

The Evolution of Multicultural Education Indonesia 2000-2022: Bibliometric Analysis, Google Scholar

Tria Ina Utari

Institut Agama Islam Negeri Ambon, Maluku, Indonesia

e-mail: tria.ina.utari94@gmail.com

Abstract. *The complexity of Indonesia's diversity and cultural patterns have undergone a major evolution, especially with multicultural education in several parts of Indonesia. Multicultural education is an echo of the government in maintaining peace between ethnicities, races, and religions in Indonesia. The purpose of this study is to conduct a bibliometric analysis of Google Scholar articles about the evolution of multicultural education trends in Indonesia by searching for 2000-2022 through the productivity of scientific articles, productive authors, thematic mapping, the emergence of shared keywords, and the collaboration of authors. This analysis uses Vos viewer software. This study managed to collect 994 articles, and 32,497 citations, with an author/paper ratio of 1.81. Multicultural research in Indonesia came to the fore in 2002 and continues to increase sharply in 2020, 2021, and 2022. The first-ranked researcher for the past 22 years is Wekke with 11 articles published, while the highest h-index is C Mahfud in 2013 with an h-index of 1475, he wrote a multicultural educational book. Multicultural education resulted in 4012 links, with several titles and abstracts related to it. The originality in this study as far as is known has never been done, especially how the evolution of multicultural education in Indonesia by utilizing artificial intelligence technology.*

Keywords. *Evolution; Multicultural Education; Indonesia; Bibliometric*

Abstrak. Kompleksitas keragaman dan pola budaya Indonesia telah mengalami evolusi besar, terutama dengan pendidikan multikultural di beberapa wilayah Indonesia. Pendidikan multikultural merupakan gaung pemerintah dalam menjaga perdamaian antar suku, ras, dan agama di Indonesia. Tujuan dari penelitian ini adalah untuk melakukan analisis bibliometrik artikel Google Scholar tentang evolusi tren pendidikan multikultural di Indonesia dengan menelusuri 2000-2022 melalui produktivitas artikel ilmiah, penulis produktif, pemetaan tematik, kemunculan shared keywords, dan kerjasama para penulis. Analisis ini menggunakan software Vos viewer. Penelitian ini berhasil mengumpulkan 994 artikel, dan 32.497 kutipan, dengan rasio penulis/makalah 1,81. Penelitian multikultural di Indonesia mengemuka pada tahun 2002 dan terus meningkat tajam pada tahun 2020, 2021, dan 2022. Peneliti peringkat pertama selama 22 tahun terakhir adalah Wekke dengan 11 artikel yang diterbitkan, sedangkan h-index tertinggi adalah C Mahfud di 2013 dengan indeks-h 1475, ia menulis buku pendidikan multikultural. Pendidikan multikultural menghasilkan 4012 link, dengan beberapa judul dan abstrak yang terkait dengannya. Keaslian dalam penelitian ini sejauh yang diketahui belum pernah dilakukan, terutama bagaimana evolusi pendidikan multikultural di Indonesia dengan memanfaatkan teknologi kecerdasan buatan.

Kata Kunci. *Evolusi; Pendidikan Multikultural; Indonesia; Bibliometrik*



This is an open access article under the CC BY-SA 4.0 license
(<https://creativecommons.org/licenses/by-sa/4.0/>)

A. INTRODUCTION

The incorporation of several frameworks, methods, and tools in studying and analyzing the results of scientific publications especially the development of broad science can be through bibliometric analysis (Akhavan, P., Ebrahim, N.A., Fetрати, M.A. and Pezeshkan, 2016) Some indexer management such as Scopus, WOS, google scholar, etc. can facilitate bibliometric analysis on a world scale, so this analysis tool has become popular among academics, especially in analyzing publications, citations, publication sources, and authors from various countries. Google Scholar is a database that indexes from various scientific disciplines that can be the material for empirical evaluation of research, especially related to global issues in various countries, including Indonesia. Through bibliometric analysis, researchers can find out the dynamics of trends that appear in articles, the performance of related journals, author collaboration, etc. Previous studies in Indonesia used various methods to look at Indonesian multicultural education, but there has been no global research to measure the extent of the evolution of multicultural education since a few years ago including performance analysis. (Gaviria-Marin, M., Merigo, J.M. and Baier-Fuentes, 2019) and science mapping (Sanguankaew, P. and Ractham, 2019) related to it. Bibliometric studies began to be widely adopted in research knowledge references (Gaviria-Marin, M., Merigo, J.M. and Baier-Fuentes, 2019; Gu, 2004; Schiuma, G., Kumar, S., Sureka, R. and Joshi, 2020).

