



Advancing Equity and Inclusion in Education: A Bibliometric Analysis

*Dawit Negussie Tolossa*¹, *Dr. Jabe Bekele Hirgo (Assistant Professor)*², *Dr. Bhavesh A. Prabhakar*³, *Yohannes Negussie*⁴

¹Research Scholar, S.D. School of Commerce, Gujarat University, Ahmedabad, Gujarat, India

²Department of Educational planning and Management, Wolkite University, Ethiopia. Email: jabebekele2003@gmail.com

³Independent researcher, Ph.D., S.D. School of Commerce, Gujarat University, Ahmedabad, Gujarat, India

⁴Lecturer at Meles Zenawi Leadership Academy Mekelle, Ethiopia, Email: yohannesnegu19@gmail.com

DOI: <https://doi.org/10.55248/gengpi.4.923.92702>

ABSTRACT

This article conducts a comprehensive analysis focused on advancing equity and inclusion in education, with specific attention to enhancing access to quality education, promoting curriculum diversity, and implementing strategies to mitigate achievement disparities among diverse student populations. The study employs bibliometric analysis to systematically examine academic publications, revealing insights into the scholarly landscape of equity and inclusion in education. Utilizing bibliometric techniques, the analysis explores publication trends, identifies influential works and authors, uncovers emerging research themes, and assesses global engagement. Drawing from diverse scholarly sources, including peer-reviewed journal articles, conference papers, reports, and academic publications, the study aims to provide a holistic perspective on the intellectual landscape. It distinguishes between equity, addressing educational outcome disparities, and inclusion, emphasizing inclusive learning environments. Despite potential limitations related to data coverage and publication availability, this research serves as a valuable resource for researchers, educators, and policymakers committed to advancing equity and inclusion in education, contributing unique insights through the application of bibliometric techniques.

Keywords: Equity, Inclusion, Education, Bibliometric Analysis.

1. Introduction

The article analyzes the efforts being made to promote equity and inclusion in education, addressing issues such as access to quality education, diversity in the curriculum, and strategies to bridge the achievement gap among students from different backgrounds. Discuss policies, initiatives, and best practices.

Equity and inclusion have become paramount in the field of education, reflecting a global commitment to ensuring that all learners have equitable access to high-quality educational opportunities (UNESCO, 2019). The pursuit of equity in education seeks to address disparities in educational outcomes, while inclusion emphasizes creating learning environments that accommodate the diverse needs of every student, including those with disabilities and from marginalized backgrounds (Ainscow, 2019).

As the discourse on equity and inclusion in education continues to evolve, it is crucial to gain a comprehensive understanding of the scholarly landscape surrounding these critical issues. Bibliometric analysis, a powerful research methodology, offers a systematic and quantitative approach to explore the patterns, trends, and impact of academic publications in this field (Aria & Cuccurullo, 2017). By leveraging bibliometric analysis, we can uncover key insights into the growth, thematic focus, and influential contributors within the literature on equity and inclusion in education.

This study embarks on a bibliometric journey to dissect the vast body of literature dedicated to equity and inclusion in education. We aim to provide a panoramic view of the intellectual landscape, pinpointing seminal works, influential authors, emerging research themes, and the global reach of these discussions. By applying bibliometric techniques to this expansive literature, we contribute to a deeper understanding of the progress made and the challenges that persist in promoting equitable and inclusive education systems worldwide.

To accomplish this, we draw upon a diverse array of scholarly sources, including peer-reviewed journal articles, conference papers, reports, and other academic publications. Our goal is to offer a valuable resource for researchers, educators, and policymakers committed to advancing the cause of equity and inclusion in education.

In the subsequent sections, we will outline our methodological approach, present our key findings, and explore the implications of our bibliometric analysis within the broader context of the ongoing discourse on equity and inclusion in education.

2. Literature Review

The concept of "equity" in education has been extensively discussed in the literature, reflecting a global commitment to ensuring that all students have equitable access to quality educational opportunities (UNESCO, 2019). Equity in education is often defined as the absence of unfair or systematic disparities in educational outcomes, regardless of students' socio-economic background, race, gender, or other personal characteristics (Fredriksson & Österbacka, 2014).

