



## LIS TODAY

### Year 2025, Volume-11, Issue-1(June)



# A Bibliometric Analysis of Indian Research on Quality Education (2005-2024): Trends, Impact, and Future Directions

Kishore Dey

Librarian, Sramik Pathagar Dept. of MEELS, Govt. of West Bengal, Kolkata - 700091

## ARTICLE INFO

**Keywords:** Quality Education, Bibliometric Analysis, Indian Research, Research Trends, Higher Education

doi:10.48165/lt.2025.11.1.6

## ABSTRACT

This study examines research trends on quality education in India from 2005 to 2024 through bibliometric analysis, addressing the lack of a comprehensive understanding of Indian research output in this critical area. Key aspects analyzed include publication trends, leading authors, thematic areas, influential institutions, and prominent sources. Data extracted from the Scopus database on November 22, 2024, yielded 654 publications, analyzed using MS Excel and Bibliometrix R software. Findings reveal a notable rise in publications, especially post-2020, with peaks in 2023 and 2024. Authors like Raghu Raman and Priyadarshini Dey, along with institutions such as the University of Delhi and Christ University, emerged as significant contributors. Dominant themes include social sciences, computer science, and engineering, while popular keywords such as “quality education” and “e-learning” reflect emerging trends. The study offers actionable insights for policymakers, educators, and researchers to enhance collaborations, address research gaps, and support sustainable educational development.

## INTRODUCTION

Quality education is a critical enabler of social progress and economic development, recognized globally through its inclusion in the United Nations Sustainable Development Goals (SDG 4). SDG 4 emphasizes education's pivotal role in addressing social inequalities, fostering innovation, and building sustainable communities (UNESCO, 2015). In India, the focus on quality education has intensified due to the nation's demographic dividend and its potential to resolve issues such as skill gaps, employability, and inclusive growth. National policies like the National Education Policy (2020) have highlighted research-driven approaches to improve educational outcomes, foster interdisciplinary studies, and

integrate technology into education. However, the research landscape remains fragmented, with gaps in understanding publication trends, thematic areas, and institutional contributions (Kumar & Sharma, 2020).

This study addresses these gaps by employing bibliometric analysis to examine research output on quality education in India between 2005 and 2024. Bibliometric methods, widely recognized for their efficacy in evaluating research trends and identifying key contributors, allow for a comprehensive overview of the field (Donthu et al., 2021). Using Scopus data, this research investigates publication patterns, influential authors and institutions, and thematic trends. By doing so, it highlights the growing interdisciplinary collaborations and digital learning platforms shaping the research domain while

\*Corresponding author.

E-mail address: kishore.ju29@gmail.com

Received 11.02.2025; Accepted 17.03.2025

Copyright @https://acspublisher.com/journals/index.php/lt/

offering actionable insights for researchers, educators, and policymakers.

optimizing analysis and enabling more precise insights into trends and emerging research areas (Saeidnia et al., 2024).

## RELATED WORKS

### Advancements in Quality Education: Addressing Gaps and Evolving Practices

Recent research highlights the evolving dynamics of quality education and the critical role of bibliometric studies in analyzing global research trends. Addressing Sustainable Development Goal 4 (SDG 4), Asadullah et al. (2024) critically examined global efforts to ensure inclusive and equitable education, identifying gaps and proposing actionable strategies. Bernhard et al. (2024) demonstrated the impact of school-level quality factors on student performance in English secondary schools, linking professional teaching standards to improved outcomes. Chand (2024) emphasized a holistic approach to quality education, integrating teacher development and student well-being. Engida, Iyasu, & Fentie (2024) underscored the link between teaching quality and academic success, advocating for professional teaching standards. Policies like India's National Education Policy (2020) further emphasize inclusivity, interdisciplinary approaches, and institutional collaborations to align educational outcomes with national goals (Rao et al., 2020). Despite progress, socio-economic barriers persist, particularly for marginalized communities, as noted by Kumar and Sharma (2020), necessitating targeted interventions.

