

Trends of Cultural Research in the Indonesian Education Sector on the Scopus Database: Analysis with Bibliometrics (2010-2023)

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ABSTRACT

This research aims to explore publication trends in the field of culture in education in indonesia using the scopus database. Data analysis was carried out using rstudio and vosviewer, producing 323 related documents. The number of research publications in this field experienced a significant jump, almost sevenfold from 2017 to 2023, with the highest peak occurring in 2019, reaching 61 publications or around 18.89% of the total publications. Universitas indonesia contributed the highest number of publications with 42 articles, indicating a significant contribution to related research. The most dominant scientific journal is "journal of physics: conference series" with 34 articles. Mora claramita from universitas gajah mada has an h-index of 3 with a total of 147 citations from 6 publications, indicating her significant contribution to related scientific literature. Article by claramita et al. (2013) discusses communication between doctors and patients in southeast asia, highlighting cultural diversity in medical practice, and is the most cited document. There are four cultural clusters in education in indonesia: organizational learning culture (green), local learning content (red), technical learning culture in higher education (yellow), and adult education culture in indonesia (blue). Prominent trends in the use of keywords such as leadership, human experimentation, patient safety, and safety culture indicate a new direction in research in the field of culture in education in indonesia.

Keywords: Culture, Education, Indonesia, Bibliometric

1) INTRODUCTION

Education is one of the keys that allows humans to survive because it can be considered an investment in oneself [1]–[3]. Through education, humans can develop the knowledge, skills and understanding needed to face challenges in life. More than that, education also shapes character and moral values that encourage individuals to be better at interacting with their surrounding environment [4], [5]. Thus, education has a very important role in advancing and improving the overall quality of human life.

One focus of education is the cultural sector because culture in education has an important role in maintaining the identity, heritage and values inherent in a society [6]–[8]. Through a cultural approach to learning, individuals not only gain knowledge of history and traditions, but also understand diversity and perspectives that enrich understanding of the world. By integrating culture in education, people can develop mutual respect, tolerance and intercultural understanding, which is an important foundation for harmony and diversity in an increasingly global and complex society [9]–[11].

Indonesia, with its vast territory, stretching from Sabang to Merauke, is home to various tribes, ethnicities and cultures [12]–[14]. Education plays a very important role in knowing and understanding Indonesia's rich cultural diversity. Through the education system, individuals can connect with their own cultural roots and learn to appreciate and understand other cultures around them [15], [16]. By including cultural elements in the curriculum and learning activities, education opens the door to an in-depth experience of the values, traditions and language that characterize each ethnic group [17]–[19]. Thus, education becomes an effective means of building multicultural awareness and unity in the diversity that is Indonesia's wealth.

With the increasing application of education in the cultural realm in Indonesia, researchers' interest in conducting research in the cultural education sector is becoming increasingly greater. This encourages authors to be interested in conducting bibliometric analysis to identify research trends and other relevant aspects. Through bibliometric analysis, the author aims to explore patterns of scientific publications, trending research, collaboration between researchers, and the impact of research that has been conducted in the field of cultural education. Thus, it is hoped that this analysis can provide in-depth insight into the development and dynamics of research in the context of cultural education in Indonesia.

2) METHODS AND METHODOLOGY

Bibliometric analysis is a method used to study the development of a research domain, including its topics and contributors, by paying attention to the social, intellectual and conceptual structures within a scientific discipline [20]. This approach is generally applied in various scientific disciplines and focuses on quantitative analysis of journal papers, books and other written communications [21]–[24]. The overall article mapping process is carried out through the R-Studio platform, which is known as a bibliometric tool. Apart from using RStudio, the researchers also utilized Vosviewer to map keyword groups and track the development of new keywords in scientific literature.

