

A Bibliometric Analysis of the Research Landscape of Local Wisdom in Education (2015-2025)

Analisis Bibliometrik Terhadap Peta Penelitian Kearifan Lokal dalam Pendidikan (2015–2025)

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Abstract	Article Information	
<p>Local wisdom is an important pedagogical resource that connects learning to students' cultural backgrounds while supporting the preservation of cultural heritage. Although research in this field is expanding, its overall structure and direction have not been mapped over a longer period using science-mapping techniques. This study analyses 544 Scopus-indexed documents (2015-2025; retrieved on 4 October 2025 with the term “local AND wisdom; AND education”), using VOSviewer and Bibliometrix. The results show that annual output reached a first peak in 2020, declined in 2021-2022, and rose to its highest level in 2025, although the 2025 count reflects partial-year data. The <i>Journal of Physics: Conference Series</i> was the most productive source (57 documents). Indonesia accounted for approximately 92% of documents by corresponding-author affiliation, mostly single-country publications, indicating limited international co-authorship. This concentration may partly reflect the term-specific search. Early topics (biodiversity, local knowledge, school-level teaching) have recently been joined by ethnoscience, cultural identity, design research, and augmented reality, with ethnoscience positioned as a motor theme. These findings indicate a growing field that is domestically concentrated and reliant on conference proceedings. Future research should strengthen international collaboration, systematically review evidence on emerging ethnoscience and technology-based topics, and broaden the search beyond a single database and term, including co-authorship analysis.</p>	<p>Keywords: Bibliometric Analysis; Ethnoscience; Local Wisdom; Science Mapping.</p>	<p>Kata kunci: Analisis Bibliometrik; Etnosains; Kearifan Lokal; Pemetaan Sains.</p>
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Kearifan lokal merupakan sumber daya pedagogis penting yang menghubungkan pembelajaran dengan latar belakang budaya siswa sekaligus mendukung pelestarian warisan budaya. Meskipun penelitian di bidang ini terus berkembang, struktur dan arahnya belum dipetakan dalam rentang waktu yang lebih panjang dengan teknik pemetaan ilmiah. Penelitian ini menganalisis 544 dokumen terindeks Scopus (2015-2025; diunduh pada 4 Oktober 2025 dengan istilah “local AND wisdom AND education”) yang dianalisis menggunakan perangkat lunak VOSviewer dan Bibliometrix. Hasil temuan menunjukkan bahwa publikasi tahunan mencapai puncak pertama pada 2020, menurun pada 2021–2022, dan mencapai titik tertinggi pada 2025, meskipun data 2025 belum mencakup satu tahun penuh. Journal of Physics: Conference Series menjadi sumber paling produktif (57 dokumen), dan Indonesia menyumbang sekitar 92% dokumen berdasarkan afiliasi penulis korespondensi, yang sebagian besar

publikasinya berasal dari satu negara saja, yang menunjukkan keterbatasan kolaborasi internasional. Hal ini kemungkinan dipengaruhi oleh pencarian berbasis satu istilah. Topik-topik awal (keanekaragaman hayati, pengetahuan lokal, pembelajaran di sekolah) kemudian diikuti oleh etnosains, identitas budaya, penelitian desain, dan augmented reality, dengan etnosains sebagai tema utama. Penelitian selanjutnya perlu memperkuat kolaborasi internasional, mengkaji bukti pada topik etnosains dan teknologi yang sedang berkembang melalui tinjauan sistematis, serta memperluas pencarian melampaui satu basis data dan satu istilah, termasuk analisis co-authorship.

A. INTRODUCTION

Local wisdom is knowledge, cultural practices, and values developed and inherited through generations by communities. In the last two decades, it has gone from being a peripheral subject in education to a central concern. A growing number of educators are working to include traditional knowledge as a means to relate learning to students' lived experiences, rather than relegating it to folklore outside of the curriculum. Incorporating local wisdom into schools can help preserve culture and make lessons more relevant to students (Pamenang, 2021; Pearnpitak et al., 2024). Importantly, this information is frequently transmitted through ceremonies, sayings, and everyday practices that promote collaboration and tangible forms of caring for the environment. These approaches are reflected in the traditions of Nganggung, Pumpungan, and Sambatan that encourage gotong royong through direct community involvement. Local wisdom is an effective instrument for character development (Sulkipani et al., 2023). Children's character development is achieved by integrating local wisdom values into the learning process and applying cultural values through the cultivation of values, modeling of values, and internalization of values (Hidayati et al., 2020; Sakti et al., 2024).

Empirical studies on local wisdom in education can be grouped into three broad lines of inquiry. The first concerns character and cultural-identity education, in which proverbs, customs, and cultural symbols function as both content and pedagogy (Yani et al., 2025; Sulkipani et al., 2023) and in which curriculum innovation supports cultural revitalization and social cohesion, as in the integration of rejang tribal wisdom into elementary school programs (Hasan et al., 2024). The second concern is environmental and sustainability education, in which local wisdom strengthens students' understanding of land ethics and stewardship and documents traditional ecological practices that remain relevant to conservation (Ningrum et al., 2018; Lisdiyono, 2017; Wardhani et al., 2024; Yaqin et al., 2024). The third concern is pedagogical innovation, including culturally relevant learning models and materials that improve learning outcomes and critical thinking (Toharudin & Kurniawan, 2019; Saputri, 2020; Adam et al., 2025).

