



MAPPING LITERATURE ON LEARNING DISABILITIES IN INDIA AND WORLDWIDE: A BIBLIOMETRIC OVERVIEW

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Abstract

Learning disabilities is a complex and often misunderstood phenomenon that can interfere with a student's ability to learn in certain academic subjects. To gain a better understanding of the development and status of scientific studies in the field of learning disabilities in India, it is necessary to map the literature on learning disabilities in India and compare it to the global context. A bibliometric analysis facilitates the exploration and trend analysis of vast quantities of scientific data. The objective of the present study is to compare the amount of research activity to the growth of scientific literature in the field of Learning Disabilities in India and worldwide. The analysis was done based on the data in Scopus with the term "learning disability". Globally, the expansion of research in the field of learning disabilities started in 1960s. But, India experienced this type of momentum only a few years after 2000. India lags far behind countries such as the United States and the United Kingdom in terms of scientific production. Psychology in India has more to offer than any other field of study.

Keyword: *learning disability, bibliometric, India*

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Introduction

Dr. Samuel Kirk, a psychologist, coined the term 'learning disability' in 1963 while delivering a speech at an education conference in Chicago. A specific learning disability (SLD) is a neurological condition that refers to persistent difficulty learning and using academic skills related to reading, spelling, writing and math (American Psychiatric Association, 2013). It impairs a person's ability to learn, process, and store information. The federal definition of learning disabilities, laid down by the US Government in Public Law 94-142, states that Specific Learning Disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, speak, read, spell or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing or motor handicaps, or mental retardation, emotional disturbance or environmental, cultural or economic disadvantages." (US Office of Education, 1977). This definition has been adopted in India. Specific learning disabilities are an important area of study in the field of education. They are a complex and often misunderstood phenomenon that can interfere with a student's ability to learn in certain academic subjects. There is reluctance in the education system to give admission to children with learning disabilities. India's general populace still struggles to understand the requirements and services of children with SLD. Reaching out to these children and equipping professionals and the community to deal with them requires a comprehensive understanding of the field's emergence and current status.

The rationale of the Study

An analysis of the beginnings and growth of the field of learning disabilities and a comparison of such global data with the Indian scientific literature journey are still lacking. This bibliometric analysis facilitates the exploration and trend analysis of vast quantities

of scientific data. This study aids in tracing the history of research on learning disabilities, identifying pertinent literature, and comparing them. This analysis can lay the groundwork for advancing the field in novel and significant ways because it enables and equips researchers to gain a comprehensive overview, identify knowledge gaps, generate novel research ideas, and position their intended contributions to the field. To gain a better understanding of the development and status of scientific studies in the field of learning disabilities in India, it is necessary to map the literature on learning disabilities in India and compare it to the global context.

Review of Literature

Suresh and Palanichamy (2021) compared inclusive education services in India, China, the United States, Thailand, and Singapore. These nations were chosen based on their cultural similarities or differences with India. This research employed a comprehensive review of available papers on Inclusive Education in India and other countries. In India, the focus is on increasing teachers' knowledge of children with "Specific Learning Difficulties" (SLD) and their diagnosis, but its implementation is lacking. The United States provides the most consistent and complete service (IDEA, 2004), followed by Thailand owing to its services at university demonstration schools (schools run by universities to provide training and research opportunities for teachers). The investigation revealed that China and India offered little programmes to help pupils with special needs in regular classrooms. The study concluded that India has a long way to go in developing a standard and complete system for Inclusive Education in terms of legislations, services, and training provisions for mainstream teachers.

Chacko and Vidhukumar (2019) explored on the prevalence of Specific Learning Disorder among school-going children in Ernakulam District, Kerala, aims to determine the prevalence of SLD and its antecedents among school-aged children in the Ernakulam district of Kerala, India. Fourth through seventh grade students participated in the study. Using multistage stratified cluster sampling The LD screening instrument was utilised to screen for

SLD, and the NIMHANS index for SLD and Malin's Intelligence Scale for Indian Children were utilised to confirm the diagnosis (MISIC). The prevalence of SLD was calculated to be 16.49% (95% confidence interval = 14.59–18.37). The prevalence of reading, written expression, and maths difficulties was 12.57 percent, 15.6 percent, and 9.9 percent, respectively. The analysis of binary logistic regression demonstrated that male gender, low birth weight, developmental delay, family history of poor academic performance, and curriculum were independently related to SLD. The study uncovered a higher frequency of SLD (16.49%) and identified modifiable SLD drivers. It stresses the necessity of early detection and rehabilitation for children with SLD.

Mogasale et al. (2012) determined the frequency of specific learning disabilities (SpLDs) such as dyslexia, dysgraphia, and dyscalculia among elementary school students in a South Indian city. A cross-sectional, multi-staged, stratified, randomised cluster sampling study was done with third and fourth graders aged 8 to 11 years. Among these youngsters, a six-levelled screening procedure was implemented, beginning with the discovery of academic retardation and progressing through the elimination of poor eyesight and hearing, chronic medical issues, and subnormal intellect. The final step involved administering reading, comprehension, writing, and arithmetic calculation assessments to the remaining pupils. 15.17% of sampled children had specific learning difficulties, while 12.5%, 11.2%, and 10.5% had dysgraphia, dyslexia, and dyscalculia, respectively. This study indicates that the prevalence of SpLDs in India is higher than previously estimated. The study is unusual owing to its wide geographically representative design and identification of the problem utilising a simplified screening approach and tools, which lowers the need for specialists and spares the investigation's expense.