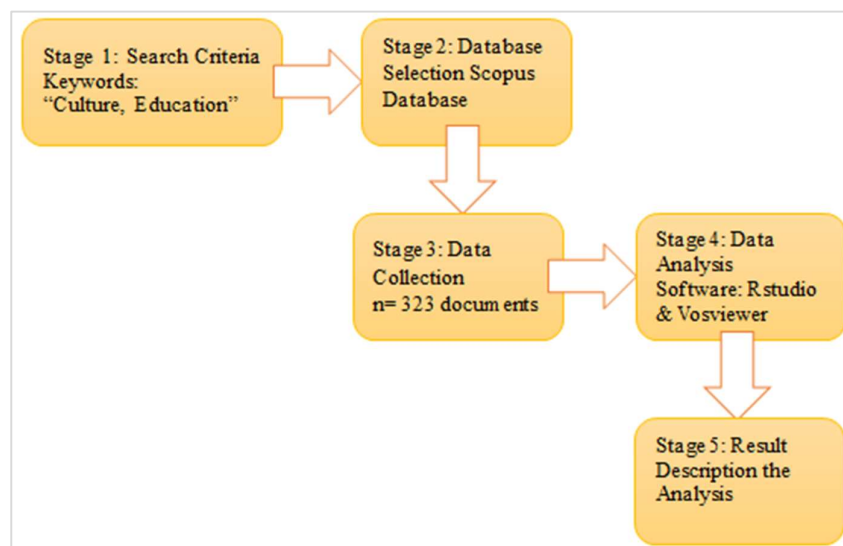


Figure 1. Bibliometric Stage About Culture in Education at Indonesia

This research involves several important stages in the process. The first stage involves determining relevant keywords, such as "Culture" and "Education" in the educational context in Indonesia, to ensure the accuracy and focus of the literature sources that will be used. Next, researchers used the Scopus database to conduct a focused search and obtained 323 documents that were ready for analysis. The next stage involves evaluating the selected documents taking into account their relevance to the research topic. This process is supported by open source software such as the R Package Bibliometrix, which has powerful bibliometric capabilities and allows effective data analysis. In addition, the use of VOSviewer is used to map the novelty of research. In the final stage, the results of the analysis are presented in detail and with visual representation to facilitate understanding and quantitative assessment of the research findings. All of these stages comprehensively support efforts to analyze and interpret the role of culture in education in Indonesia.

3) RESULTS

A. Main Information

Researchers analyzed 323 documents into RStudio first. The main information can be seen in Fig 2.

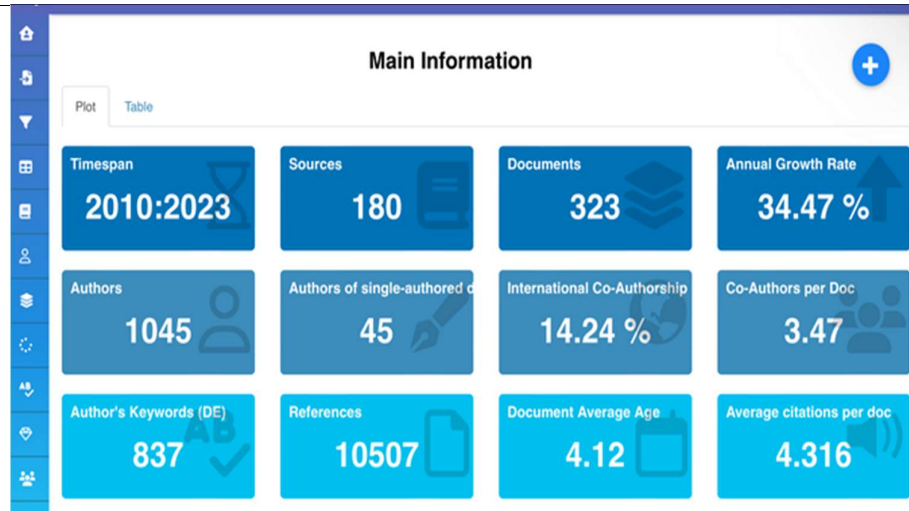


Figure 2. Main Information about Culture in Education at Indonesia

This research involved analyzing data from the Scopus database covering the time span from 2010 to 2023, with a total of 180 sources relevant to the topic under investigation. The results of the analysis show an annual growth rate of 34.47%, reflecting a trend of increasing interest in cultural research in the educational context in Indonesia during that period. In this study, 1045 authors were identified who were involved in these sources. With the involvement of international authors reaching 14.24%, this data highlights that researchers from abroad are also interested and involved in studying cultural aspects of education in Indonesia. This phenomenon reflects global interest in the complexity and relevance of cultural topics in educational contexts, as well as the interest in understanding the dynamics and challenges associated with the development of educational systems in countries such as Indonesia.

B. Publication Trends per Year

Researchers also look for publication trends from year to year by summarizing research results per year, which are attached in Table 1.