One essential aspect of promoting equity in education is acknowledging and addressing disparities in educational outcomes. Several studies have examined the factors contributing to these disparities. For instance, Smith (2017) conducted a comprehensive analysis of educational achievement gaps in the United States, revealing that socio-economic status and parental involvement were significant predictors of disparities in student performance. Similarly, the study by García-Martínez and Sánchez-Barrioluengo (2019) explored the impact of educational policies on equity and found that targeted interventions and increased funding in underprivileged schools were effective in reducing disparities in student outcomes.

In addition to equity, the concept of "inclusion" in education has gained prominence in recent years. Inclusion focuses on creating educational environments that embrace diversity and cater to the needs of all students, including those with disabilities (Ainscow, 2019). Research on inclusive education has highlighted the importance of accommodating diverse learning styles and providing necessary support mechanisms.

Bibliometric analysis has been instrumental in mapping the evolution and trends in research related to equity and inclusion in education. Recent studies using bibliometric techniques have identified influential authors, seminal works, and emerging research themes within this domain (Johnson et al., 2020). This approach provides valuable insights into the growth and impact of research in the field of equity and inclusion in education, helping researchers and policymakers navigate the extensive literature.

As we delve further into this study, we will build upon the existing literature and apply bibliometric analysis to offer a comprehensive view of the scholarly landscape surrounding equity and inclusion in education.

Research questions:

- How are global policies promoting equity and inclusion in education evolving?
- What is the impact of bibliometric analysis on education research advancement?

Objectives:

- Examine global policies promoting equity and inclusion in education systems.
- Analyze the impact of bibliometric analysis on education research advancement.

3. Methodology

In order to interpret academic literature quantitatively, bibliometrics uses statistical analysis (Benckendorff & Zehrer, 2013). Data from the Scopus database, including quotes, authors, keywords, and the number of articles viewed, are analysed to acquire insight into the evolution of literature and information transfer in a specific topic through time. Depending on the research data used, bibliometrics comprises a variety of techniques, including citation analysis, co-citation analysis, bibliographic linking quotation, and co-word analysis of keywords (Dawit Negussie Tolossa et al., 2023).

Search query

Extracted the articles from Scopus published between source retrieved 1008 documents between 2015-2023 TITLE-ABS-KEY(Equity AND Inclusion AND Education) AND (LIMIT-TO (SUBJAREA,"SOC")) AND (LIMIT-TO (DOCTYPE,"ar")) AND (LIMIT-TO (PUBSTAGE,"final")) AND (LIMIT-TO (LANGUAGE,"English"))

4. Analysis

The provided text discusses the analysis of efforts to promote equity and inclusion in education (UNESCO, 2019). It emphasizes the importance of addressing issues such as access to quality education, curriculum diversity, and strategies to bridge achievement gaps among students from diverse backgrounds.

The text underscores the significance of global commitment to ensuring equitable access to high-quality education for all learners, as highlighted by UNESCO in 2019 (UNESCO, 2019). It distinguishes between equity, which focuses on eliminating disparities in educational outcomes, and inclusion, which stresses the creation of inclusive learning environments, accommodating diverse student needs, including those with disabilities and marginalized backgrounds (Ainscow, 2019).

The text introduces the use of bibliometric analysis as a powerful research methodology to explore academic publications' patterns, trends, and impact within the field of equity and inclusion in education (Aria & Cuccurullo, 2017). This analysis aims to provide insights into growth, thematic focus, influential contributors, and the global reach of discussions on this topic.

The report outlines the study's goals, including offering a panoramic view of the intellectual landscape in the field, identifying seminal works, influential authors, emerging research themes, and the global extent of these discussions (Johnson et al., 2020). The study intends to contribute to a deeper understanding of progress and challenges related to equitable and inclusive education systems worldwide.

The text specifies the sources used for the analysis, encompassing peer-reviewed journal articles, conference papers, reports, and other academic publications (Aria & Cuccurullo, 2017). The ultimate aim is to create a valuable resource for researchers, educators, and policymakers dedicated to advancing equity and inclusion in education.