Annual Status of Education Report (2017) surveyed 28323 14- to 18-year-olds from 24 states of India indicates that pupils in primary schools struggle with foundational abilities such as reading and basic mathematics and need immediate intervention. 25% of them struggle

with fluent reading, and 43% cannot do basic division. 55% cannot read an English phrase, and 79% of those 55% cannot comprehend its content; 76% cannot count money; 40% have difficulty determining time; and 50% struggle with unitary method sums.

Panicker, L. P. (2021) investigated the link between stigma and learning disabilities, especially Autism, Dyscalculia, and Dyslexia, in order to comprehend how stigma perception impacts each learning disability and how to solve these structural policymaking difficulties. People's stigmas and attitudes significantly impact the representation and early identification of kids with learning difficulties. By recognising the stigma perception and addressing it with policy suggestions, we may successfully assist kids with learning difficulties within the framework of mainstream education, according to the study's conclusion.

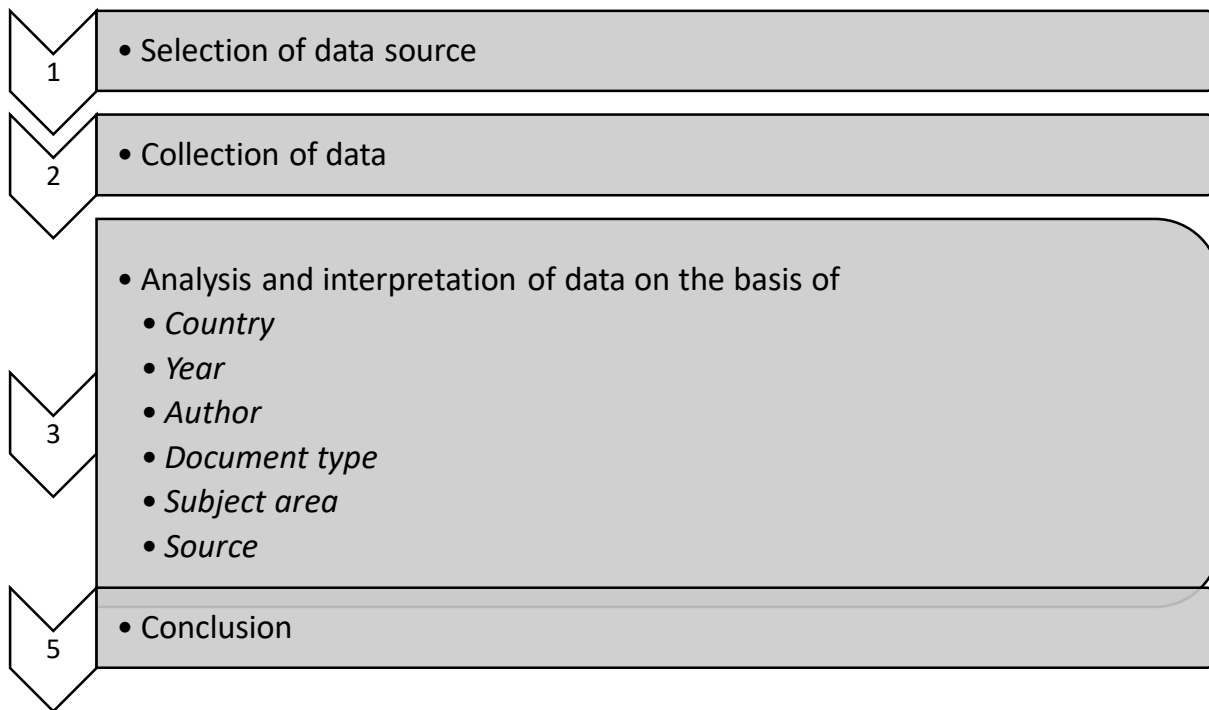
Agarwal et al. (1991) found in their study that 12.97% of rural primary school pupils with an IQ more than or equal to 90 performed poorly on arithmetic tests and teacher evaluations after being followed for two years. In the Indian adaptation of the WISC (MISIC), the Bender Gestalt exam, and Piaget's test, these children with learning disabilities had decreased perceptual maturity and conceptual comprehension. On the WISC Bannatyne categories, children with learning disabilities scored highest in verbal conceptualization (similarities, vocabulary, comprehension), followed by spatial (picture completion, object assembly, block design) and sequencing (arithmetic, digit span, coding) skills. On the Bender Gestalt exam, these youngsters produced more errors, notably distortions (distortion of parts, incorrect number of dots, shape of design lost etc). In addition, they demonstrated delayed development in class inclusion, conservation (for length, substance, liquid, and number), ordinal relation, and one-to-one correspondence Piagetian tasks.

Method

The present study maps the literature on learning disabilities in India and across the globe. **Objective:** To compare the amount of

research activity to the growth of scientific literature in the field of Learning Disabilities in India and worldwide.

Procedure: Bibliometric analysis was employed for the study. The analysis was done based on the articles available in Scopus as of the 5th of September 2022, that has the term “learning disability” in its title .