Table 1. Publication Trends

Year	Publications	Percentages
2010	1	0.31%
2011	1	0.31%
2012	2	0.62%
2013	8	2.48%
2014	4	1.24%
2015	1	0.31%
2016	7	2.17%
2017	20	6.19%
2018	25	7.74%
2019	61	18.89%
2020	57	17.65%
2021	39	12.07%
2022	50	15.48%
2023	47	14.55%
Total	323	100%

Source: RStudio

The number of research conducted from 2010 to 2016 only reached 24 publications, but there was a significant jump of almost seven times from 2017 to 2023, with the number of publications increasing to 299. 2019 recorded the highest number of publications, namely 61 publications or 18,89% of the total. This surge shows an increase in interest and focus on cultural research in the educational context in Indonesia in recent years. This phenomenon may reflect some of the influence of technology in Indonesian culture, which has opened up new access and opportunities for research and facilitated the exchange of ideas and knowledge between researchers more efficiently. In addition, social, political and economic changes in society can also be a factor driving the growth of this research, highlighting the complexity of the interactions between technology, culture and education in the continuously changing and developing Indonesian context.

C. Affiliates with Highest Publications

Table 2. Top 5 Affiliation About Culture in Education at Indonesia

Afiliation	City	Province	Publications
Universitas Indonesia	Jakarta	DKI Jakarta	42
Universitas Negeri Medan	Medan	North Sumatra	25
Universitas Pendidikan Indonesia	Bandung	West Java	25
Universitas Negeri Semarang	Semarang	Central Java	21
Universitas Gadjah Mada	Yogyakarta	Yogyakarta	15

Source: RStudio

In the field of Culture in Education at Indonesia, the Universitas Indonesia has the highest number of publications with 42 articles, indicating a significant contribution to related research. This reflects the Universitas Indonesia position as one of the leading educational institutions in Indonesia with strong research resources and facilities. Meanwhile, Universitas Negeri Medan and Universitas Pendidikan Indonesia each have 25 articles, showing comparable commitment to exploring cultural aspects in the educational context. Universitas Negeri Semarang and Universitas Gadjah Mada also had significant contributions with 21 and 15 articles respectively. The involvement of various educational institutions shows awareness of the importance of understanding the role of culture in education in Indonesia, as well as joint efforts to expand knowledge and understanding in this field.

D. Source with Highest Publications

Table 3. Top 5 Source about Culture in Education at Indonesia

Source	Publications
Journal of Physics: Conference Series	34
AIP Conference Proceedings	15
IOP Conference Series: Earth and Environmental Science	11
International Journal of Innovation, Creativity and Change	8
ACM International Conference Proceeding Series	7

Source: RStudio

In the cultural context of education in Indonesia, the most dominant sources of scientific literature are "Journal of Physics: Conference Series" with 34 articles, followed by "AIP Conference Proceedings" with 15 articles, and "IOP Conference Series: Earth and Environmental Science" with 11 articles. Although these sources are not explicitly focused on the field of education, the significant number of articles indicates the interest and involvement of researchers in integrating cultural aspects in educational contexts, especially in the fields of science and the environment. In addition, there are several articles published in journals such as the "International Journal of Innovation, Creativity and Change" and the "ACM International Conference Proceedings Series", showing the diversity of researchers' approaches and interests in exploring the relationship between culture and innovation in the educational context in Indonesia. This reflects the complexity of cultural dynamics in the development of the education system in Indonesia as well as efforts to understand its implications in more depth through various perspectives and scientific disciplines.

E. Highest Citation Documents

Table 5. Top 5 Documents with Highest Citation

Paper	Title	TC
(Claramita et al., 2013) [25]	Doctor–patient communication in Southeast Asia: a different culture?	124
(Setyono & Widodo, 2019) [26]	The representation of multicultural values in the Indonesian Ministry of Education and Culture-Endorsed..	67
(Harahap et al., 2019) [27]	The Effect of Blended Learning on Student's Learning Achievement...	46
(Mukhtar et al., 2021) [28]	Does entrepreneurship education and culture promote...	42
(Susilawati et al., 2022) & (Wagwu, 2024) [29][30]	The role of technology, organizational culture,...	42

Description: TC=Total Citation. (Source: Rstudio)

From the collection of articles cited, it can be observed that scientific literature on culture in the context of education in Indonesia presents a variety of relevant and varied discussions. Article by Claramita et al. (2013) discussed communication between doctors and patients in Southeast Asia, highlighting cultural diversity in medical practice. Meanwhile, research by Setyono & Widodo (2019) examined the representation of multicultural values in English textbooks recommended by the Indonesian Ministry of Education and Culture. Other articles, such as those written by Harahap et al. (2019), explored the influence of technology-based learning in a plant tissue culture course on student learning achievement. In addition, research by Mukhtar et al. (2021) explored the relationship between entrepreneurship education, culture, and students' entrepreneurial interests, while recent research by Susilawati et al. (2022) highlights the role of technology, organizational culture, and job satisfaction in improving employee performance during the Covid-19 pandemic. This collection of articles reflects the diversity of issues and approaches in understanding the role of culture in education in Indonesia, highlighting the importance of multidisciplinary research and context in developing a comprehensive understanding of the topic.

