



Trends in Local Wisdom-Based Learning Research: Bibliometrics Using Scopus Data from 2016 to 2022

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Abstract. Integrating local wisdom can attract students' interest in the learning process. This research aims to determine the trend of writing the articles based on local wisdom, the articles with the most citations, the classification of journal rankings, the country of origin of journals, and mapping in finding trends in international scientific publications using the Scopus database. Bibliometric analysis was used in this study. The Scopus database collected data from 47 documents published between 2016 and 2021. As data processing material in the VOSviewer program, data was saved in Microsoft Excel. From 2020 to 2021, there was a considerable increase in the number of publications regarding learning based on local wisdom. The VOSViewer program mapping analysis includes five themes related to learning based on local wisdom. Themes in the study such as "sustainable development," "engineering education," "science learning," "elementary school," and "human-computer interaction" are still rarely investigated. This topic may warrant additional investigation.

Keywords: Bibliometrik · Pembelajaran · Kearifan Lokal · Vosviewer

1 Introduction

Indonesia is a multicultural country that has many different languages and customs. Indonesia has hundreds of ethnic and sub-ethnic groupings [1]. The diversity of tribes and cultures in Indonesia is critical for today's youth to understand. Due to clashes with traditional beliefs, specific generational conflicts arise in Latino communities in the United States during adolescence [2]. This behavioral shift occurs because the adolescent believes that the ideals of local knowledge are rigid and out of date.

Schools are crucial for students to learn about different cultures and local wisdom. The school environment can be characterized as a set of internal features that differentiate one school from another and influence staff and student behavior [3]. Character formation begins in school. Schools are formal institutions that actualize society's culture. Schools provide an appropriate and favorable environment for children to develop their character by applying knowledge and behavior [4].

Local wisdom-based learning is currently recognized as potential innovative learning. Local wisdom-based learning can improve students' knowledge, comprehension,

and learning outcomes [5] [6]. According to Mungmachon [7], local wisdom is fundamental knowledge derived from human experience. Local wisdom can be realized through communal culture accumulated and passed down from generation to generation. Local wisdom and morality are valued higher than other resources in school [8]. Local wisdom-based learning can help boost students' critical thinking concepts [9] [10]. In line with this, local wisdom-based learning can help pupils enhance their problem-solving abilities [11]. Thus, learning based on local wisdom is considered acceptable in the twenty-first century [12].

Integrating local knowledge into learning can stimulate students' interest in learning. According to a study by Wangkaewhiran [13], students are satisfied with the local wisdom-based teaching and learning process. Teachers have designed engaging lessons for their students, focusing not just on curricular standards but also on local knowledge. According to research by Agra et al. [14], the ability of teachers to communicate actual occurrences from the surrounding environment would enhance the significance of learning. Additionally, such environments will improve student motivation [15] [16].

In addition, Susanto, Saputra, Septiyono, and Yunanto [17] conducted research on Kudus local wisdom-based mathematics learning. The results demonstrated that mathematics students achieved positive learning outcomes and effective learning. Then, Ramdiah, S., Abidinsyah, A., Royani, M., Husamah, H., and Fauzi, A. [18] investigated the efficacy of local wisdom-based biology education in South Kalimantan. The findings show the beneficial effect on the students' biology learning outcomes.

Research on local wisdom continues to grow and be developed by researchers. It is proven by the many studies on local wisdom linked to various elements such as continuing education based on local wisdom in Thailand [19], and Minahasa local wisdom-based hospitality education [20], and home modifications based on Chinese local wisdom. There are many studies related to local wisdom from any point of view. Based on this, the researcher needs to conduct a bibliometric analysis to reveal more about the trend of learning research in local wisdom-based schools using the Scopus database. This study aimed to determine the trend of writing learning articles based on local wisdom from 2016–2022.