Result and Discussion

To find the relevant literature in the field of Learning Disabilities from beginning to present, the present study used the Scopus database, which is one of the most comprehensive citation databases covering 10248 articles that has "Learning Disability" in its title.

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The collected data was analysed and compared. The following comparisons between India and the rest of the world concerning various aspects related to the scientific literature on learning disabilities were done for the study:

1. Comparison of countries contributing to the field of Learning Disabilities

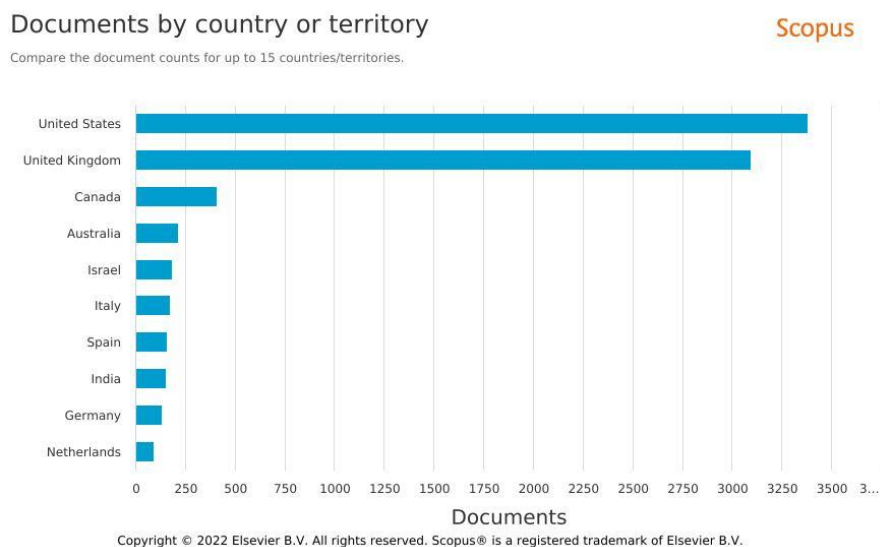


Fig.1. Top countries contributing to the field of Learning Disabilities

The United States of America is the country that provides the most to research on learning disorders, followed by the United Kingdom. Comparatively, all other nations, including India, have made a negligible contribution to the scholarly literature on learning difficulties. In light of the fact that many facets of learning disorders are still unknown, perplexing, and controversial, countries should conduct more study on learning disabilities.

2. Comparisons of the timeline of scientific literature across the world and in India in the field of Learning Disabilities

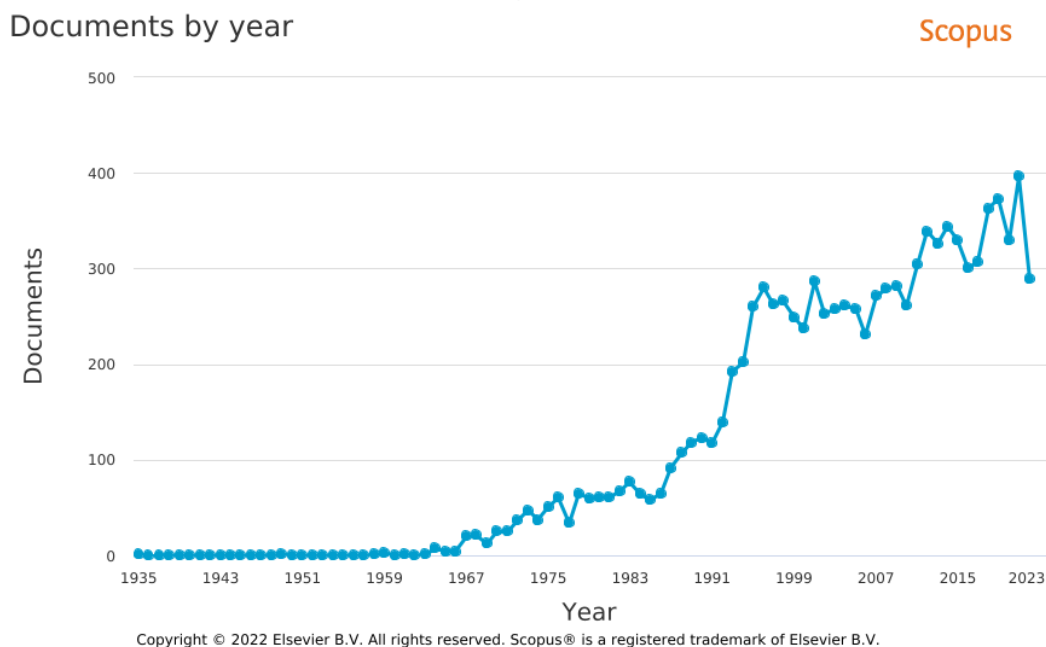


Fig.2. Timeline showing the growth of scientific literature production (Worldwide)