More recent work extends these lines in two directions. One is the use of digital technologies, such as augmented reality media for local wisdom learning (Sapta et al., 2025) and alternate reality games that enhance cultural heritage awareness (Lin et al., 2024). The other is collaboration beyond the classroom, involving communities, universities, and cultural institutions such as museums (Pearnpitak et al., 2024; Frullo & Mattone, 2024; Prakoso et al., 2025). Across these lines, local wisdom is positioned simultaneously as cultural capital, an environmental pedagogical resource, and a context for technology-supported learning, while concern remains that local knowledge may be lost when intergenerational transmission weakens under rapid modernization.

Yet, despite an expanding body of research, the field is often fragmented. Most studies focus on specific cases or concepts, demonstrating the value of local knowledge in isolated contexts but without connecting to larger trends. Few data-driven studies have examined the

longitudinal growth of the field, key sources or authors, or thematic relationships. Bibliometric analysis provides a systematic approach to close this gap by mapping publication patterns and tracking the diffusion of ideas and collaborations (Donthu et al., 2021; Hassan & Duarte, 2024). The closest previous study, by Arjaya et al. (2024), mapped 115 Scopus-indexed articles on local wisdom integration in education published between 2020 and 2024, retrieved through Publish or Perish and analyzed with VOSviewer, and reported increasing global interest led by Indonesia. Based on its reported methods, that study a) covered only five years and therefore could not trace the formative period before 2020 or longer-term trends, and b) did not report science-mapping analyses of thematic structure and change such as thematic mapping based on centrality and density, thematic evolution analysis across different time periods, or trend-topic analysis. The present study addresses these gaps by combining an 11-year dataset exported directly from Scopus with performance analysis and these science-mapping techniques, as well as a distinction between single- and multiple-country publications.

Based on these considerations, this research maps the research terrain of local wisdom in education through Scopus-indexed publications from 2015 to 2025, 11 years selected to cover both the beginning stage of the field and the recent diversification of research. Scopus is the only data source used, considering its extensive, multidisciplinary coverage of peer-reviewed journals and conference proceedings. The analysis is performed using VOSviewer and Bibliometrix for network visualization and thematic mapping (Van Eck & Waltman, 2010; Aria & Cuccurullo, 2017). The study specifically asks: (1) how has the research output on local wisdom education grown between 2015 and 2025; (2) which source titles have contributed most to this literature; (3) which countries have published most prolifically; (4) which keywords are most strongly associated with the field; and (5) how are its themes structured, and how have they evolved over the period? This study attempts to answer these questions to provide an integrative evidence-based account that can be used for future empirical studies, curriculum development, and policy to develop local wisdom education in accordance with the Sustainable Development Goals.

B. METHOD

Bibliometric analysis is a quantitative research method that employs statistical and mathematical methods to study publication patterns, citation networks, and intellectual structures in a particular field of study (Donthu et al., 2021). Bibliometric analysis has also been applied to map research trends and keyword relationships in specific research fields using bibliographic data and network visualization (suparman, et al, 2024). This study systematically analyses the research trends on the integration of local wisdom in education using a bibliometric mapping method from 2015 to 2025. It employs a descriptive bibliometric design that combines performance analysis (annual output, sources, and countries) with science mapping (bibliographic coupling of countries, keyword co-occurrence, trend topics, strategic thematic mapping, and thematic evolution) (Donthu et al., 2021; Zupic, I., Čater, 2003). This study is limited to bibliometric analysis and does not include a systematic narrative review. Literature cited in the discussion is used only to contextualize the bibliometric patterns.

The data for this study were collected only from the database Scopus (<https://www.scopus.com>). The choice of Scopus as the primary data source is due to its broad coverage of multidisciplinary academic publications, including journals and conference proceedings, and its export of the complete bibliographic metadata (authors, affiliations, keywords, and cited references) required by VOSviewer and Bibliometrix. Electronic data search and retrieval were conducted on October 4, 2025. Consequently, records for 2025 represent

partial-year data (January to early October) and may continue to increase after retrieval because of indexing lags. The 2025 counts are therefore interpreted with caution and are not directly comparable with those of complete years.

The search strategy was keyword-based to identify relevant publications. The keyword search was set to include title, abstract, and keywords fields according to the Scopus search syntax (TITLE-ABS-KEY). The search query used the Boolean operator AND to combine the main search terms: “local AND wisdom AND Education”. The term “local wisdom” was deliberately used as the core search term because this study aims to map research that explicitly adopts the construct of local wisdom, a term that is particularly established in Southeast Asian, and especially Indonesian (*kearifan lokal*), educational discourse and curriculum policy. Related constructs such as indigenous knowledge, traditional knowledge, traditional ecological knowledge, and local knowledge have their own extensive and partly distinct literatures and were therefore not added as search terms. Accordingly, the resulting map represents publications that explicitly use the local-wisdom terminology, rather than the entire literature on indigenous and traditional knowledge in education; the implications of this choice are discussed as a limitation.

Records were selected using three inclusion criteria: 1) publication year from 2015 to 2025; 2) document type: article or conference paper, to retain primary research outputs; and 3) English language, to ensure consistent keyword analysis. The initial search returned 603 records. The year filter excluded 15 records ($n= 588$), the document-type filter excluded 35 records of other document types ($n= 553$), and the language filter excluded 9 non-English records, yielding a final dataset of 544 documents (Figure 1). No additional manual title-abstract screening was applied. Consequently, the dataset may include a small number of records in which local wisdom or education is addressed only peripherally.