2 Research Methods

Bibliometric analysis or methods (bibliometrics), referred to as scientometrics, are part of the research evaluation methodology conducted from various published journals or papers. Therefore, it is possible to carry out bibliometric analysis using different methods [21]. The bibliometric analysis used in this study is descriptive bibliometrics which describes the characteristics of literature. Bibliometric analysis is used for various reasons, including revealing emerging trends in articles and journals [22]. The method used in this research is bibliometric analysis which can assist researchers in studying bibliographic content and citation analysis of each article taken from the Scopus database.

This research data was taken in January 2022 from the Scopus database using a document search service (Purnomo et al., 2021) [23]. Researchers have used the Scopus database as the primary source of information because it is considered a reliable and

trusted scientific publications database by academics. In this study, researchers analyzed documents related to school management collected using the VOSviewer application. 1.6.16 for co-occurrence. Using VOSViewer and a comprehensively methodical computational approach, this study analyzed co-occurrence and keyword relationships and generated a network of keyword maps for the research theme [24].

3 Results and Discussion

The results of the bibliometric analysis of this study refer to Donthu et al. [22]. There are two categories of analysis: performance analysis using the number of publications each year, articles with the most citations, journals with the most articles, ranking of journals and countries with the highest number of articles, and data mapping.

3.1 Most Popular Countries Publish Local Wisdom-Based Learning Research

Indonesia, with 46 documents, is the country that publishes local wisdom-based learning followed by Malaysia, China, Japan, Taiwan, and Thailand followed (Fig. 1);

3.2 Most Common Institution in Local Wisdom-Based Learning Publications

The top 10 research institutions in the publication of local wisdom-based learning are Yogyakarta State University, the Indonesian Education University, Sebelas Maret University, Andalas University, Muhammadiyah Malang University, Surabaya State University, Jakarta State University, Jambi University, and Yogyakarta PGRI University (Fig. 2).

3.3 The Highest Authors Rank with International Publications of Local Wisdom-Based Learning Research

The author with the most publications in local wisdom-based learning is Kuswanto, H. Followed by Anggeereini, E, Hakam, K.A, Muazzomi, N, Saddhono, K, Sofyan, H, Winarni, R, Abdurrahman, Abidinsyah, A, and Affandi, I (Fig. 3).

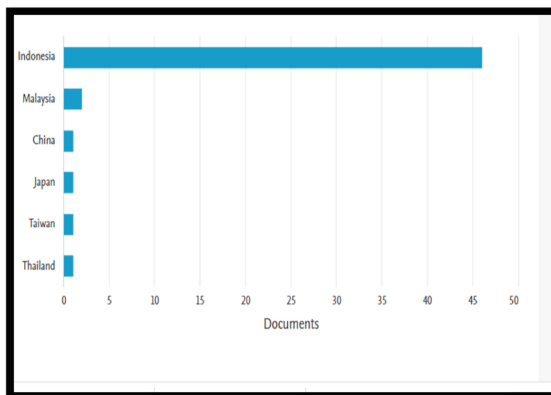


Fig. 1. Country Ranking of International Publications of Local Wisdom-Based Learning

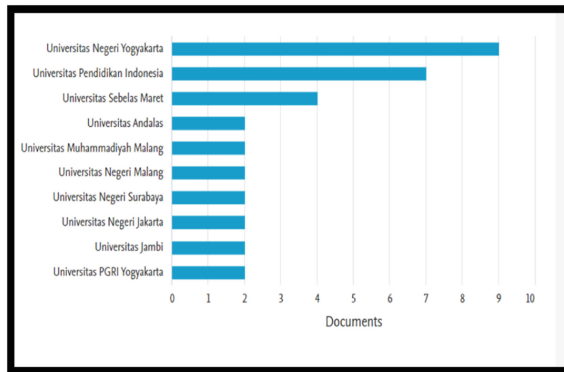


Fig. 2. The number of Common Institution in Local Wisdom-Based Learning Publications