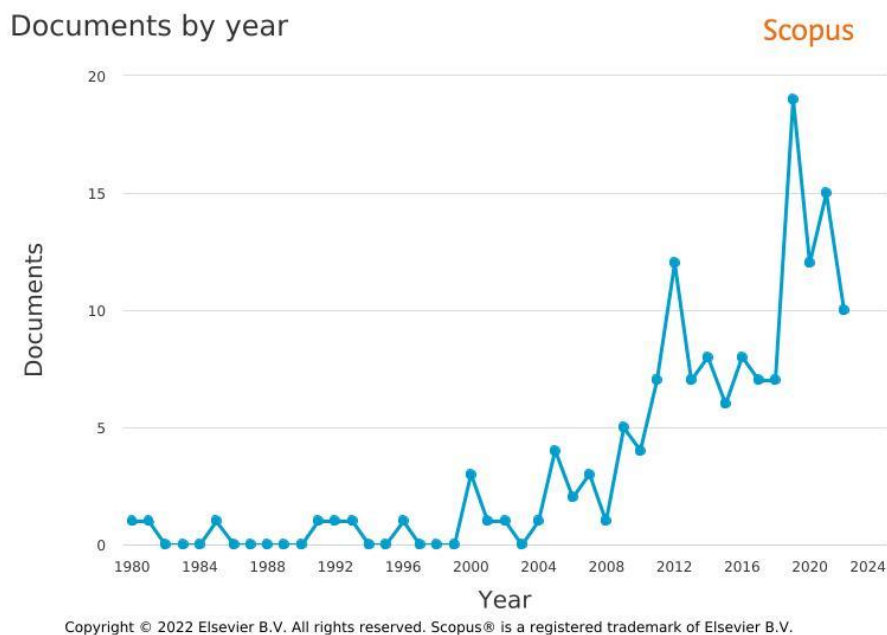


Fig3. Timeline showing the growth of scientific literature production (India)

Globally, the expansion of research in the field of learning disabilities started in 1960s. But, India experienced even a little of this type of momentum only a few years after 2000. Taare Zameen Par, a 2007 Bollywood film about a young boy who struggles to learn in school, popularised the term "dyslexia" by raising awareness, dispelling misconceptions, and reducing the stigma associated with it (Lakshmi, 2008). Learning disability was officially recognised in India for the first time only in 2009, when the Persons with Disabilities (PWD) Act of 1995 was amended to include the category of Specific Learning Disabilities (Unni, 2012).

3. Comparisons of the top authors across the world and in India and the number of scientific productions in the field of Learning Disabilities

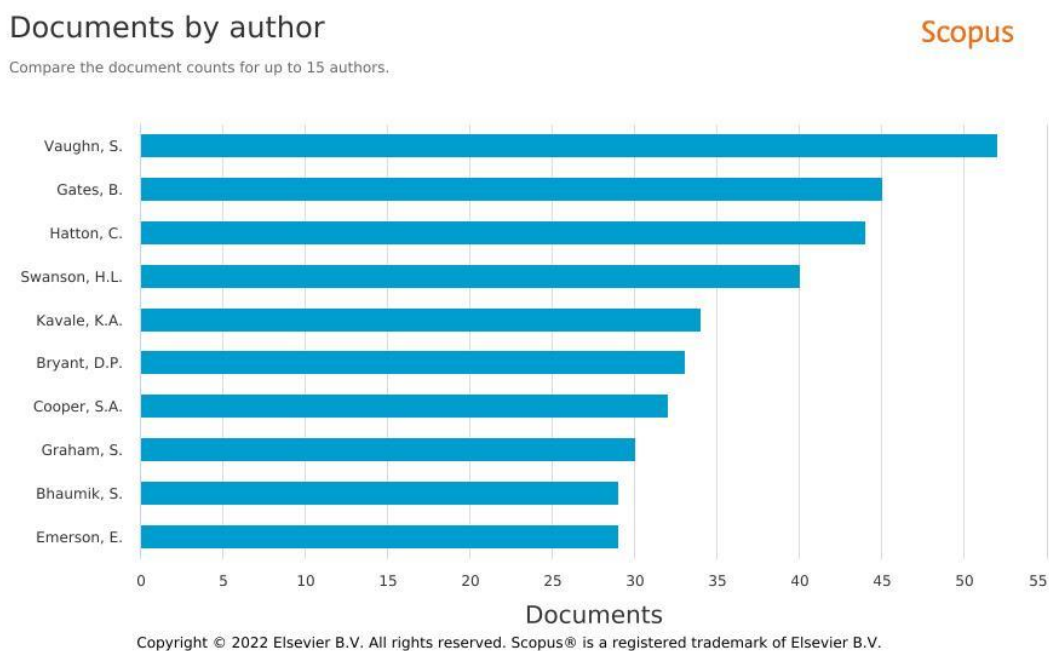


Fig.4. Top authors and their number of productions (Worldwide)