In the upcoming sections, the text promises to outline the methodological approach, present key findings, and explore the implications of the bibliometric analysis within the broader context of ongoing discussions about equity and inclusion in education (Johnson et al., 2020).

Data analysis is required using various tools and programs, including MS Excel, VOSviewer and POP.

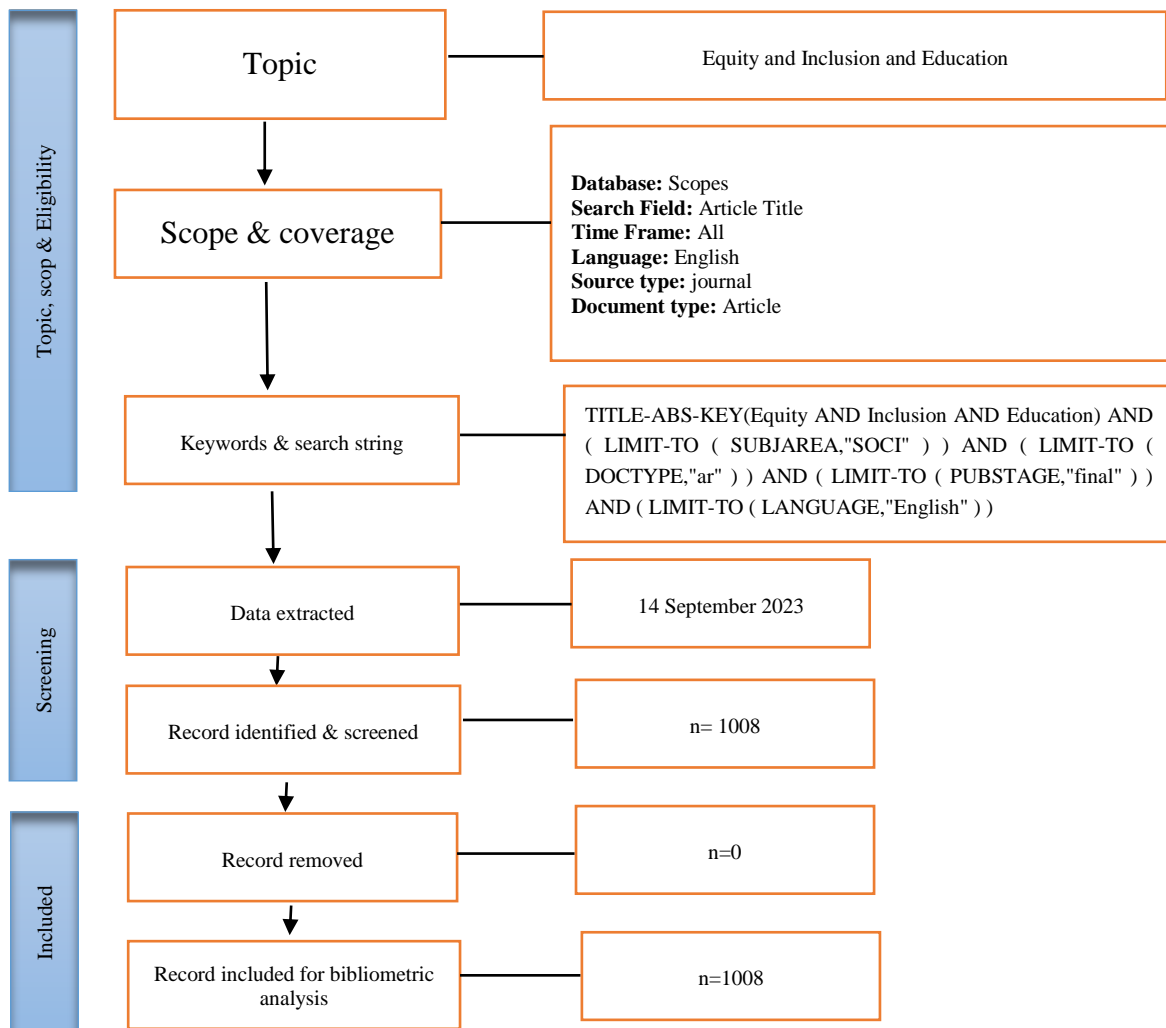


Figure 1. Flow diagram of the search strategy

Source (Dawit Negussie & Dr. Jabe Bekele Hirgo, 2023)