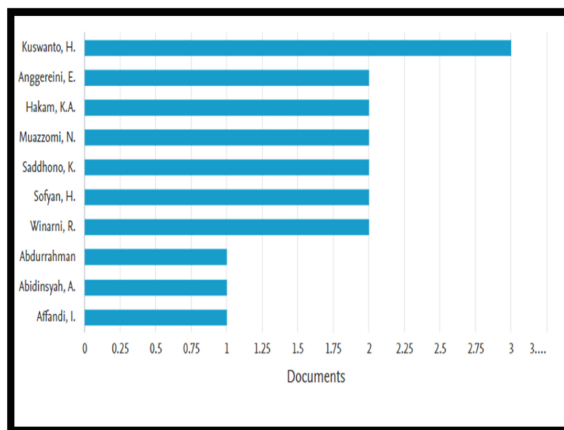


Fig. 3. The highest author rank in International Publications on Local Wisdom-Based Learning Research

3.4 Most Subjects in International Publications of Local Wisdom-Based Learning Research

The most studied subject in international publications on local wisdom-based learning research is Social Sciences (34.9%), followed by research subjects Physics and Astronomy (22.2%), Environmental Science (7.9%), Computer Science (6.3%), Earth and Planetary Sciences (6.3%), and Engineering (4.8%), Arts and Humanities (3.2%), Business, Management and Accounting (3.2%), Materials Science (3.2%), Chemistry (1.6%), and other (6.3%) (Fig. 4).

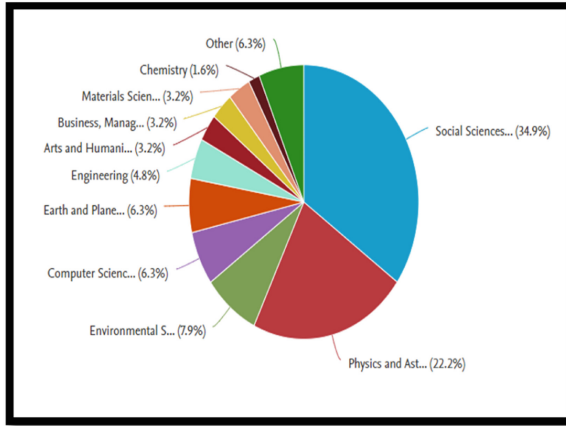


Fig. 4. Most Subjects in International Publications of Local Wisdom-Based Learning Research

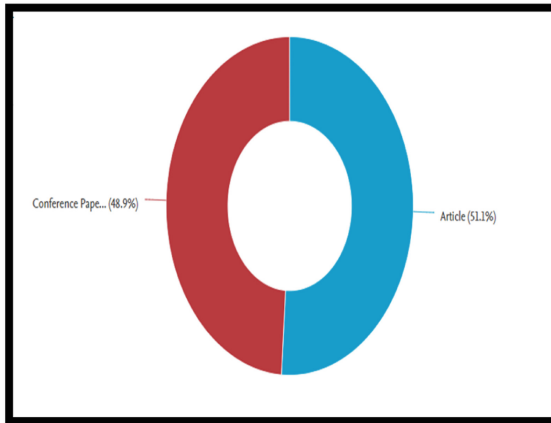


Fig. 5. The Most common Document Publications in Local Wisdom-Based Learning Research

3.5 The Most Common Document Publications in Local Wisdom-Based Learning Research

The most frequently published types of documents in local wisdom-based learning research are articles (51.1%) and Conference papers (48.9%) (Fig. 5).