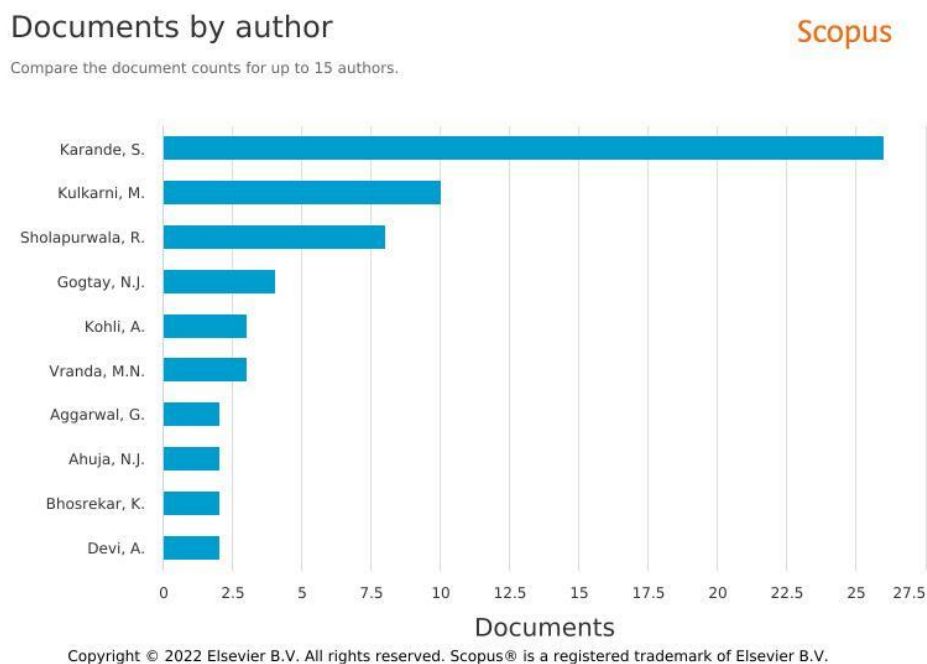


Fig.5. Top authors and their number of productions (India)

Sharon Vaughn is the foremost contributor to the field of learning disabilities on a global level, who is an expert on exploring effective interventions for varied groups of pupils with reading issues and English language learners. She has authored more than 35 books, 250 peer-reviewed research articles, and 65 chapters that address issues related to research and practice with learning problems (The University of Texas at Austin, 2023). In India, Sunil Karande, Mumbai-based Paediatrician has made most number of scientific documents in the field of learning disabilities. As it is evident from fig.5., the average scientific productions from among Indian authors are comparatively very less.

4. Comparisons of type of literature produced across the world and in India in the field of Learning Disabilities

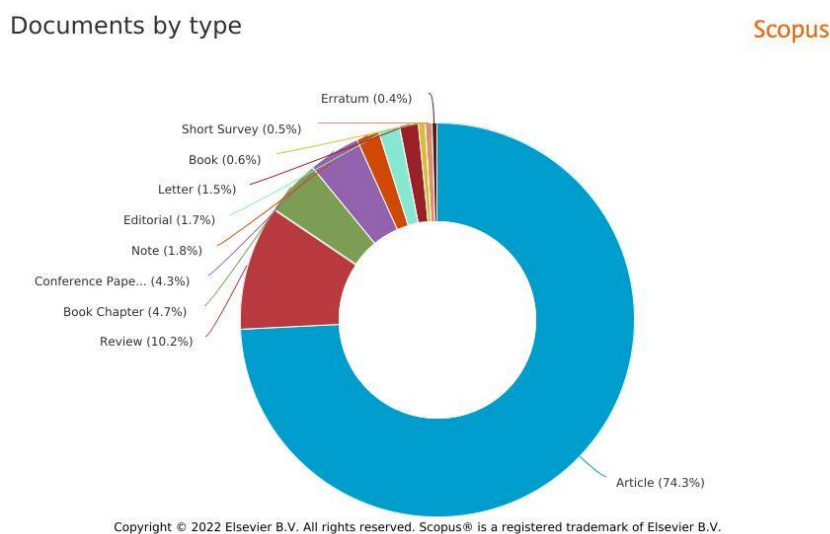


Fig.6. Type of literature produced (Worldwide)

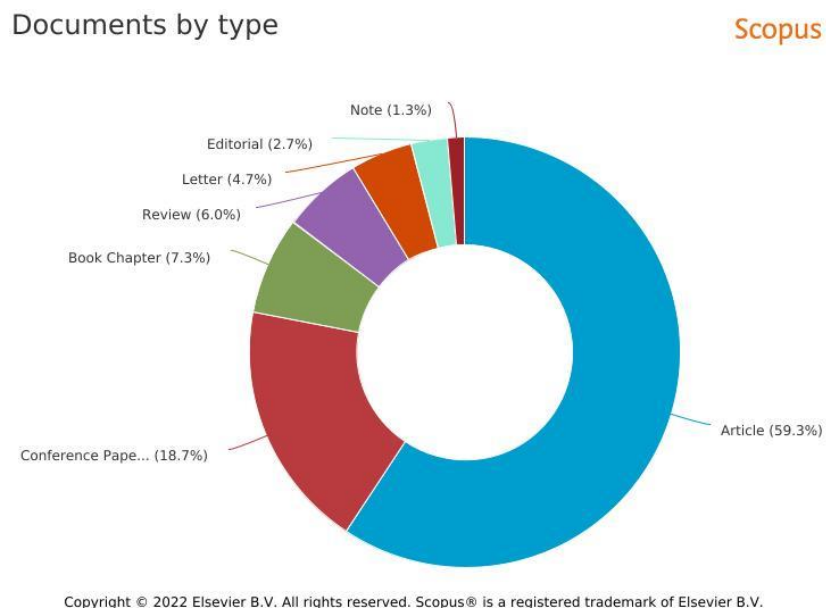


Fig.7. Type of literature produced (India)

The vast majority of scientific documents in India and around the world are in the form of journal articles. This is followed globally by review, but in India by conference paper. When conference papers intended for presentation at conferences are considered for publication in a conference proceeding, they are subjected to a considerably less rigorous review.