Farooq (2021) performed a bibliometric analysis on 1,016 articles in the Scopus database. The results stated that the contribution of authors was dominated by single authors, explaining the productivity of each country in producing knowledge articles, and the performance of relevant journals. Loan and Shueb Sheikh (2018) conducted a bibliometric analysis on the google scholar database by raising five global issues of the world. The results reveal a variety of search results in journals, books, citations, reports, and theses on five global world issues, and analyze various models of article accessibility, and article productivity in journals. Donthu, N., Kumar, S., Pandey, N., and Gupta (2021) and Schiuma, G., Kumar, S., Sureka, R., and Joshi (2020) also include new efforts to develop bibliometric analyses of some reference management, but the study is limited to a specific journal scope.

Many previous studies have also applied meta-analysis in understanding the subjects being measured, as well as various identifications and analyses of articles with a small and limited scope (Noor, S., Guo, Y., Shah, S.H.H., Nawaz, M.S. and Butt, 2020; Pellegrini, M.M., Ciampi, F., Marzi, G. and Orlando, 2020). But the estuary of all studies is an increase in understanding of how knowledge management is. In carrying out knowledge management the researcher does not focus on theoretical roots rather than deep subjects and ignores them. Knowledge management in its dedication is an independent field that will be used as a necessity from other factors and has an impact on literature (Akhavan, P., Ebrahim, N.A., Fetрати, M.A. and Pezeshkan, 2016). Akhavan, P., Ebrahim, N.A., Fetрати, M.A. and Pezeshkan (2016) used bibliometrics on 500 published documents and analyzed significant trends such as the most cited countries, variations in the entire year of publication, emerging new research areas, and their significance. Bibliometric analysis has great benefits and potential for future developments (Goswami, A.K. and Agarwal, 2018). Previous studies have also found several obstacles such as difficulty in tracking published documents in the field of

search that want to be researched, especially in the development of scientific methods such as bibliometric, meta-analysis, and scientometric (Farooq, 2021).

The bibliometric analysis in knowledge is very novelty, and some authors such as Serenko, Bontis, Gaviria-Marin, and Farooq have continued to strive to expand this field with statistical analysis in recent years (Loan and Shueb Sheikh, 2018). Unfortunately, the bibliometric analysis carried out still focuses on the bibliometric analysis of journals or minimal samples, especially to generalize the findings. Agostini, L., Nosella, A., Sarala, R., Spender, J.C., and Wegner (2020) uses bibliometric analysis using 85 studies in the WOS database. Therefore, this study tries to fill some gaps in conducting performance analysis and knowledge mapping. This study used the google scholar database. The rise of google has managed to lead to success that helps to find pages that match the searches performed (Brin, S. and Page, 1998). Google can provide comprehensively with great and is highly recommended as a top search engine. Even researchers revealed google is an information supermarket, while google scholar is a store in particular (Sobat, 2004). So special, that it is very eye-catching for librarians and researchers as a free search engine for information on a variety of multidisciplinary scientific literature (Mayr, P. and Walter, 2007). Google is widely used because loyalty, convenience, and usability are very useful for both universities (Lercher, 2008) and school students (Cothran, 2011). Source all subjects, papers, patents, proceedings, books, seminars, etc. estimated at 160 million documents (Orduna-Malea, E., Ayllon, J.M., Martin, A. and Lopez-Cozar, 2014).