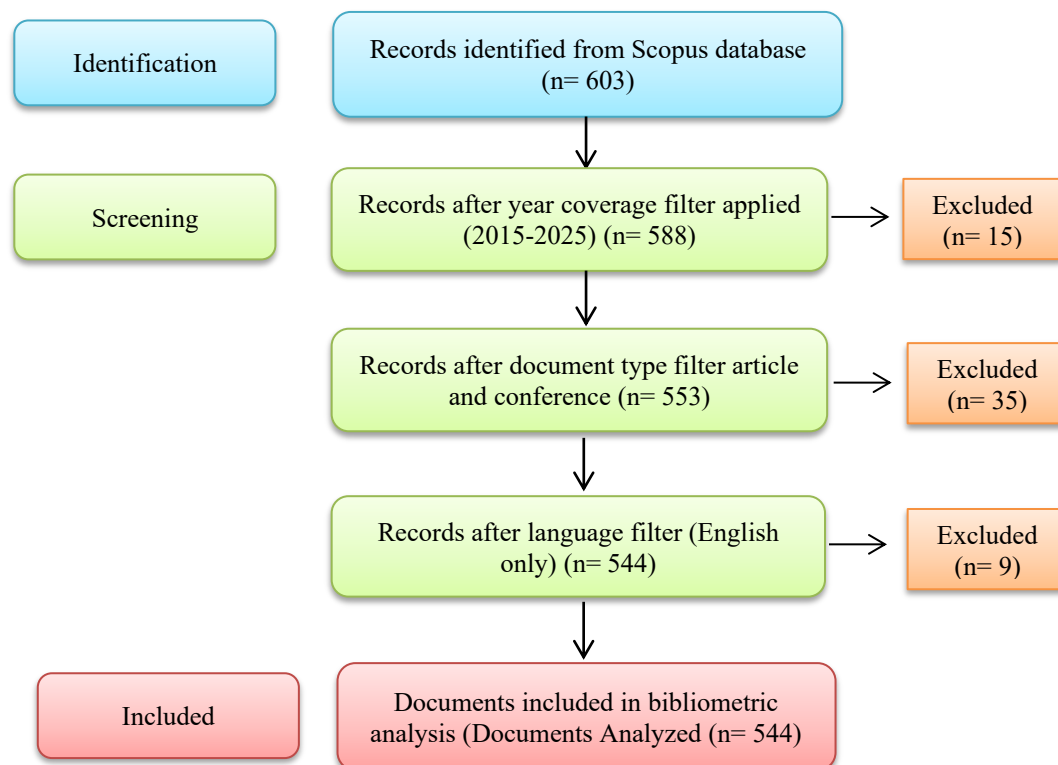


Figure 1. Flow Diagram of Study Selection Process

C. RESULTS AND DISCUSSION

The trend of publications, citations, sources, authors, countries, keywords, and thematic evolution of research results on local wisdom in education based on Scopus data from 2015 to 2025.

Annual Publication Trends (2015-2025)

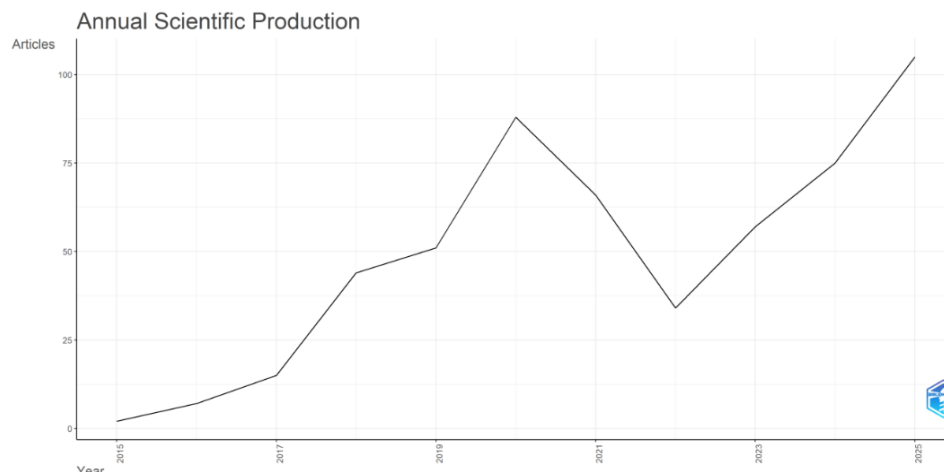


Figure 2. Trends in publications per year (2015-2025)

Figure 2 shows the dynamics of scientific productivity in local wisdom studies based on publications indexed in Scopus in the period 2015-2025. The figure shows the variation of the annual number of articles on local wisdom and education published in Scopus-indexed journals. The number of publications increased from 2015 to 2020 to approximately 87 publications. But in 2022, the number of articles fell to about 37. The publication output increased from 2023 to 2025, with 100 articles published in Scopus-indexed journals in 2025. These patterns suggest long-term and increasing academic interest in incorporating local wisdom into global scientific discourse.