F. Research Focus and Keyword Novelty

Researchers also use VOSviewer to determine research focus and the novelty of keywords related to cultural research trends in the Indonesian education sector.

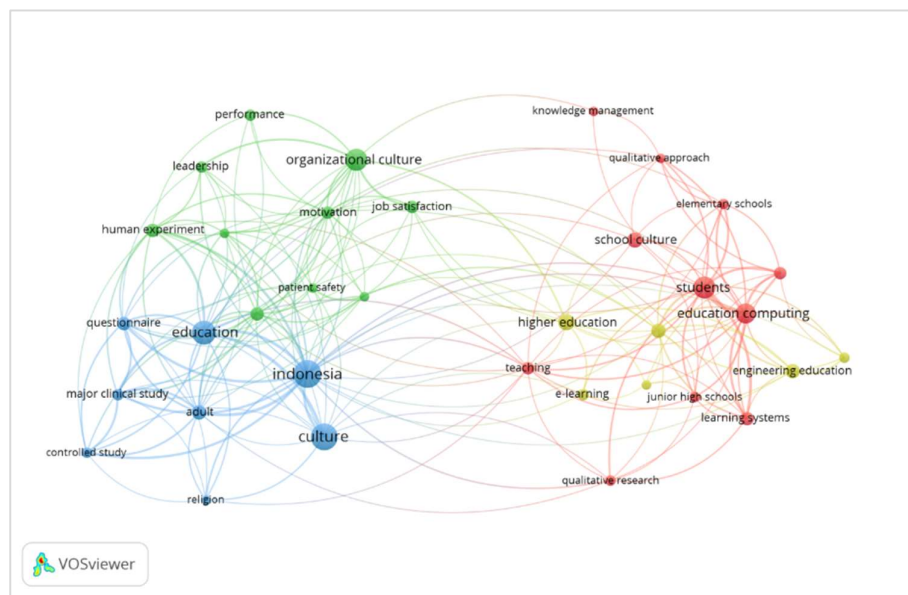


Figure 3. Overlay Visualization (Keyword Occurance ≥ 5)

There are four clusters divided into the field of culture in education in Indonesia. The green cluster is called Organizational Learning Culture, the red cluster is called Local Learning Content, the yellow cluster is called Engineering Learning Culture in Higher Education, and the blue cluster is called Adult Education Culture in Indonesia.

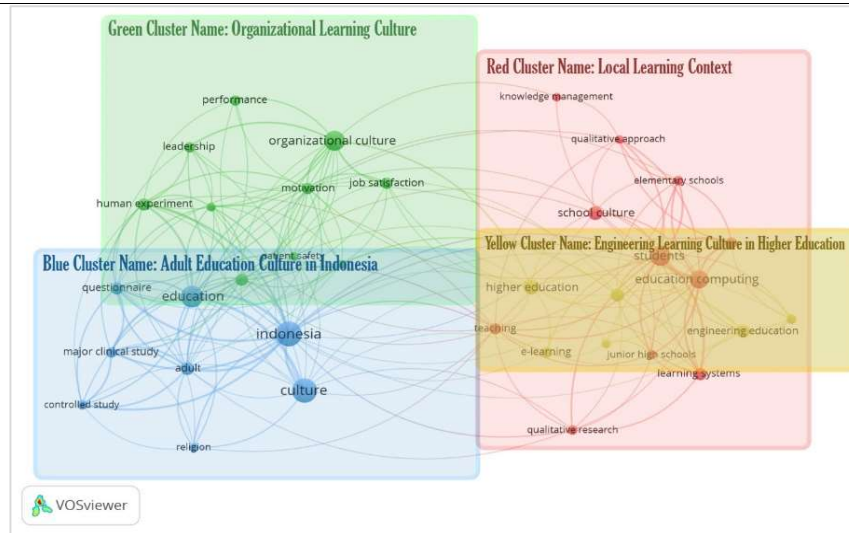


Figure 4. Keyword Grouping

The red cluster includes research on how local culture influences education in primary and secondary schools, implementation of learning systems, knowledge management, as well as qualitative approaches in understanding the dynamics of school culture. In this context, aspects such as students' study habits, school culture, and knowledge management have become an important focus in research. Meanwhile, the green cluster includes studies on how organizational culture in educational institutions influences various aspects, including learning motivation, job satisfaction, patient safety (in a health context), organizational performance, and safety culture. Research in this cluster focuses on the relationship between organizational culture and the achievement of educational goals and the well-being of individuals within it.