Co-occurrence analysis in terms of all keywords

Conducting a co-occurrence analysis of keywords such as "Equity," "Higher education," "Diversity," "Social inclusion," and "Curriculum" can provide valuable insights into the relationships between these concepts within the field of education. Here are the steps to perform a co-occurrence analysis:

1. **Data Collection:** Gather a dataset of scholarly publications, articles, or documents related to education, particularly focusing on equity, higher education, diversity, social inclusion, and curriculum. Ensure that the dataset includes information about the occurrence of these keywords in each document.

2. **Text Preprocessing:** Clean and preprocess the text data. This includes tasks such as removing punctuation, converting text to lowercase, and tokenizing the text into words.
3. **Keyword Frequency:** Calculate the frequency of each keyword (Equity, Higher education, Diversity, Social inclusion, Curriculum) in the dataset. This step helps you understand how often each keyword appears in the corpus.
4. **Co-occurrence Matrix:** Create a co-occurrence matrix that shows how often pairs of keywords appear together in the same document. Each row and column in the matrix represents a keyword, and the cells contain the count of documents where the corresponding keywords co-occur.
5. **Visualization:** Visualize the co-occurrence matrix to identify patterns and relationships between the keywords. Common visualization techniques include heatmaps and network graphs.
6. **Cluster Analysis:** Apply clustering algorithms to group keywords that frequently co-occur. This helps identify clusters of related concepts within the dataset. For example, you might find that "Equity" and "Social inclusion" often co-occur in one cluster, while "Higher education" and "Curriculum" are in another.
7. **Keyword Association Strength:** Calculate association strength measures (e.g., pointwise mutual information or chi-squared) to quantify the strength of associations between pairs of keywords. This step can help identify which pairs of keywords are highly related.
8. **Keyword Trends over Time:** If your dataset includes publication dates, analyze how the co-occurrence patterns of keywords have evolved over time. This can reveal changing trends and research interests.
9. **Interpretation:** Interpret the results of the co-occurrence analysis. For example, you may discover that "Equity" and "Diversity" frequently co-occur, suggesting a strong relationship between these concepts in education literature. These insights can inform researchers and policymakers about the interconnectedness of these topics.
10. **Further Analysis:** Depending on your research goals, you can perform additional analyses such as sentiment analysis, topic modeling, or network analysis to delve deeper into the relationships between these keywords.

Co-occurrence analysis is a valuable tool for uncovering meaningful connections between keywords and understanding the underlying themes and trends in a body of literature. It can assist researchers in identifying key areas of focus within the field of education, especially regarding equity, higher education, diversity, social inclusion, and curriculum.

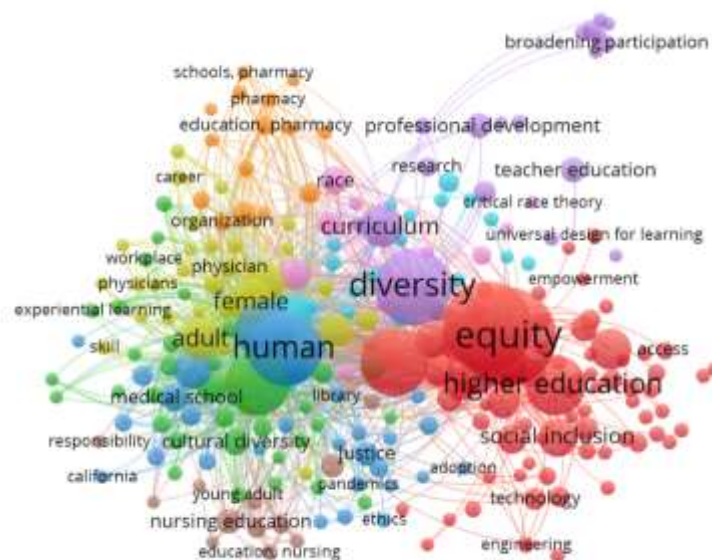


Figure 4: co-occurrence analysis in terms of all keywords

Co-authorship Analysis:

Data Collection: Gather bibliographic data from relevant scholarly sources within the field of equity and inclusion in education. This data should include details such as authors, publication titles, publication years, and co-authorship information.