But there are cons to the discussion of google scholar, Neuhaus, C., Neuhaus, E., Asher & Wrede (2006) reveal that Google Scholar has a bias toward English and scientific articles. Google Scholar is also not updated regularly, articles available for free on the web server are also not easily tracked in google scholar, although they can be searched in the classic google web (Mayr, P. and Walter, 2007). Google Scholar is pretty good at indexers, but it should still be subject to analysis and evaluation (Loan and Shueb Sheikh, 2018). Loan and Shueb Sheikh (2018) reveal that in any case google scholar is seen by many as a freely available resource and very helpful in the discovery of user documents. This article focuses on the source of knowledge taken in google scholar, namely Indonesian multicultural education using bibliometrics. This research does not focus on one source only, but also on the entirety of articles, books, seminars, theses, dissertations, etc. related to multicultural education.

Indonesia has high diversity, this is based on BPS data, 2010, that Indonesia has 1,340 ethnicities from various territorial areas. The plurality is also coupled with the large population of Indonesia which reaches 272.68 million people. The existing diversity is a cultural treasure that contributes to the development of multicultural-related knowledge in a country. The high pluralism in Indonesia makes it one of the reference sources in the management of multicultural social dynamics. This has prompted many Indonesian researchers who research multiculturalism and associate it with an educational study. If traced, Indonesia carries out civilization and development based on the laws of the law which are reflected in a state emblem "Pancasila". The paradigm that was built, made Indonesia have a variety of multicultural characteristics both vertical and horizontal which eventually gave birth to the findings of multicultural education studies. Kusumaningrum & Wahyono (2019) examines how to prevent racism among academics. The results show that digital literacy with multicultural

education and nationalism is indispensable. SC Budiono (2015) mentioning the richness of Indonesia's diverse culture is a vehicle for learning about differences in values, views, and behaviors in the association so that compulsory education can prevent an increase in the value of injustice, neglect, and indifference. Harmi et al., (2022) also studied how intercultural understanding of the ethnic group of the jungle people in Sumatra who have an understanding of multiculturalism, while Kusumaningrum & Wahyono (2019) analyzes the propaganda of Papua, Indonesia.

A large number of multicultural education research opportunities in Indonesia is a challenge for new researchers, especially in paying attention to the existing trends in multicultural issues to produce high opportunities for novelty. This analysis is very important, especially for researchers in looking at gaps in contributing to improving the theoretical understanding of knowledge. However, as far as the author's identification, there has been no research that reveals how the evolution of multicultural education in Indonesia from 2000 to 2022 mainly sees the trend of Indonesian multicultural education as knowledge management literature based on bibliometric analysis.

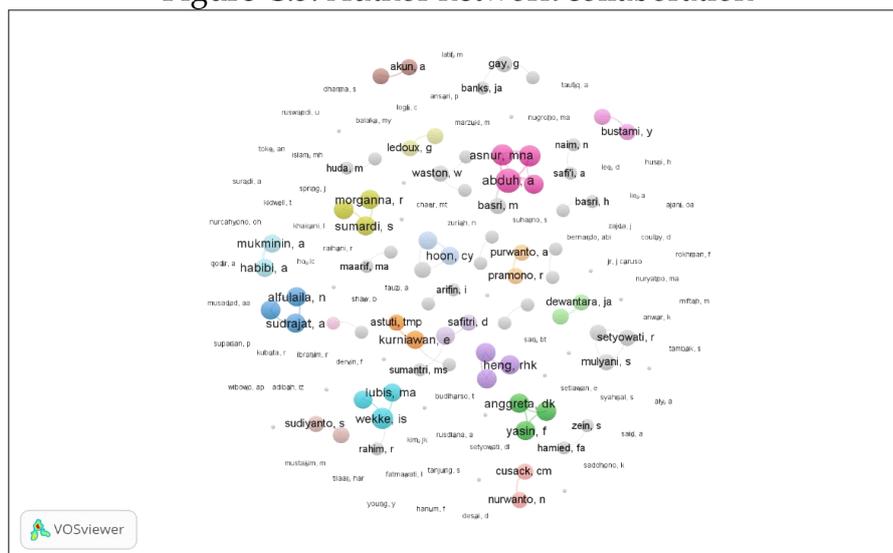
Research Question

- Q1. Who is the most prolific author in both the number of publications and citations?
- Q2. What is Indonesia's most frequently used multicultural education theme?
- Q3. How many Indonesian authors collaborate in multicultural educational studies?

