is related to disability and *special education*. The red cluster (disability and *special education*), although connected with others, is placed well to the right of the other clusters in the bibliometric map. The distance between the two clusters and the strength of their relationship is evident. This can be representative of the ideological or intellectual difference in perspective between researchers and evidence of a ‘de-coupling’ (Florian 2019). However, Figure 7 indicates how keywords associated with disability and *special educational needs* are still

nested within areas such as *higher education, inclusive systems and structures*, and *policy*, while at the same time remaining heavily embedded in the practices and principles of the inclusive classroom in school settings. However, the positioning of disability and *special education* keywords to *higher education* for example, may indicate that this is a developing field. It would be useful to replicate this study after a period of five to ten years to determine if this development is actually occurring. These distinct schools of thought and positioning within the structure of the field have been defined by previous research (Allan and Slee 2008; Messiou 2017).

The position of the two other main clusters (light blue and green) show they are more closely connected to *inclusive systems and structures* than *special education*. The light blue cluster has a stronger connection with the *inclusive systems and structures* cluster than the *special education* cluster although it is still distinct. Titles and abstracts from authors in the light blue cluster often concern the social dimension of inclusion such as beliefs and attitudes, participation, and the discourse of exclusion and inclusion. These could be described as more related to *accessibility and participation* due to the positioning of this cluster on the map between the other two clusters. These data indicate that research in IE in relation to topics of accessibility and participation are building within their own sphere of inclusive systems and structures and in particular teachers, schools, and inclusion more broadly. The green cluster is representative of relationships in areas such as IE policy, social justice, marginalisation, politics, and ideology which are distinguished here as *critical research* (Allan and Slee 2008; Slee 2011). Similarly, the bibliometric representation and positioning of this cluster under the topics of policy and social justice indicate a stronger relationship with *inclusive systems and structures* rather than disability and *special education*. This is further evidence of the development of IE as a broader conceptual field that has, and is moving away from its original and more narrow focus of disability. Although it is a smaller group and not as clustered, the authors in the darker blue publish research on schools, practices, and higher education. These are dispersed through the centre of the map and appear to be connected to most of the other clusters. It may be that these are representative of research that is more contextually bound and cuts across the larger intellectual fields.

Finally, this study expands the understanding of the knowledge base on IE research over the last 25 years. In alignment with previous studies (e.g., Messiou 2017; Van Miegheem et al. *In Press*), our data-driven approach confirmed the coverage of several research topics that have been recurrently addressed in the literature, including (1) teachers' attitudes towards IE, (2) pre-service and in-service professional development for inclusion, (3) practices and principles promoting IE, (4) special education, and (5) participation of SEN students. In addition to that, the present study identified two additional topical foci that have not been captured in previous mappings of the IE literature: (6) IE in higher education settings, specifically in terms of accessibility, disability, transition, employability, and sexuality; and (7) educational policy for inclusion. However, it is important to look beyond the current data and into future research. One suggestion (Messiou 2019) is to empower students to take a more active role in collaborative participatory research in order to facilitate the development of research in IE. Research design was one of the areas that was not examined in the present bibliometric study. Perhaps this is one way that future research may add to what is currently understood about the development of the field.

5. Conclusion

All in all, this study provides an overview of the development and current state of IE research since the Salamanca Statement. The results of our study demonstrate that research on IE since the Salamanca Statement has evolved to become a mature research area with leading actors contributing to the development of field, a solid social, intellectual, and knowledge structure, and the potential to influence on the thinking, policy and practices in the field, as argued by Ainscow, Roger, and Marnie (2019, 675). Some of the most notable aspects in this regard are: a growing global interest in IE research over the last 25 years; the existence of numerous research groups and collaborations between researchers from diverse geographical and cultural contexts; the identification of several schools of thought shaping the IE research agenda; and attention to multiple research themes on issues related to SEN students, school and higher education contexts, teachers' attitudes and professional development, social participation, and educational policy. However, this study also identified areas that should continue to grow in the years to come. For example, the absence of journals specialising in research in inclusive education may be either a symptom of, or alternatively, a contributing influence in the underlying or explicit association and discourse between the fields of special education and IE. It is important as Florian (2019) argues to clearly delineate the conceptual space between special educational needs and IE in order to progress the development of the field. Moreover, the results also suggest that much of the research in this field occurs in a few countries and that most collaborations are limited by geographical, cultural and linguistic issues.

One limitation of this study is that the searches were performed in the Scopus database. Scopus is biased against the Social Sciences and Arts and non-English publications (e.g. Mongeon and Paul-Hus 2016), which might have excluded some relevant publications on IE. Other studies in the future could use other multidisciplinary (e.g. Web of Science) or specialised databases (e.g. ERIC) to confirm the trends demonstrated in this study. Another limitation is that only articles and reviews were included the dataset, leaving out other types of publications such as editorials, book chapters, reports, and conference proceedings that also constitute valid contributions to the a research field. This could have influenced, for example, the productivity of researchers that tend to disseminate their research via this kind of publications and the visibility of other influential studies in the field. In any case, we consider that the bibliometric approach used in this study provides a novel approach that offers interesting insights about the evolution of the field and the challenges that undermine its progress.

Brief authors' bio

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