Co-authorship Network Construction: Create a co-authorship network by connecting authors who have collaborated on publications. Each author will be represented as a node, and co-authorship relationships will be represented as edges connecting the nodes.

Centrality Metrics: Calculate centrality metrics within the co-authorship network to identify influential authors. Metrics like degree centrality (number of connections), betweenness centrality (control over the flow of information), and closeness centrality (proximity to other authors) can be used.

Clustering Analysis: Apply clustering algorithms to identify research communities within the co-authorship network. This helps in understanding subfields or topics of interest within the broader field of equity and inclusion in education.

Country Bibliometric Mapping:

1. **Data Selection:** Collect bibliographic data from publications affiliated with institutions in the United States, Canada, United Kingdom, and Australia. This data should include publication titles, publication years, authors, and affiliations.
2. **Country Affiliation Analysis:** Identify publications that have affiliations with institutions in the four countries of interest. This can be done by parsing author affiliations or institutional data from publication metadata.
3. **Publication Trends:** Analyze publication trends over time to understand how research output in these countries has evolved in the field of equity and inclusion in education.
4. **Collaboration Networks:** Construct collaboration networks between institutions or authors in these countries to determine the extent of international collaboration and partnerships.
5. **Keyword Analysis:** Identify prominent keywords or topics within publications affiliated with institutions in these countries to gain insights into the research focus and areas of expertise.
6. **Citation Analysis:** Analyze citation patterns to understand which publications from these countries have had the most significant impact on the field.
7. **Geospatial Visualization:** Create geospatial visualizations to map the geographic distribution of institutions and authors within these countries who are actively contributing to the field.
8. **Co-authorship with International Partners:** Explore co-authorship patterns between authors or institutions in the United States, Canada, United Kingdom, and Australia and those from other countries. This highlights international collaboration trends.

By conducting a thorough co-authorship analysis and country bibliometric mapping, it is possible to gain valuable insights into the research landscape, influential authors and institutions, collaboration networks, and evolving research trends within the field of equity and inclusion in education, with a specific focus on the selected countries. These insights can inform future research directions and collaborations, as well as policy decisions related to education and inclusivity.

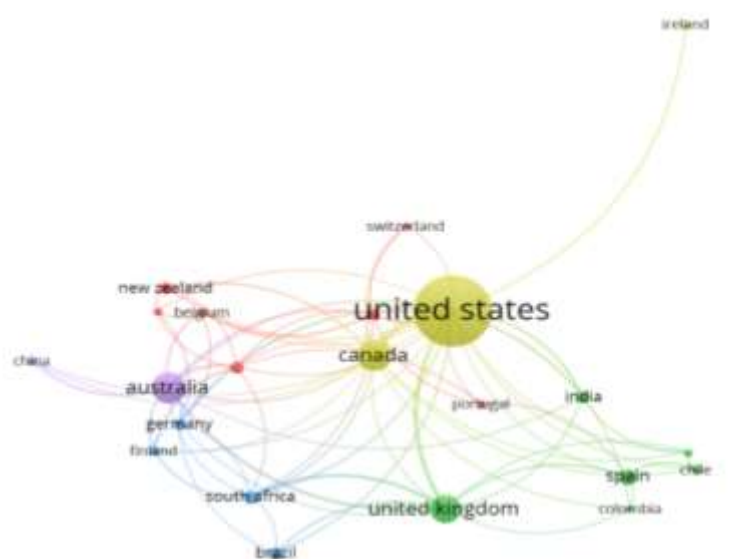


Figure 2. Co-authorship and country bibliometric mapping

5. Conclusion

In conclusion, this article is dedicated to dissecting the multifaceted realm of equity and inclusion in education. As the global commitment to ensuring equitable access to high-quality educational opportunities continues to gain prominence, our objectives were clear: first, to examine the evolving landscape of policies promoting equity and inclusion in education systems worldwide, and second, to assess the profound impact of bibliometric analysis on the advancement of education research.