B. METHODS

This research uses bibliometric analysis, which is a statistical analysis method in articles and quotations that have been published so that the impact can be known for the use of scientific multidisciplinary. The bibliometric analysis uses the application of statistics and mathematics to scientific publications to establish indicators and scientific research (Zyoud, S.H., Al-Jabi, S.W., Sweileh, W.M. and Waring, 2015). This analysis requires data from various bibliographies such as WOS, Scopus, and Google Scholar (Murgado-Armenteros, E.M., Gutiérrez-Salcedo, M., Torres-Ruiz, F.J. and Cobo, 2015). But Scopus is better than WOS and Google Scholar in terms of citations and number of journals (Falagas, M.E., Pitsouni, E.I., Malietzis, G.A. and Pappas, 2008; Zyoud, S.H., Al-Jabi, S.W., Sweileh, W.M. and Waring, 2015). However, this study used Google Scholar in extracting metadata on multicultural education in Indonesia. The keyword Indonesian Multicultural Education is used to extract data from google scholar. This is because there are very few for this keyword in Scopus. Searches are performed like titles and abstracts. Only studies conducted from 2000 to 2022 are considered in this analysis. In Hallinger, P. and Kova cevi c (2019) the majority of studies focused on mapping science and analyzing performance (Brown, T., Park, A. and Pitt, 2020) in utilizing bibliometric analysis. Advances this analysis in bibliometric research using VosViewer, CitNetExplorer, SciMat, Bibexcel, and CiteSpace. In this study, researchers used harzing's publish or perish to support data import, conversion into reference management, and data filters. In this study, a data meta-analysis was carried out aimed at summarizing a large amount of bibliometric data to present the structure of multicultural education in Indonesia and the emerging trends in the study of Indonesian multicultural education. Bibliometric analysis to support this study

Figure C.5. Author network collaboration



Sources: Output Vos Viewer, 2022

Discussion

This study uses bibliometric analysis in understanding the theoretical basis of Indonesia's multicultural education field. We found 994 Indonesian multicultural education analysis documents from 2000 to 2022 that were in the google scholar indexer with publish or perish (PoP). The results of this analysis provide us with a wide opportunity to explore the production of scientific articles, the most productive authors, and keyword analysis. As well as conducting science mapping that describes how themes, documents, and authors have the possibility of being related to one another. The study found 1,428 authors in Indonesian multicultural education, only 1.05% represented documents with more than one multi-author and 98.9 were documents with one author. Under the law of lokta, then 84.7% of Indonesian authors contributed at least one article, 10.8% of authors published two articles, 3.2% of authors published three publications, and 1.3% of authors contributed as many as four scientific publications. As for the author, C Mahfud (2013) was the most productive document with 1,475 citations.

The results of the performance analysis also showed a surge in publications leading to the development of multicultural education in Indonesia. In previous studies, researchers found limited scope with authors focusing only on certain journals (Farooq, 2021; Islam, M.A. and Widen, 2021; Schiuma, G., Kumar, S., Sureka, R., and Joshi, 2020). Meanwhile, this research is an effort to cover all journals in the field of multicultural education studies in Indonesia. The scientific growth of articles covering multicultural education in Indonesia increased very significantly in 2020, 2021, and 2022. The study shows that multicultural education shows exponential growth in recent years.

The involvement of researchers in the development of knowledge in the field of Indonesian multicultural education is an important contribution to the field of educational research. The growth of multicultural education has increased due to the regulation of curriculum in several religious universities with a multicultural base, in addition to the essence of education in Indonesia itself, namely, since 1945 it has been included in diversity, namely the view of the life of the Indonesian nation, namely

“Bhineka Tunggal Ika” its meaning is “Although different but still one” as well as the increase in Multicultural journal journals, Multicultural Practices and the opening of ease accessing international indexing journal journals that become thinking references. The limitation of this research is the development of analysis is limited to several scopes, in the future this research can be developed with more complex metadata analysis through the addition of several keywords.