5. Comparisons of literature in the field of Learning Disabilities produced across the world and in India under various Subject Areas

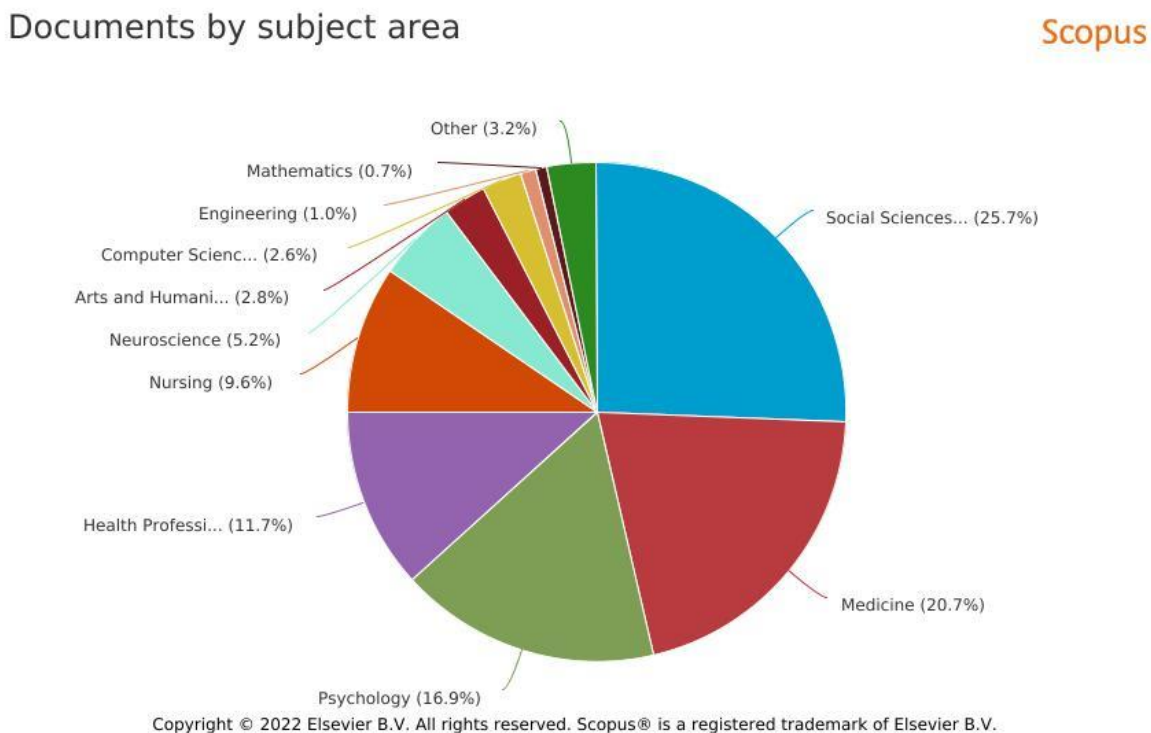


Fig.8. Subject areas of literature produced (Worldwide)

Documents by subject area

Scopus

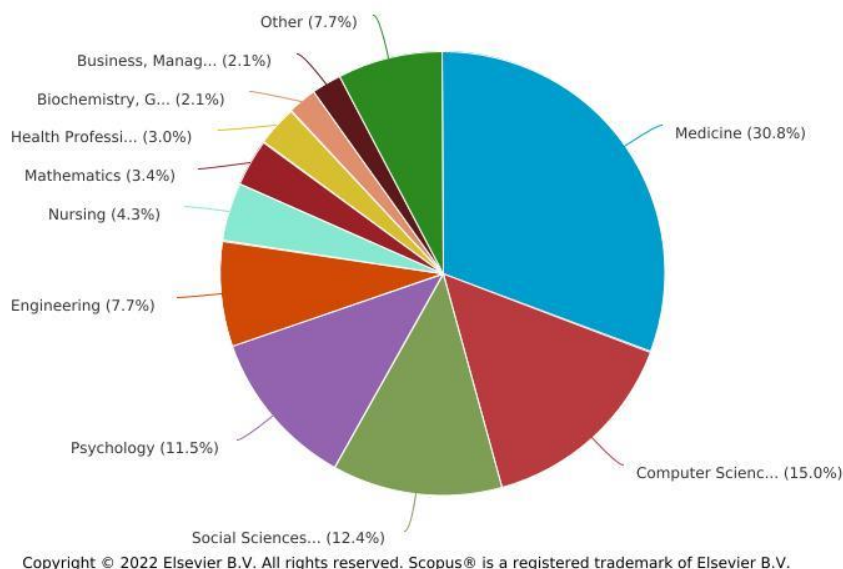


Fig.9. Subject areas of literature produced (India)

There are differences between the subject areas in which scientific literature related to learning disabilities are produced. In India, the major subject areas are Medicine, Computer Science, Social Science, and Psychology, whereas in the world as a whole, they are the Social Sciences, Medicine, Psychology, Health profession, and Nursing. There is a need for Psychology to embrace and represent the field of learning disabilities in a greater capacity.