3.6 The Number of Documents Annually Published About Local Wisdom-Based Learning Research

The number of documents based on internationally published sources in local wisdom-based learning research is found in the Journal of Physics Conference Series 11 documents, followed by the Indonesian Science Education Journal with four documents, IOP

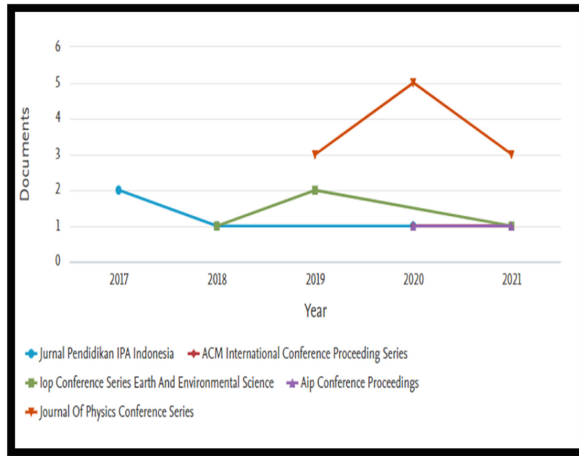


Fig. 6. The Most common Document Publications in Local Wisdom-Based Learning R

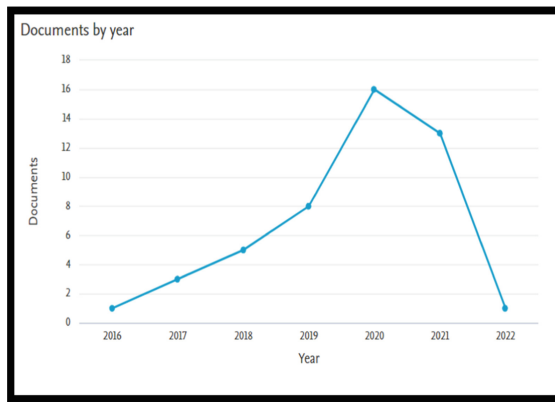


Fig. 7. Number of International Publications on Local Wisdom-Based Learning

Conference Series Earth And Environmental Science with four documents, and ACM International Conference Proceedings Series.

3.7 The Number of International Publications on Local Wisdom-Based Learning Research.

International publications on local wisdom-based learning have been started since 2016. The number of international publications on data-based local wisdom learning has shown an increasing trend every year. This can be seen in Fig. 6, the highest peak of publication in 2020 with 16 documents (Fig. 7).

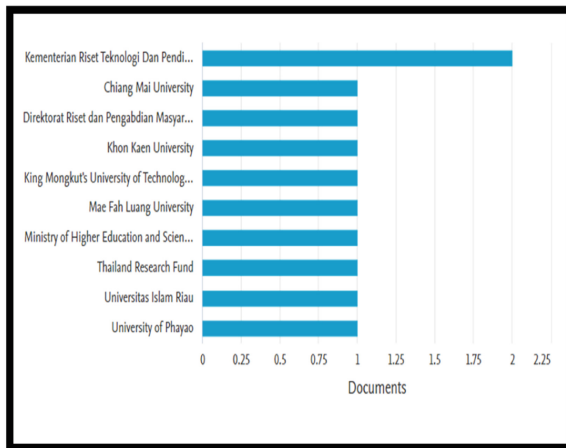


Fig. 8. Obtaining Sponsorship Funds for International Publications on Local Wisdom-Based Learning

3.7 Obtaining Sponsorship Funds for International Publications on Local Wisdom-Based Learning

The most number of documents sponsored by international publication funding for local wisdom-based learning is obtained from the Ministry of Research, Technology and Higher Education of the Republic of Indonesia, followed by Chiang Mai University, Directorate of Research and Community Service, Khon Kaen University, King Mongkut's University of Technology Thonburi, Mae Fah Luang University, Ministry of Higher Education and Scientific Research, Thailand Research Fund, Riau Islamic University, and University of Phayao (Fig. 8).

3.8 Map of Publication Theme

Furthermore, the data obtained from Scopus is processed using VOSviewer software to obtain the results of bibliometric analysis. After the data is entered in the VOSviewer software, 266 terms are obtained with 30 terms closest to the display as shown in Fig. 9.