Most Relevant Source

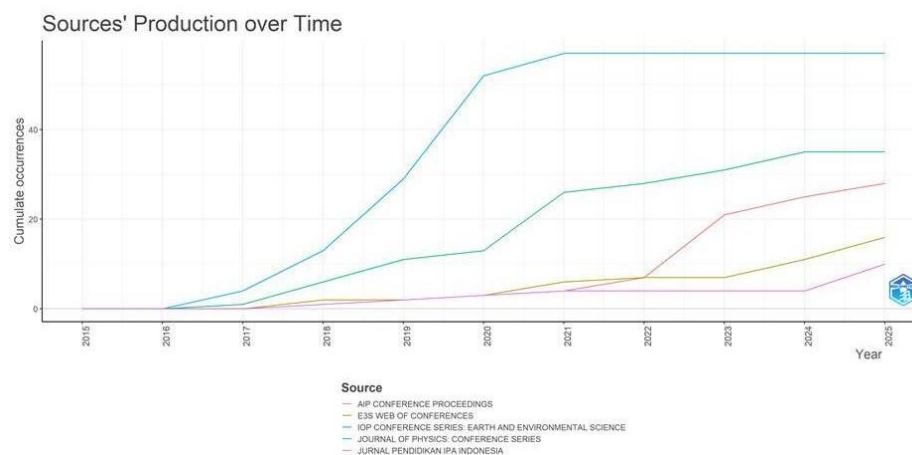


Figure 3. Historical production sources

Figure 3 shows the mapping of contributions from journals and proceedings to the publication of studies on local wisdom from 2015 to 2025. One publication source (Journal of Physics Conference Series; marked with a blue line) has experienced the most significant growth, surpassing 50 cumulative publications by 2020 and remaining relatively stable through 2025. This trend indicated that the journal was the primary medium for disseminating the studies of local wisdom in the early development period.

Most Productive Countries and Collaboration Patterns

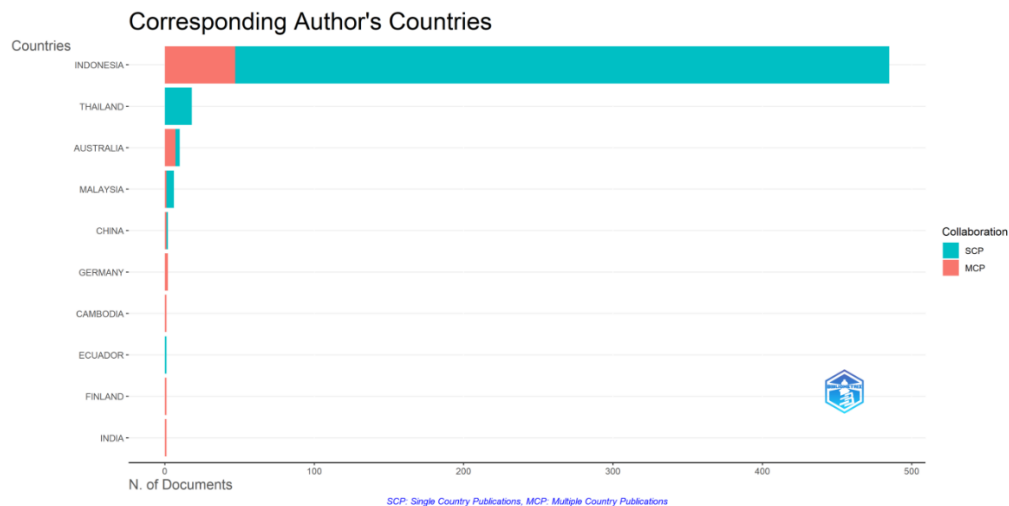


Figure 4. Country of the corresponding author, geographic collaboration: publications with single-country and multiple-country

Figure 4 shows the geographical distribution of the corresponding authors and their international collaboration patterns, divided into Single Country Publications (SCP) and Multiple Country Publications (MCP). Indonesia has the highest number of publications on local wisdom, with around 500 documents. The high share of SCPs (turquoise blue) compared to MCPs (pink) suggests that most of the local wisdom publications from Indonesia are produced through domestic collaboration. Thailand and Australia rank second and third, with around 20-25 documents each. There are also some contributions from Malaysia, China, Germany, Cambodia, Ecuador, Finland, and India, but on a much smaller scale. Note that some countries such as Germany, Finland, and Cambodia have a relatively higher percentage of MCPs, which indicates a higher inclination to collaborate across national borders. In contrast, the dominance of SCPs in Indonesia suggests that research on local wisdom is mostly confined to the domestic realm, with significant scope for expansion through international collaboration.

Intellectual Proximity among Countries



Figure 5. Bibliographic coupling by country

Figure 5 shows the bibliographic coupling network among countries generated with VOSviewer. In bibliographic coupling, two countries are linked when their documents cite the same references. Link thickness reflects the number of shared cited references, and node size reflects the number of documents. Countries connected in the network therefore share similarities in their cited references, indicating related intellectual foundations in local-wisdom education research. The network does not represent co-authorship or research collaboration. Indonesia occupies the central position because of its large number of documents. Malaysia and Finland show the strongest bibliographic coupling with Indonesia, whereas Australia and Taiwan are linked through weaker coupling. Germany, Poland, Japan, and New Zealand occupy peripheral positions, indicating limited overlap in the references they cite. The overlay colors, ranging from dark blue (average publication year around 2020) to yellow (around 2025), indicate that countries such as Finland and Poland entered this network more recently.