D. CONCLUSION

The results of this study show that Indonesia's multicultural education has shown rapid progress in recent years, namely in 2020, 2021, and 2022. 84.7% of Indonesian authors contributed at least one article, 10.8% of authors published two articles, 3.2% of authors published three publications, and 1.3% of authors contributed as many as four scientific publications. 994 Indonesian articles have a multicultural education scope with a total of 32,497 citations. Over the past few years, research on multicultural education has exploded in Indonesia due to the increasing interest of researchers and practitioners along with the similarity of multicultural backgrounds owned by Indonesia itself. Several areas and issues were raised in the development of multicultural education, however, few studies applied bibliometric analysis in its literature. This study is quite comprehensive in analyzing bibliometrics in the field of multicultural education.

REFERENCES

- Agostini, L., Nosella, A., Sarala, R., Spender, J.C. and Wegner, D. (2020). “Tracing the evolution of the literature on knowledge management in inter-organizational contexts: a bibliometric analysis.” *Journal of Knowledge Management*, 24(2), 463–490.
- Akhavan, P., Ebrahim, N.A., Fetrati, M.A. and Pezeshkan, A. (2016). “Major trends in knowledge management research: a bibliometric study.” *Scientometrics*, 107(3), 1249–1264.
- Borgatti, S. P. (2005). “Centrality and network flow.” *Social Networks*, 27(1), 55–71.
- Brin, S. and Page, L. (1998). “The anatomy of a large-scale hyper textual web search engine.” *Computer Networks and ISDN Systems*, 13(1/7), 107–117.
- Brown, T., Park, A. and Pitt, L. (2020). “A 60-year bibliographic review of the journal of advertising research: perspectives on trends in authorship, influences, and research impact.” *Journal of Advertising Research*, 60(4), 353–360.
- Cothran, T. (2011). “Google scholar acceptance and use among graduate students: a quantitative study.” *Library and Information Science Research*, 33(4), 293–301.
- Donthu, N., Kumar, S., Pandey, N. and Gupta, P. (2021). “Forty years of the International Journal of Information Management: a bibliometric analysis.” *International Journal of Information Management*, 57, 102307.
- Falagas, M.E., Pitsouni, E.I., Malietzis, G.A. and Pappas, G. (. (2008). “Comparison of PubMed, Scopus, Web of Science, and Google Scholar: strengths and weaknesses.” *The FASEB Journal*, 22(2), 338–342.
- Farooq, R. (2021). “Mapping the field of knowledge management: a bibliometric analysis using R.” *VINE Journal of Information and Knowledge Management Systems*.
- Fayaz Ahmad Loan and Shueb Sheikh. (2018). *Is google scholar really scholarly?* Emerald Publishing Limited, 3, 7–9.
-