6. Comparisons of major sources of scientific literature across the world and in India and their number of productions in the field of Learning Disabilities

Documents per year by source

Scopus

Compare the document counts for up to 10 sources. Compare sources and view CiteScore, SJR, and SNIP data

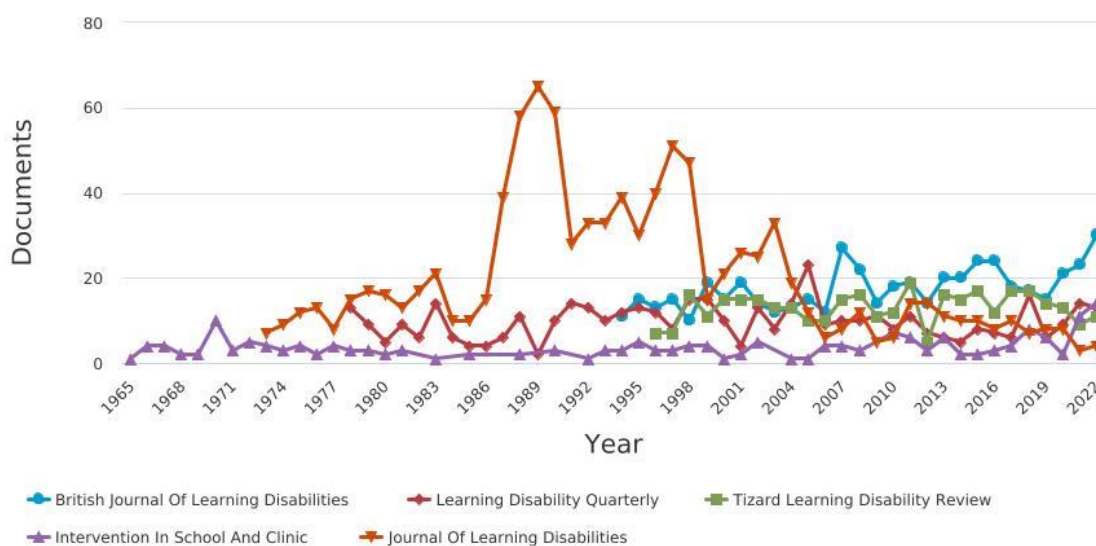
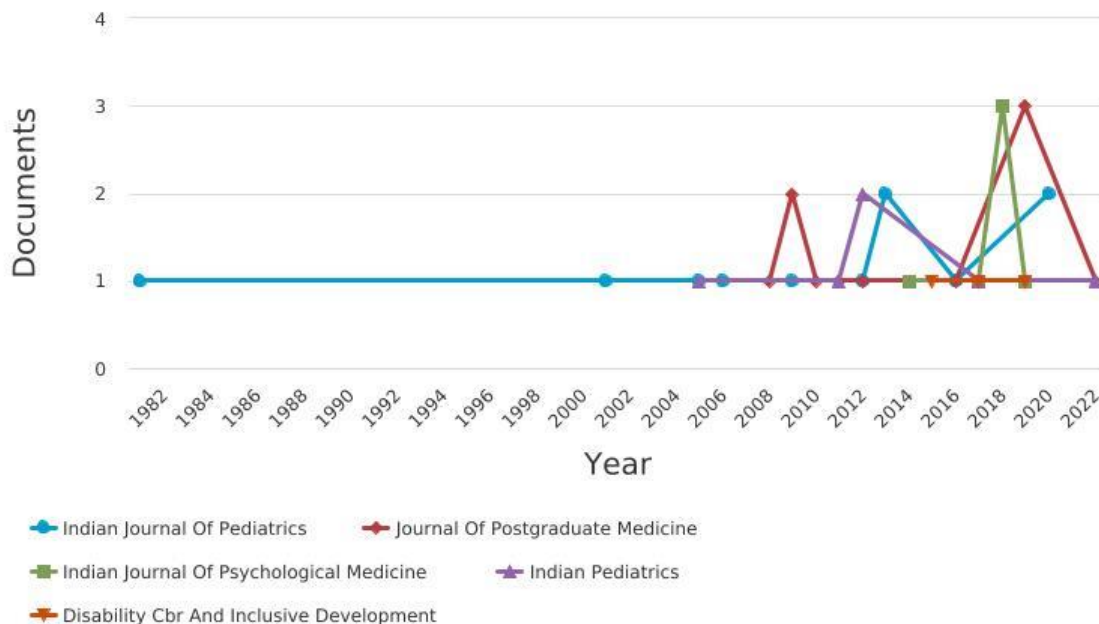


Fig.10. Major sources of literature and their production (Worldwide)

Documents per year by source

Scopus

Compare the document counts for up to 10 sources. Compare sources and view CiteScore, SJR, and SNIP data



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Fig.11. Major sources of literature and their production (India)

In the 1980s, there was an exponential increase in the production of scientific literature on learning disabilities, according to the global trend. This was primarily due to the huge contribution made by the Journal of Learning Disabilities. The average number of productions, however, is now significantly lower than it was in the past. As shown in figure 10., the British Journal of Learning Disabilities currently produces more articles than other journals, even surpassing the Journal of Learning Disabilities. As evident from figure 11, Indian journals produce far less scientific literature on learning disabilities when compared with global data. The annual maximum is only three documents. Although it has been more than a decade since India officially acknowledged specific learning disabilities, the field has not yet experienced exponential growth.