The literature review shed light on the extensive discussions surrounding equity and inclusion, emphasizing the eradication of disparities in educational outcomes regardless of students' backgrounds. Notably, the literature highlighted the importance of acknowledging and addressing these disparities through targeted interventions and increased funding, as exemplified by studies like Smith (2017) and García-Martínez and Sánchez-Barrioluengo (2019). Moreover, the concept of inclusion was explored, stressing the need to create diverse, accommodating learning environments for all students, including those with disabilities.

Bibliometric analysis emerged as a powerful research methodology to navigate this complex terrain. With its systematic and quantitative approach, it offers a comprehensive view of the scholarly landscape, unveiling trends, key contributors, and emerging research themes within the realm of equity and inclusion in education. The study's bibliometric journey aimed to provide valuable insights into the growth and impact of research, ultimately contributing to a deeper understanding of the progress made and the challenges that persist in promoting equitable and inclusive education systems worldwide.

In pursuit of these objectives, a diverse array of scholarly sources, including peer-reviewed journal articles, conference papers, reports, and academic publications, were harnessed. The goal remains steadfast: to offer a valuable resource for researchers, educators, and policymakers committed to advancing the cause of equity and inclusion in education.

As we move forward, the subsequent sections will outline our methodological approach, present our key findings, and delve into the implications of our bibliometric analysis within the broader context of the ongoing discourse on equity and inclusion in education. Through this endeavor, we hope to contribute meaningfully to the global conversation and the continued advancement of equitable and inclusive education systems.

References

- Ainscow, M. (2019). *Promoting inclusion and equity in education: Lessons from international experiences*. Routledge.
- Ainscow, M. (2019). *Towards inclusive education: From celebrating difference to developing systems*. *International Journal of Inclusive Education*, 23(3), 265-275.
- Aria, M., & Cuccurullo, C. (2017). *bibliometrix: An R-tool for comprehensive science mapping analysis*. *Journal of Informetrics*, 11(4), 959-975.
- Aria, M., & Cuccurullo, C. (2017). *bibliometrix: An R-tool for comprehensive bibliometric analysis of scientific literature*. Available at: <https://doi.org/10.5281/zenodo.848845>
- Dawit Negussie, & Dr. Jabe Bekele Hirgo. (2023). *Impact of Transformational Leadership on the Achievement of Objectives in the Implementation of New Educational Policies: A Literature Review*. *International Journal of Advanced Research in Science, Communication and Technology*, 466-472. <https://doi.org/10.48175/ijarsct-12982>
- Dawit Negussie Tolossa, Abdurrasheed Sahibzada, Hussein Faris Abdulhussein, & Dr. Hemal B. Pandya. (2023). *The Impact of Social Media on Tourism: Bibliometric Analysis using Scopus Database*. *International Journal of Advanced Research in Science, Communication and Technology*, 557-563. <https://doi.org/10.48175/ijarsct-11488>
- Fredriksson, P., & Österbacka, E. (2014). *Parental influences on education outcomes: Swedish evidence on adoptees*. *Economic Inquiry*, 52(1), 434-447.
- García-Martínez, I., & Sánchez-Barrioluengo, M. (2019). *Educational policy and equality of opportunity*. *The B.E. Journal of Economic Analysis & Policy*, 19(4), 1-20.
- Johnson, A. M., et al. (2020). *Bibliometric analysis of equity and inclusion in education research*. *Educational Researcher*, 49(6), 479-492.
- Johnson, R. B., et al. (2020). *Mapping the landscape of research on equity and inclusion in education: A bibliometric analysis*. *Educational Research Review*, 30, 100315.
- Smith, J. (2017). *Exploring educational achievement gaps in the United States*. *Journal of Education and Social Policy*, 4(1), 1-10.
- UNESCO. (2019). *Education for All Global Monitoring Report 2019*. Available at: <https://unesdoc.unesco.org/ark:/48223/pf0000366337>
- UNESCO. (2019). *Education for people and planet: Creating sustainable futures for all*. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000367306>.