- Freeman, L. C. (1979). "Centrality in social networks: conceptual clarification." *Social Networks*, 1(3), 215–239.
- Gaviria-Marin, M., Merig_o, J.M. and Baier-Fuentes, H. (2019). "Knowledge management: a global examination based on bibliometric analysis." *Technological Forecasting and Social Change*, 140, 194–220.
- Gholampour, S., Noruzi, A., Gholampour, B. and Elahi, A. (. (2019). "Research trends and bibliometric analysis of a journal: sport management review." *Webology*, 16(2), 223–241.
- Goswami, A.K. and Agarwal, R. K. (2018). "A reflection on knowledge sharing research: patterns and trends." *VINE Journal of Information and Knowledge Management Systems*, 48(3), 352–372.
- Gu, Y. (2004). "Global knowledge management research: a bibliometric analysis." *Scientometrics*, 61(2), 171–190.
- Hallinger, P. and Kova_cevi_c, J. (2019). "Science mapping the knowledge base in educational leadership and management: a longitudinal bibliometric analysis, 1960 to 2018." *Educational Management Administration and Leadership*, 49(1), 5–30.
- Harmi, H., Ramdhani, M. I., Amalia, S., Apriani, E. (2022). How Great Is the Level of Youth Cultural Sensitivity? A Multicultural Education from One Ethnic in Indonesia. In *Education Research*.
- Huang, C., Yang, C., Wang, S., Wu, W., Su, J. and Liang, C. (2020). "Evolution of topics in education research: a systematic review using bibliometric analysis". *Educational Review*, 72(3), 281–297.
- Islam, M.A. and Widen, G. (2021). "Bibliometric analysis of the VINE journal of information and knowledge management systems: 2000–2020." *VINE Journal of Information and Knowledge Management Systems*.
- Kusumaningrum, K., & Wahyono, S. B. (2019). Developing A Pop-Up Storybook Based on Multicultural Education for Early Childhood Students. *Jurnal Obsesi: Jurnal Pendidikan*.
- Lercher, A. (2008). "A survey of attitudes about digital repositories among faculty at Luisiana state university at Baton Rouge." *The Journal of Academic Librarianship*, 34(5), 408–415.
- Li, E.Y., Liao, C.H. and Yen, H. . (2013). "Co-authorship networks and research impact: a social capital perspective." *Research Policy*, 42(9), 1515–1530.
- Lu, H. and Feng, Y. (2009). "A measure of authors' centrality in co-authorship networks based on the distribution of collaborative relationships". *Scientometrics*, 81(2), 499–511.
- Mayr, P. and Walter, A.-K. (2007). "An exploratory study of Google scholar." *Online Information Review*, 31(6), 814–830.
- Murgado-Armenteros, E.M., Gutiérrez-Salcedo, M., Torres-Ruiz, F.J. and Cobo, M. J. (2015). Analysing the conceptual evolution of qualitative marketing research through science mapping analysis". *Scientometrics*, 102(1), 519–557.
- Neuhaus, C., Neuhaus, E., Asher, A. and, & Wrede, C. (2006). "The depth and breadth of Google scholar: an empirical study." *Portal: Libraries and the Academy*, 6(2), 127–141.
- Noor, S., Guo, Y., Shah, S.H.H., Nawaz, M.S. and Butt, A. . (2020). "Bibliometric analysis of social media as a platform for knowledge management." *International Journal of*

- Knowledge Management*, 16(3), 33–51.
- Orduna-Malea, E., Ayllon, J.M., Martín_Martin, A. and Lopez-Cozar, E. . (2014). "About the size of Google scholar: playing Table I. Diversity of information sources Source Global warming Economic recession Terrorism HIV AIDS Child labour Total Journal article 39 33 17 30 26 145 (58.7%) Books 9 6 21 6 6 48 (19.43%) Citations 2 8 11 14. In *EC3 Working Papers* (Vol. 18).
- Pellegrini, M.M., Ciampi, F., Marzi, G. and Orlando, B. (. (2020). "The relationship between knowledge management and leadership: mapping the field and providing future research avenues". *Journal of Knowledge Management*, 24(6), 1445–1492.
- Sanguankaew, P. and Ractham, V. . (2019). "Bibliometric review of research on knowledge management and sustainability, 1994–2018." *Sustainability*, 11(16), 4388.
- SC Budiono, R. S. (2015). Character education in multicultural society : an Indonesian Case. *The Commemorative Academic Conference for the 60th Anniversary of the 1955 Asian - African Conference*.
- Schiuma, G., Kumar, S., Sureka, R. and Joshi, R. (2020). "Research constituents and authorship patterns in the knowledge management research and practice: a bibliometric analysis." *Knowledge Management Research and Practice*, 1–17.
- Sun, J. (2021). "The mental health of refugees in the USA: changes and the unchanged." *Journal of Public Health*, 1–8.
- Zyoud, S.H., Al-Jabi, S.W., Sweileh, W.M. and Waring, W. . (2015). "Scientific research related to calcium channel blockers poisoning: bibliometric analysis in Scopus, 1968–2012." *Human and Experimental Toxicology*, 34(11), 1162–1170.