Most Relevant Keywords

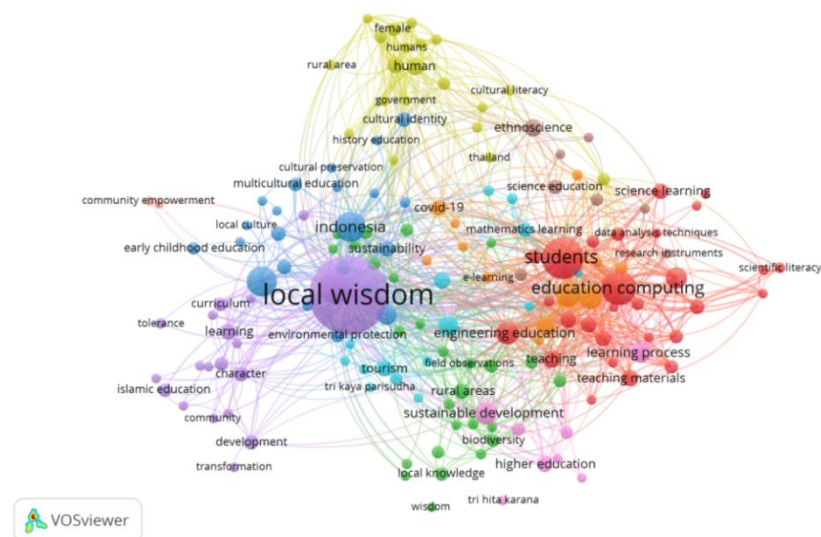


Figure 6. Keywords: co-occurrence analysis by network visualization

Figure 6 shows a visualization of the intellectual structure of local wisdom studies, with color-based clustering indicating thematic proximity. The most central positions with the largest node size are local wisdom and Indonesia, which confirms these two concepts as the conceptual core that connects the whole thematic network. The blue cluster consists of keywords such as local culture, cultural preservation, and multicultural education, which indicates an emphasis on the sociocultural dimension and the preservation of traditional values. The red cluster contains such phenomena as students, educational computing, learning processes, teaching, teaching materials, and scientific literacy. The green cluster is biodiversity, local knowledge, and rural areas, which is the result of integrating local wisdom into sustainable development discourse. The yellow cluster is about the transmission of cultural values and identity, such as cultural literacy, history education, government, and Thailand. The presence of Thailand in this cluster shows a relative emphasis on local wisdom practices in Southeast Asian countries, and the role of the government in preserving cultural heritage through history education. The purple cluster (local wisdom, curriculum, learning, development, transformation, etc.) deals with curriculum development and implementation and reflects the understanding that the internalization of local wisdom values would ideally start at an early age and is reinforced by community empowerment as agents of cultural transmission. The orange cluster, consisting of COVID-19, e-learning, and related fields, indicates the field's response to current challenges, especially the global pandemic. This cluster's existence indicates that researchers have studied the integration of local wisdom into online learning (e-learning) as an adaptive strategy during the global health crisis. The brown cluster, which comprises ethnoscience and science education, offers a way of integrating traditional knowledge with modern science. Ethnoscience, the subfield linking local epistemology and modern scientific methodology, stresses the possible integration of indigenous perspectives into science education curriculum.

The Current Research Landscape in Local-Wisdom Education

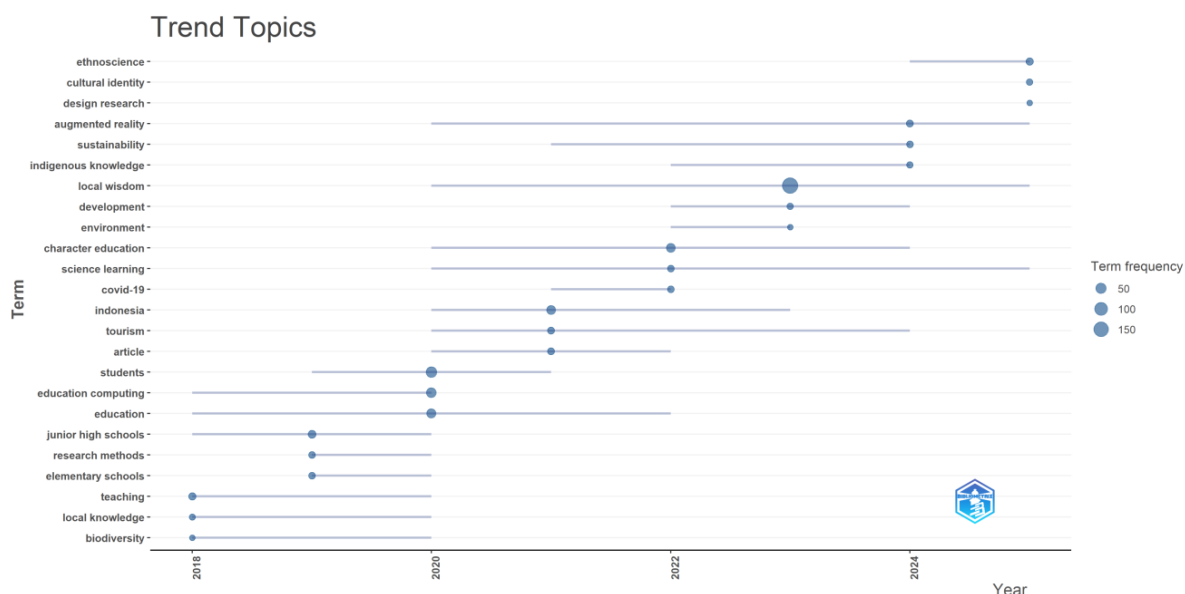


Figure 7. Important issues of local-wisdom education

Figure 7 presents the visualization of this timeline, which tracks the thematic evolution of local wisdom studies by the appearance and longevity of topics from 2018 to 2025. The circles in

this visualization are sized according to how often a keyword occurs in the publication corpus. The legend indicates three size categories: small circles, approximately 50 occurrences; medium circles, approximately 100 occurrences; and large circles, approximately 150 occurrences. The larger the circle's diameter, the more dominant the keyword in the local wisdom studies literature.