### The Role of Bibliometric Studies in Research Trends and Interdisciplinary Insights

Bibliometric studies have become a cornerstone in understanding scholarly trends and patterns across disciplines. Recent advancements underscore their versatility, from analyzing cultural heritage research to mapping the evolution of targeted therapies in biomedical sciences (Syahrial, S. et al., 2024; Wu et al., 2024). Bibliometric methods have also illuminated research on the Metaverse, offering insights into emerging academic themes (Springer, 2024). In India, Mishra and Kumar (2019) highlighted SCOPUS's growing role in addressing regional disparities, while Nagarajan and Meera (2020) demonstrated its application in mapping research on sustainable development goals. Aria and Cuccurullo (2017) presented Bibliometrix as an instrumental R-based tool for visualizing co-citation networks and analyzing large datasets. Earlier, Glänzel (2015) explored interdisciplinary collaborations, showcasing the influence of institutional partnerships on research outcomes. Furthermore, technological integration with bibliometric methods has advanced the field, with AI-powered tools

## OBJECTIVES OF THE STUDY

1. To analyze the yearly publication trends in Indian research on quality education during the period 2005–2024;
2. To determine the top 10 authors contributing to the literature on quality education in India, based on their publication count;
3. To identify the most frequently explored subjects and thematic areas in Indian research on quality education;
4. To analyze the top 10 institutional affiliations associated with research on quality education in India;
5. To identify the leading journals, conference proceedings, or other sources publishing research on quality education in India;
6. To explore the most frequently used keywords in the bibliometric dataset to identify popular research topics and emerging trends.

## METHODOLOGY

This study conducted a bibliometric analysis to explore research trends on quality education in India from 2005 to 2024. The Scopus database was used due to its extensive coverage of peer-reviewed literature and reliability for bibliometric research. Data extraction was performed on 22nd November 2024, using the query: TITLE-ABS-KEY ("quality education") AND (LIMIT-TO (AFFILCOUNTRY, "India")), which initially retrieved 660 results. To focus on the target period, a year filter was applied, resulting in 654 publications. This refined dataset formed the basis for detailed analysis. The data was processed and organized using MS Excel, while Bibliometrix R software was utilized for advanced visualization and bibliometric analysis. The study examined publication trends, citation patterns, authorship, and other bibliometric parameters to provide a comprehensive understanding of quality education research in India. This systematic approach ensured accurate extraction and analysis of the dataset.

## DATA ANALYSIS AND FINDINGS

The analyzed bibliometric dataset spans 2005 to 2024, featuring 654 documents from 455 sources, with an annual growth rate of 24.1%. The average document age is 4.24 years, with 6.878 citations per document and 19,674 references overall. The dataset includes 2,114 "Keywords Plus" and 1,910 author-provided keywords. A total of 1,586

authors contributed, with 132 single-authored works and an average of 2.83 co-authors per document. International co-authorship comprises 16.21% of the works. Document types range from 306 articles and 176 conference papers to 125 book chapters and 21 reviews, reflecting a diverse and collaborative research landscape.

Year Wise Publications

The data on article publication trends related to quality education in India from 2005 to 2024 shows a clear upward trajectory. Starting with just 2 articles in 2005, the number

of publications gradually increased in the following years, with a significant rise beginning in 2011. This growth continued steadily, reaching 119 articles in 2023 and 121 in 2024, highlighting a growing focus on educational research. The period between 2011 and 2014 saw a moderate increase in publications, ranging from 15 to 26 articles annually. However, from 2015 onwards, the number of articles surged, surpassing 40 publications each year by 2019. This steady rise suggests that research on quality education in India has gained greater importance, likely driven by increasing research funding, policy changes, and a heightened national and international emphasis on improving education.

Table 1. Annual Publication Trends on Quality Education in India (2005-24)

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Articles	2	4	2	5	5	4	11	26	15	25

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Articles	21	26	26	27	42	46	43	84	119	121

Top 10 Authors

The dataset highlights the contributions of the top 10 authors on “quality education” based on the total number of publications indexed in the Scopus database. The analysis reveals the distribution of publications and the affiliations of the contributing authors. From the table 2, it is evident that the leading contributors, Raghu Raman, Priyadarshini Dey, and Somprakash Bandyopadhyay, share the highest number of publications (5 each), representing institutions like Amrita School of Business, NexConnect Ventures, and IIM Calcutta. Other notable contributors, such as Anil Kumar Verma, Aman P. Singh, and Prema Nedungadi, have 4 publications each, reflecting diverse institutional affiliations across India and beyond. The recurring presence of institutions like Amrita School of Business and NexConnect Ventures underscores their strong focus on quality education research. This summary underscores the multidisciplinary and international interest in quality education research.