- 3.9.1. The theme of the integration of local wisdom (red) which consists of 8 themes, namely: character education, education, elementary school, implementation, learning, local knowledge, local wisdom.
- 3.9.2. The theme of collecting research data (green) which consists of 7 themes, namely: elementary school, engineering education, human computer interaction, in-depth interviews, learning systems, qualitative approach, surveys.
- 3.9.3. The theme of the learning process (blue) which consists of 6 themes, namely: data collection, environmental education, learning process, planning, science learning, sustainable development.

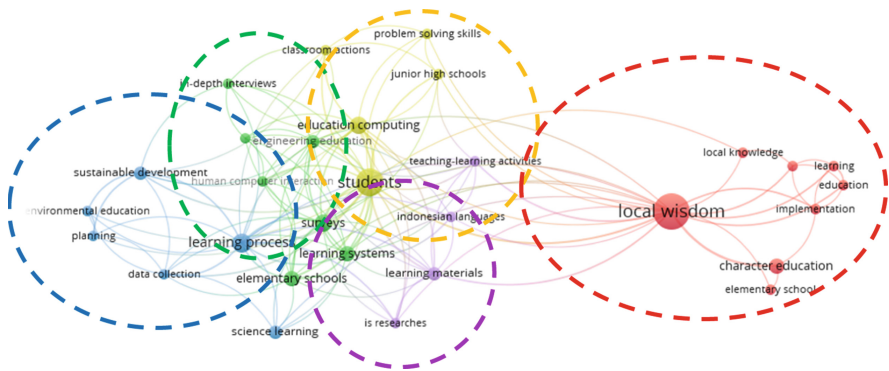


Fig. 9. Map of Publication Theme

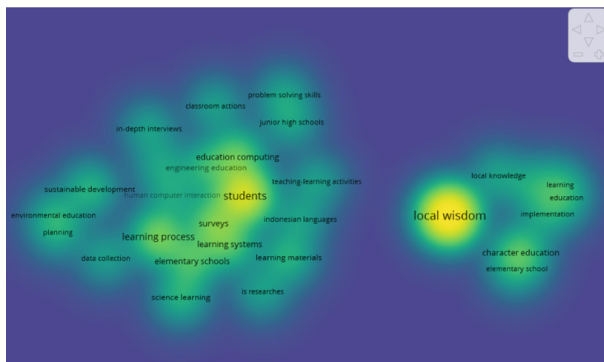


Fig. 10. Density Visualization

- 3.9.4. Themes Subjects and learning activities (yellow) which consists of 5 themes, namely: classroom actions, education computing, junior high schools, problem solving skills, student.
- 3.9.5. Theme The research topic (purple) consists of 4 themes, namely: Indonesian language, is researches, learning materials, teaching-learning activities (Fig. 10).

The Density Visualization software VOSviewer in Fig. 9 shows the density or density. The density of the research theme is shown in bright yellow. The lighter the theme color, the more research has been done. The dimmer color means the theme is still rarely studied. Dimly colored themes such as “sustainable development,” “engineering education,” “science learning,” “elementary school,” and “human-computer interaction” are themes that can be used as references for further research. This can be a novelty theme regarding research and reference material for further research development.

4 Conclusion

The study results indicate a map of the theme of local wisdom-based learning publications at the international level—the country with the most significant contribution to local wisdom-based learning publications is Indonesia, with 46 documents. The Ministry of Research, Technology, and Higher Education of the Republic of Indonesia is the most productive institution for local wisdom-based learning publications. The individual researcher with the most publications in data science studies is Kuswanto, H. The most published document is the Journal Of Physics Conference Series, with 11 documents. The highest international publication of academic documents in data science studies is from 2020 to 2021, with 29 documents. The dimly colored themes such as “sustainable development,” “engineering education,” “science learning,” “elementary school,” and “human-computer interaction” are themes that can be used as references for further research. This theme can be used as a theme for further research.

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