The blue cluster includes studies involving adult education, controlled studies, and the use of questionnaires in Indonesian cultural and religious contexts. Research in this cluster may cover topics such as the influence of culture and religion on adult education, the effectiveness of educational programs in various cultural backgrounds, as well as how religious values and beliefs influence adult education in Indonesia. Meanwhile, the yellow cluster includes research on how local culture and other cultural factors influence engineering education in Indonesian universities. Research in this cluster may involve studies of the effectiveness of technology-based learning (such as e-learning) in the Indonesian cultural context, student responses to apprenticeship programs, and the use of surveys to understand perceptions and challenges in physics education in Indonesian higher education settings.

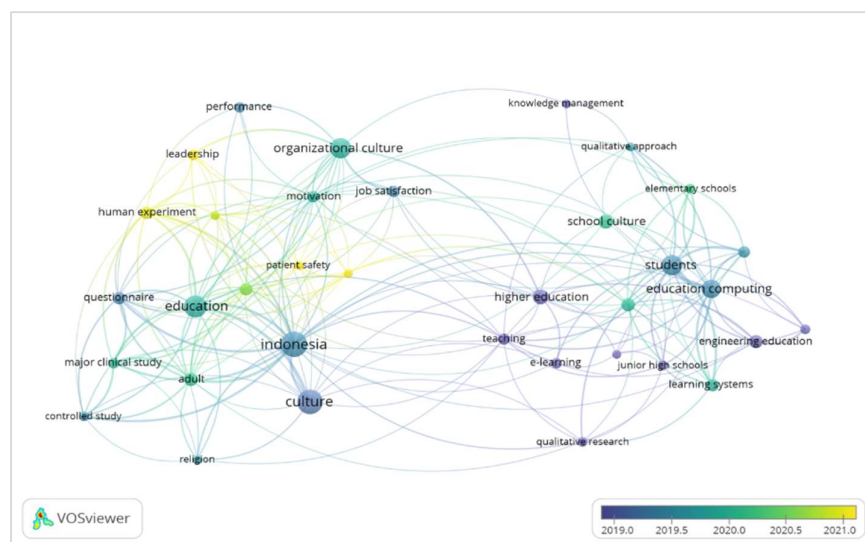


Figure 5. Overlay Visualization

Next, the author looks for new keywords based on the colors in VOSviewer. From the visualization overlay, the yellow color shows that keyword usage is in 2021. So the keyword usage is still new and rarely used. The striking trend in the use of keywords, such as Leadership, Human Experiment, Patient Safety, and Safety Culture, indicates a new direction in the research being conducted. In particular, the use of the keyword Leadership indicates increased interest in understanding the role of leaders in creating effective and inclusive learning environments. Meanwhile, Human Experiment highlights interest in research methodologies that are more innovative and focused on psychosocial aspects in educational contexts. The use of the keyword Patient Safety shows awareness of the importance of health and safety aspects in the educational environment, while Safety Culture indicates increased attention to the formation of a safety culture that involves all stakeholders in educational institutions. Recommendations for future research include further exploration of how these factors are interrelated within the context of Indonesian educational culture, as well as how they influence the success of the educational system and the well-being of individuals within it. With a deeper understanding of these cultural dynamics, education in Indonesia can be more effective in achieving inclusive, innovative and sustainable learning goals.

4) CONCLUSION

From the results of the analysis that has been carried out, there are 323 documents related to culture in the field of education in Indonesia. The number of research publications in this field experienced a significant spike, increasing almost sevenfold from 2017 to 2023, with the highest number recorded in 2019, namely 61 publications or accounting for 18.89% of the total publications. The University of Indonesia has the highest number of publications with 42 articles, indicating a significant contribution to related research. The most dominant source of scientific literature is the "Journal of Physics: Conference Series" with 34 articles. Mora Claramita from Gadjah Mada University obtained an h-index of 3 with a total of 147 citations from 6 publications, showing her significant contribution to related scientific literature. Article by Claramita et al. (2013) discusses communication between doctors and patients in Southeast Asia, highlighting cultural diversity in medical practice, becoming the most cited document. There are four cultural clusters in education in Indonesia: Organizational Learning Culture (green), Local Learning Content (red), Technical Learning Culture in Higher Education (yellow), and Adult Education Culture in Indonesia (blue). The striking trend in the use of keywords, such as Leadership, Human Experimentation, Patient Safety, and Safety Culture, indicates a new direction in research conducted in the field of Culture in Education in Indonesia.

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7) CONFLICT OF INTEREST

The authors declare no conflict of interest regarding the publication of this manuscript.

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