The first topic was developed in 2018-2019 (topic pioneer) with keywords such as biodiversity, local knowledge, teaching, elementary schools, research methods, and junior high schools. The small- to medium-sized circles in this period show that these topics are pioneering, but their publication frequency remains limited. The existence of the terms primary and secondary education shows that the application of local wisdom was first tested within the framework of formal schools. The present theme (2024-2025) highlights a migration towards ethnoscience, cultural identity, design research, and augmented reality. The circles are quite small (reflecting their still limited occurrence), but their position at the far right of the timeline shows these themes are still emerging.

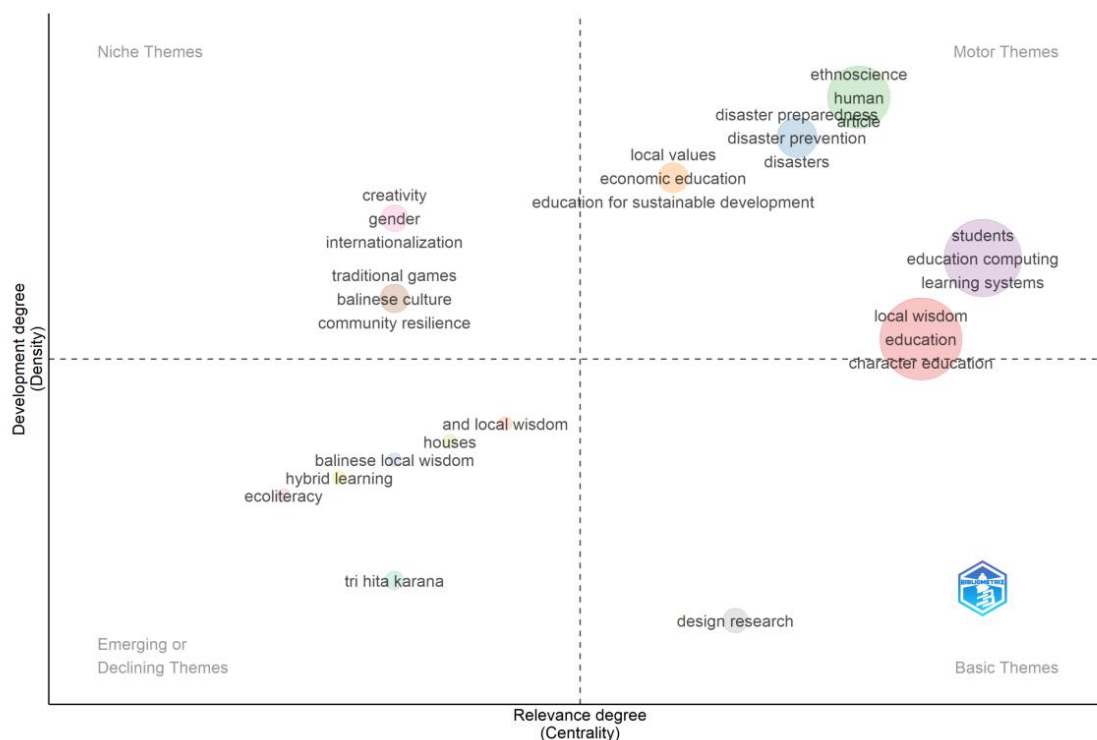


Figure 8. Local wisdom education thematic map

Figure 8 is a four-quadrant diagram of the Cartesian type generated by a thematic-mapping analysis (strategic diagram) that classifies themes in the local-wisdom study based on two key parameters: relevance (centrality) on the horizontal axis and development (density) on the vertical axis. The horizontal axis is centrality, which is the strength of a theme's external connections to other themes in the network. The further to the right a theme is, the higher its relevance and the stronger its connection with the core of the study of local wisdom in general. Highly central themes act as bridges between various subfields of study. Meanwhile, the Vertical Axis shows the intensity of the internal relationships between keywords within a thematic cluster. The higher the position of a theme, the more internally developed and mature it is, with a strong

cohesion among the keywords that make up the theme. The size of the circle is representative of the number or volume of the publications on the theme. The size of the circles is proportional to the number of publications in the corpus of the study that deal with the theme in question.

Motor themes are both central and well developed, such as ethnoscience, disaster prevention, and education computing. The core cluster of local wisdom, education, and character education is large and highly central but lies on the boundary between motor and basic themes, consistent with its role as the conceptual foundation of the field. Niche themes, cohesive but weakly connected to the rest of the network, include creativity, gender, and traditional games. Hybrid learning, eco-literacy, etc., fall in the emerging or decline quadrant. Because the diagram has no temporal dimension, their position alone cannot distinguish emergence from decline, and none of them appears among the topics in Figure 7. Design research is the only basic theme. Central but weakly developed.