Data from Scopus revealed that since 1965 the following top journals have produced a total of the below-given number of documents in the field of learning disabilities, till the date of this analysis.

Major Sources (Worldwide)		Major Sources (India)	
Name of the Source	No. of documents	Name of the Source	No. of documents
Journal of Learning Disabilities	1000	Indian Journal of Pediatrics	11
British Journal of Learning Disabilities	509	Journal of Postgraduate Medicine	11
Learning Disability Quarterly	439	Indian Journal of Psychological Medicine	6
Tizard Learning Disability Review	351	Indian Pediatrics	6

Intervention in School and Clinic	188	Disability CBR and Inclusive Development	3
Nursing Times	165	Indian Journal of Medical Sciences	3
British Journal of Nursing Mark Allen Publishing	104	Indian Journal of Practical Pediatrics	3
Clinical Psychology Forum	100	Journal of the Indian Academy of Applied Psychology	3
Nursing Standard Royal College of Nursing Great Britain 1987	100		
Exceptional Children	99		

Table 1. Comparison of major sources of scientific literature across the world and in India and their number of productions

The Journal of Learning Disabilities has an impressive output of approximately one thousand Scopus-indexed documents. This is the same publication for which Sharon Vaughn served as editor-in-chief (The University of Texas at Austin, 2023). It was during the 1980s, that this journal published the greatest number of articles related to learning disabilities. Indian Journal of Pediatrics and Journal of Postgraduate Medicine have published the greatest number of Scopus-indexed articles in India, despite the fact that the number of articles produced is much lower.

In India, there is a need for extensive, high-quality research on the subject of specific learning disabilities. Learning disabilities are a difficult subject to study for a variety of reasons. Diverse and poorly-defined terminologies obscure the meaning of the concept. In India, there is still a lack of awareness among the population. Thus, the condition is frequently misdiagnosed. In addition, social stigma discourages people from seeking psychological assessment and intervention. The cultural and linguistic diversity of India is a major concern in the identification, evaluation, and diagnosis of children with learning disabilities. Even though more than a decade has passed since the official recognition of learning disabilities in India, there is an urgent need for more extensive, high-quality research in the field of learning disabilities.

Thus, the major findings of the study include:

- India has made only a minor contribution to the scientific literature on learning disabilities compared to the United States and the United Kingdom.
- In the 1960s, research on the subject of learning disabilities expanded globally. But, India did not see any of this type of momentum until a few years after 2000.
- Sharon Vaughn is the foremost global contributor to the study of learning disabilities, whereas, in India, Sunil Karande is.
- The overwhelming majority of scientific materials in India and throughout the world are journal articles.
- There are variations in the subject areas in which learning disabilities-related scientific literature is generated. In India, the prominent ones are Medical, Computer Science, Social Science, and Psychology, whereas, in the world at large, they are the Social Sciences, Medicine, Psychology, Health profession, and Nursing.
- Journal of Learning Disabilities is the most significant source of research on learning disabilities. Compared to global data, Indian journals publish much less scholarly research, with a maximum of three per year from a single journal.

Summary and Conclusion

Given the magnitude of the obstacles experienced by children with learning disabilities and their families, a greater emphasis on this area will assist in establishing communities where the welfare of persons with

learning disabilities is prioritised. This study enhances our comprehension of the scientific literature on learning disabilities. It depicts the state of the science of learning disabilities worldwide and in India. According to Scopus data, India lags far behind countries such as the United States and the United Kingdom in terms of scientific production. As India strives to develop into a developed nation, this gap must be reduced. There is a need to make much contribution research to in the field of learning disabilities. Psychology in India has more to offer than any other field of study.

Limitations

- Bibliometric indicators cannot capture the entirety of a scientific knowledge production and inform us of its quality.
- Informal publications and communications are excluded from bibliographic research. So, scientific advancement cannot be accurately predicted.
- Bibliographic references used for citation analysis research are not always standardised. This creates difficulties when rating writers based on the frequency of their citations. In the case of collaborative authors, the cited papers may appear exclusively under the name of the article's first author.
- In some instances, citations do not correspond to the context of the cited article or are incomplete.
- The occurrence of "implicit citations" is another bibliometric difficulty. Several prominent authors are not credited for their contributions. despite the fact that the work has been cited in thousands of journals. The articles that refer to the work do not include bibliographic information of the original publication.
- Variations and misspellings of author names, writers with identical names, and insufficient coverage of non-English publications.
- The results of the study were derived solely from Scopus data. The study did not evaluate other databases, regardless of the significance of their contributions.
- The use of a simple count of occurrences in a database may be insufficient to capture

the prevalence of the results in the various fields of practical work.

Suggestions

More research is required to gain a deeper understanding of the evolution and current status of scientific research on learning difficulties in India. There is a vast amount of formal and informal literature available outside of Scopus that can be incorporated into future research. India's diverse cultures and languages necessitate the inclusion of other regional languages in the scientific literature on learning disabilities in India so as to gain a comprehensive understanding of the phenomenon.

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