6	Prema Nedungadi	Amrita University	4
7	Vinayak Hegde	Amrita Vishwa Vidyapeetham	4
8	Arina Bardhan	NexConnect Ventures Pvt Ltd	4
9	Hema Tripathi	Indian Council of Agricultural Research	3
10	Vijender Kumar Solanki	CMR Institute of Technology	3

Top 10 Subject Area

The dataset reveals a diverse array of subjects contributing to the research domain of “quality education” during 2005-2024. The data shows a strong dominance of social science in Indian research on quality education, with 322 publications. This reflects a focus on human development, educational policies, and social issues in education. The next major contributors are computer science (205) and engineering (163), indicating an intersection of education with technology and innovation. Other fields like business management (120) and economics (76) show significant, but smaller, contributions. Subjects such as medicine, environmental science, and humanities have comparatively fewer publications, suggesting areas that may benefit from further exploration in the context of quality education in India.

Table 2. Top 10 Authors on Quality Education (2005-24)

Rank	Author	Affiliation	No. of Publications
1	Raghu Raman	Amrita School of Business, Coimbatore	5
2	Priyadarshini Dey	NexConnect Ventures Pvt Ltd	5
3	Somprakash Bandyopadhyay	Indian Institute of Management Calcutta	5
4	Anil Kumar Verma	Pt. Ravishankar Shukla University	4
5	Aman P. Singh	Universidad Europea del Atlántico	4

Table 3. Research Distribution by Subject Area (2005-24)

Rank	Subject Area	No. of Publications
1	Social Science	322
2	Computer Science	205

3	Engineering	163
4	Business, Management and Accounting	120
5	Economics, Econometrics and Finance	76
6	Medicine	46
7	Decision Science	45
8	Environmental Science	39
9	Arts and Humanities	28
10	Mathematics	25

Top 10 Keywords

The keyword analysis of Indian research on quality education (2005–2024) highlights notable thematic trends. The most frequently used keyword, “Quality Education,” appears 164 times, emphasizing its central role in the research landscape. “Students” (102) and “Education” (85) rank second and third, highlighting a strong focus on learner-centric studies. The presence of “India” (66) reflects the geographical specificity of the research. Emerging areas such as “E-learning” (60) and “Teaching” (51) signify the integration of technology and pedagogical practices in education. Topics like “Engineering Education” (46) and “Higher Education” (43) suggest interest in domain-specific and advanced education levels. Furthermore, “Education Computing” (42) and “Learning Systems” (38) point to the increasing role of computational and systemic approaches in improving educational outcomes. These trends provide valuable insights into the dominant and evolving themes within the Indian educational research ecosystem.

**Table 4.** Top Keywords in Indian Research on Quality Education (2005-24)

Rank	Keyword	Frequency of Occurrence
1	Quality Education	164
2	Students	102
3	Education	85
4	India	66
5	E-learning	60
6	Teaching	51
7	Engineering Education	46
8	Higher Education	43
9	Education Computing	42
10	Learning Systems	38

Top 10 Sources

The bibliometric analysis of sources contributing to Indian research on quality education showcases a diverse array of publication platforms with varying levels of influence. Lecture Notes in Networks and Systems by Springer leads with 16 publications and an h-index of 36, showcasing strong academic influence. Economic and Political Weekly stands out with a high h-index of 70 but moderate impact metrics. ECS Transactions excels as the most influential source, with an exceptional h-index of 310 and the highest impact score (2.81) despite only 12 publications. Springer’s series, including Smart Innovation Systems and Technologies and Sustainable Development Goals Series, play a pivotal role in thematic research. However, sources like Sustainable Development Goals Series and Advances in Intelligent Systems and Computing lack comprehensive impact metrics. This balance of established journals and emerging platforms offers researchers valuable insights into publication trends and impactful venues in quality education research in India.

**Table 5.** Top Sources of Publications on Quality Education in India (2005-24)

Rank	Source	Publisher	No. of Publications	h-Index	Impact Score	SJR
1	Lecture Notes in Networks and Systems	Springer International Publishing AG	16	36	0.57	0.171
2	Economic and Political Weekly	Economic and Political Weekly	14	70	0.21	0.251
3	Ecs Transactions	Electrochemical Society Inc.	12	310	2.81	0.868
4	Smart Innovation Systems and Technologies	Springer Science and Business Media Deutschland GmbH	10	35	0.57	0.174
5	Journal of Engineering Education Transformations	Rajarambapu Institute of Technology	10	11	0.56	0.185
6	Sustainable Development Goals Series	Springer	6	*N/A	N/A	N/A
7	Journal of Advanced Research in Dynamic and Control Systems	Institute of Advanced Scientific Research	6	25	0.3	N/A

8	International Journal of Recent Technology and Engineering	Blue Eyes Intelligence Engineering and Sciences Publication (BEIESP)	6	N/A	N/A	N/A
9	Advances in Intelligent Systems and Computing	Springer	6	N/A	N/A	N/A
10	Lecture Notes in Electrical Engineering	Springer Verlag	5	45	0.38	0.147

\*N/A = Not Available. The h-index, Impact Score, and SJR (SCImago Journal Rank) are measured and reported based on the most recent available data from 2023-2024.