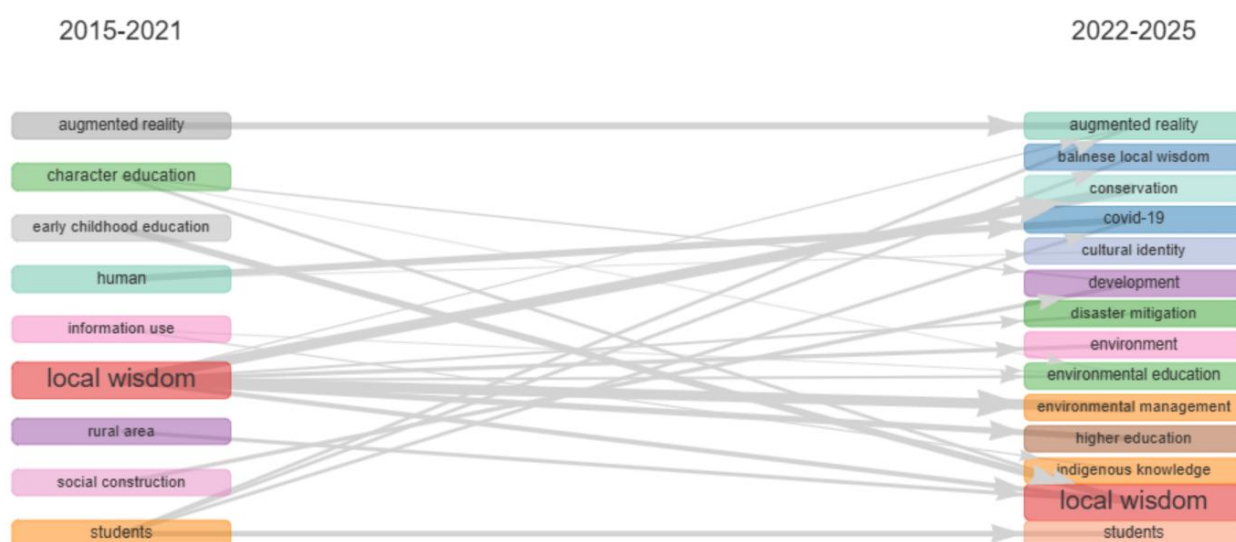


Figure 9. Local-Wisdom Education Thematic Evolution

Figure 9 depicts the shift of the thematic landscape of local wisdom studies from 2015–2021 to 2022–2025. This visual depicts the shifts, transformations, branches, or continuations of research themes over the past decade. The number of themes rose from nine to fourteen, indicating diversification. Local wisdom is the dominant theme in both periods and links to many themes in the second. Continuity under the same name is evident for augmented reality and students. Eleven themes appear only in 2022–2025, including environmental education, environmental management, conservation, disaster mitigation, cultural identity, higher education, indigenous knowledge, Balinese local wisdom, and COVID-19. In contrast, character education, early childhood education, rural areas, social construction, information use, and human no longer form separate themes after 2021.

The research on local wisdom in education has shifted from its initial marginal position to a more prominent position in the global educational research landscape, as evidenced by a bibliometric analysis of 544 documents published in the period 2015–2025 in the Scopus database. The outcomes of this study not only delineate the growth in the volume of publications but also reveal the intellectual structure, geographical distribution patterns, and thematic development indicative of the maturity of a field of study. To provide a proper understanding of

the significance of these findings, the discussion below addresses the five main aspects one by one after the research questions and also critically compares them with previous research findings in terms of consistency, differences, and new contributions.

The growth trajectory of publications (Figure 2) shows a fluctuating but overall positive pattern. Output rose steadily to a first peak in 2020, declined in 2021-2022, and recovered to its highest level in 2025, although the 2025 count is based on partial-year data. The bibliometric data alone cannot establish why output declined in 2021-2022. One observable pattern is that *Journal of Physics: Conference Series*, the most productive source, made no further contributions after 2021 (Figure 3), so a reduced flow of conference proceedings may partly account for the decline. Disruption to research activity during the COVID-19 pandemic is another possible explanation; the presence of COVID-19, e-learning, and mathematics learning in the keyword network (Figure 6) shows that the pandemic became a research topic within the field, but it does not demonstrate that the pandemic caused the decline. The explanations should therefore be regarded as tentative. The overall increase, with Arjaya et al. (2024), who observed an increase in the global attention being paid to the integration of local wisdom into education and methodologically, supports Donthu et al. (2021)'s argument that bibliometric mapping can shed light on the developmental dynamics of a field that are not easily observable in a traditional narrative review.

The most significant result of this analysis is the very strong geographic concentration. Approximately 500 of the 544 documents (about 92%) have a corresponding author affiliated in Indonesia, and most of these are single-country publications (Figure 4). This concentration should be interpreted with caution. Because the search used the term "local wisdom, studies from other countries that discuss similar ideas under terms such as indigenous knowledge, traditional knowledge, or local knowledge are likely to be underrepresented. The dominance of Indonesia therefore reflects, at least in part, the terminology of the search and not only the global distribution of research on culturally grounded education. Within these limits, two factors may contribute to this dominance. First, the archipelagic nature of Indonesia, which is home to extraordinary cultural and biological diversity, provides fertile empirical ground for education innovations grounded in local wisdom, as seen in the revitalization of Rejang tribal wisdom in the operational curriculum of elementary schools (Hasan et al., 2024) and the adaptation of local wisdom values for student character development in Serang Regency (Yani et al., 2025). Second, the national education policy's emphasis on culture-based character building has consistently guided academic attention to this area (Hermino & Arifin, 2020; Sulkipani et al., 2023). But such dominance raises questions that can't be ignored. The low percentage of multinational publications is a clear indication that research on local wisdom in Indonesia is still domestically oriented and has not been widely tested in different cultural contexts. This limitation may reduce the generalizability and theoretical robustness of the resulting frameworks, as the conceptual strength of a field is really tested when its ideas are confronted with different cultural realities.