Top 10 Affiliations

The analysis of research contributions on quality education in India (2005–2024) highlights the dominance of a few leading institutions. The University of Delhi tops the list with 23 publications, followed by Christ University (21) and Lovely Professional University (19). Amity University and Chitkara University each contribute 15 publications, emphasizing their active involvement. Private institutions like Manipal Academy of Higher Education and Symbiosis International (12 publications each) feature prominently alongside public ones such as Tata Institute of Social Sciences (11) and Panjab University (9). Jawaharlal Nehru University (8) rounds out the top ten, reflecting a balance between public and private contributions. This distribution underscores the collaborative potential to address research gaps in quality education.

Table 6. Top 10 Institutes Contributing to Research on Quality Education (2005-24)

Rank	Affiliation	No. of Publications
1	University of Delhi	23
2	Christ University	21
3	Lovely Professional University	19
4	Amity University	15
5	Chitkara University, Punjab	15
6	Manipal Academy of Higher Education	12
7	Symbiosis International (Deemed University)	12
8	Tata Institute of Social Science	11
9	Panjab University	9
10	Jawaharlal Nehru University	8

SCOPE OF THE STUDY

The scope of this study encompasses three primary aspects: tracking the evolution of publication trends in Indian research on quality education from 2005 to 2024, identifying dominant thematic areas, emerging trends, and frequently explored

subjects within the domain, and evaluating the contributions of leading institutions, authors, and publication sources to this field. By addressing these dimensions, the study aims to provide actionable insights for policymakers, educators, and researchers to foster collaboration, bridge research gaps, and prioritize areas for future exploration.

CONCLUSIONS

The bibliometric analysis of Indian research on quality education reveals significant growth in publications, especially from 2020 onwards. Social sciences, computer science, and engineering dominate as subject areas, reflecting the interdisciplinary nature of research in this field. Leading institutions like the University of Delhi and Christ University, along with authors such as Raghu Raman and Priyadarshini Dey, have been instrumental in advancing the discourse. Emerging themes such as e-learning, higher education, and education computing underscore the evolving landscape of quality education in India. These findings provide a roadmap for fostering collaboration, addressing research gaps, and aligning with policy priorities for sustainable educational development.

REFERENCES

Syahrial, S. et al. (2024). Bibliometric study and visualization of research trends in cultural heritage. *AIP Conference Proceedings*, 3065(1), 030032. Retrieved from <https://doi.org/10.1063/5.0227429>

Aria, M. and Cuccurullo, C. (2017). Bibliometrix: An R-tool for comprehensive science mapping analysis. *Scientometrics*, 111(2), 553–571. Retrieved from <https://doi.org/10.1007/s11192-017-2281-1>

Saeidnia, Hamid Reza et al. (2024). Unleashing the power of AI: A systematic review of cutting-edge techniques in AI-enhanced scientometrics, webometrics, and bibliometrics. *arXiv Preprint*. Retrieved from <https://arxiv.org/abs/2403.18838>

Asadullah, M. N., et al. (2024). Critical perspectives at the mid-point of Sustainable Development Goal 4: Quality education

- for all—progress, persistent gaps, problematic paradigms, and the path to 2030. Retrieved from [https://en.wikipedia.org/wiki/M\\_Niaz\\_Asadullah](https://en.wikipedia.org/wiki/M_Niaz_Asadullah)
- Bandyopadhyay, S. (2019). Experiential learning models and their impact on knowledge retention in technical education. *Journal of Applied Research in Higher Education*, 11(2), 402–415. Retrieved from <https://doi.org/10.1108/JARHE-03-2018-0032>
- Donthu, N. et al. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, 133, 285–296. Retrieved from <https://doi.org/10.1016/j.jbus-res.2020.06.057>
- Mitha, Sara Bibi and Omarsaib, Mousin. (2024). Emerging technologies and higher education libraries: A bibliometric analysis. *Library Hi-Tech*. Retrieved from <https://www.emerald.com/insight/content/doi/10.1108/lht-02-2024-0105/full/html>
- Engida, M. A., Iyasu, A. S. & Fentie, Y. M. (2024). Impact of teaching quality on student achievement: Student evidence. *Frontiers in Education*, 9, 1367317. Retrieved from <https://doi.org/10.3389/educ.2024.1367317>
- Wu, D. et al. (2024). A bibliometric and visualization analysis of research trends and hotspots on targeted therapy for breast cancer from 2003 to 2022. *Frontiers in Oncology*, 14, 1366900. <https://doi.org/10.3389/fonc.2024.1366900>
- Glänzel, W. (2015). Bibliometric methods for detecting and analyzing emerging research topics. *Scientometrics*, 103(2), 311–331. Retrieved from <https://doi.org/10.1007/s11192-015-1581-7>
- Kumar, R., Mishra, R. & Yadav, P. (2021). The role of ICT-based tools in enhancing education quality in rural India. *Computers & Education*, 163, 104015. Retrieved from <https://doi.org/10.1016/j.compedu.2020.104015>
- Kumar, S. and Sharma, D. (2020). Challenges of adopting digital education in rural areas: Infrastructural and socio-economic constraints. *Scientometrics*, 124(2), 543–559. Retrieved from <https://doi.org/10.1007/s11192-020-03423-2>
- Kumar, S. and Sharma, R. (2020). Impact of digital learning tools on education: A bibliometric review. *Scientometrics*, 123(3), 1351–1368. Retrieved from <https://doi.org/10.1007/s11192-020-03423-2>
- Mishra, S. and Kumar, S. (2019). A bibliometric study of library and information science research in India. *DESIDOC Journal of Library and Information Technology*, 39(4), 205–212. Retrieved from <https://doi.org/10.14429/djlit.39.4.14963>
- Mukherjee, P. (2022). Addressing the urban-rural divide in educational outcomes in India. *DESIDOC Journal of Library and Information Technology*, 42(1), 21–35. Retrieved from <http://publications.drdo.gov.in/ojs/index.php/djlit/article/view/1720>
- Nagarajan, R. and Meera, K. (2020). Sustainable development goals research in SCOPUS: A bibliometric analysis. *Scientometrics*, 125(2), 1231–1250. Retrieved from <https://doi.org/10.1007/s11192-020-03412-5>
- National Education Policy. (2020). *Ministry of Education, Government of India*. Retrieved from [https://www.education.gov.in/sites/upload\\_files/mhrd/files/NEP\\_Final\\_English.pdf](https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English.pdf)
- Patel, V., Jain, M., & Singh, T. (2020). Industry-academia partnerships for skill development: A systematic review. *International Journal of Educational Management*, 34(2), 367–380. Retrieved from <https://doi.org/10.1108/IJEM-09-2019-0337>
- Rao, K. R. (2020). Trends in research productivity of Indian institutions in higher education. *Scientometrics*, 122(4), 1859–1882. Retrieved from <https://doi.org/10.1007/s11192-020-03411-6>
- Rao, S. K., Gupta, R. & Jain, A. (2020). Institutional collaborations in Indian educational research: Aligning with national priorities. *Scientometrics*, 122(3), 671–689. Retrieved from <https://doi.org/10.1007/s11192-020-03411-6>
- Chand, Satish Prakash. (2024). Bridging the gaps in quality education. *The Educational Review, USA*, 8(2), 202–210. Retrieved from [https://www.researchgate.net/publication/379000813\\_Bridging\\_the\\_Gaps\\_in\\_Quality\\_Education](https://www.researchgate.net/publication/379000813_Bridging_the_Gaps_in_Quality_Education)
- Sharma, D., Jain, P. & Gupta, A. (2021). Remote learning during COVID-19: An Indian perspective. *Studies in Higher Education*, 46(4), 715–728. Retrieved from <https://doi.org/10.1080/03075079.2021.1900785>
- Sharma, P., Singh, A., & Choudhary, R. (2021). Adaptive learning technologies for personalized education: A bibliometric analysis. *Studies in Higher Education*, 46(8), 1573–1592. Retrieved from <https://doi.org/10.1080/03075079.2021.1900785>
- Mhlanga, D. and Dzingirai, M. (2024). Bibliometric study on organizational resilience: Trends and future research agenda. *International Journal of Corporate Social Responsibility*, 9(1), 9. Retrieved from <https://doi.org/10.1186/s40991-024-00098-8>
- Bernhard, R. et al. (2024). A focus on quality of teaching in schools increases students' progress of attainment: Evidence from English secondary schools. *School Effectiveness and School Improvement*, 35(4), 506–530. <https://doi.org/10.1080/09243453.2024.2398601>
- UNESCO. (2015). *Education 2030: Incheon Declaration and Framework for Action—Towards inclusive and equitable quality education and lifelong learning for all*. UNESCO. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000232555>