The bibliographic coupling network (Figure 5) adds a complementary perspective. It does not show collaboration but the extent to which countries share cited references. The strong coupling of Indonesia with Malaysia and Finland indicates shared intellectual foundations, whereas the peripheral positions of Germany, Poland, Japan, and New Zealand indicate limited overlap in the literature they draw on. Evidence on actual collaboration comes instead from the SCP-MCP distribution (Figure 4), which shows that multi-country co-authorship remains limited. Relevant precedents on how cross-institutional cooperation can improve the study of local wisdom are the Yangkhinok Model in Thailand, which emphasizes the value of cooperation between local communities and educational institutions (Pearnpitak et al., 2024), and the decade-long place-based partnership in Taiwan (Chang & Kuo, 2021). As Williams et al. (2020) note, the

recognition of indigenous and local knowledge is even a prerequisite for successful cross-national collaboration in landscape-based approaches, so the expansion of international networks can be seen not just as adding partners but as a strategy to bolster the epistemological underpinnings of this field.

As for dissemination platforms (Figure 3), the Journal of Physics: Conference Series leads the way with 57 papers, followed by the IOP Conference Series: Earth and Environmental Science, AIP Conference Proceedings, and the E3S Web of Conferences. The prominence of conference proceedings may partly reflect Indonesia's national evaluation policies, which have historically credited indexed proceedings (Purnell, 2018) and Scopus-indexed Indonesian output growth after 2014 has been concentrated in Q3-Q4 journals, whereas international co-authorship is associated with Q1 journals (Fu et al., 2023).

As displayed in Figure 6, the intellectual structure of this field is multidimensional and structured into several complementary thematic clusters. The sociocultural cluster connects local culture, cultural preservation, multicultural education, and community empowerment, which is consistent with the result that local wisdom internalizes the values of respect, cooperation, and responsibility through cultural activities and symbols (Yani et al., 2025; Sulkipani et al., 2023). The applied cluster that combines students, teaching materials, and science literacy is consistent with the findings that the inclusion of local wisdom in learning materials can improve student engagement and learning outcomes (Saputri, 2020; Toharudin & Kurniawan, 2019). Local wisdom is highlighted as cultural capital and environmental pedagogy within the sustainability cluster, which includes biodiversity, environmental protection, and rural areas. This is evidenced by the results of learning models based on local wisdom to increase understanding of land ethics and ecological awareness (Ningrum et al., 2018; Lisdiyono, 2017) and the documentation of indigenous community-based environmental management practices based on traditional knowledge (Wardhani et al., 2024; Yaqin et al., 2024). The identity cluster, which includes cultural identity, history education, and government policy, reflects the role of cultural institutions in strengthening national identity while preserving heritage (Prakoso et al., 2025; Frullo & Mattone, 2024). The connections between these clusters show that local wisdom is not a single isolated theme, but a conceptual hub addressing multiple educational goals at the same time, i.e., character development, science literacy, environmental awareness, and cultural preservation.

The thematic analyses (Figures 7-9) point to three developments. First, the field has diversified. The number of themes rose from nine in 2015-2021 to fourteen in 2022-2025, and the eleven new themes are dominated by environment-related topics (environmental education, environmental management, conservation, disaster mitigation), together with cultural identity, higher education, and indigenous knowledge (Figure 9). This is consistent with the sustainability line of inquiry described in the introduction. Disaster-related themes also form a motor cluster in Figure 8, yet they are rarely discussed in the literature reviewed in this article and may merit further attention. Second, the field has consolidated around a core. Local wisdom is the dominant theme in both periods, and character education, one of the earliest and most established lines of inquiry, no longer forms a separate theme after 2021. It appears inside the core local wisdom cluster in Figure 8. This suggests that character education has become part of the field's conceptual foundation rather than a distinct specialization, although the present data cannot show how this absorption occurred. In the same map, the cluster of local values, economic education, and education for sustainable development lies in the motor quadrant, offering bibliometric support for the link between local wisdom education and education for sustainable development. Third, recent trend topics (ethnoscience, cultural identity, design research, and augmented reality

(Figure 7) indicate a scientific and technological turn, but the strategic map qualifies this reading. Only ethnoscience occupies the motor-theme quadrant, so it is the only recent topic that is both well developed and central. Design research is a basic theme. Central to the network, but not yet well developed internally. Augmented reality and cultural identity do not form distinct clusters in Figure 8, and augmented reality was already a theme in 2015-2021 (Figure 9), so its recent prominence reflects the growth of an existing stream rather than a new arrival, as illustrated by the development of augmented reality media for local-wisdom learning (Sapta et al., 2025). Together, these patterns indicate a field that is broadening and technologically diversifying, but they do not by themselves demonstrate pedagogical effectiveness, which is why systematic synthesis of the evidence on ethnoscience and technology-based approaches is a priority for future research.

To summarize, these findings answer all five research questions and indicate that local wisdom education has broadened from early topics centered on biodiversity, local knowledge, and school-level teaching toward a more diverse field that now includes environmental, identity-related, and technology-mediated themes. Compared with the earlier bibliometric study by Arjaya et al. (2024) this study provides an extended bibliometric mapping. It covers a longer period (2015-2025) and a larger dataset (544 documents), and it adds trend topics, a strategic thematic map, and thematic evolution analysis together with the distinction between single- and multiple-country publications. These findings point to three priorities for future research. First, international collaboration should be expanded so that local wisdom frameworks are tested across cultural contexts, given that about 92% of the documents originate from Indonesia and most are single-country publications. Second, the evidence on ethnoscience and technology-based approaches, the motor theme, and recent trend topics in this map should be synthesized through systematic review (and, where data permit, meta-analysis), because bibliometric data cannot establish pedagogical effectiveness. Third, the evidence base should be broadened beyond a single database and search term, for example by adding Web of Science and national databases and by including related constructs such as indigenous and traditional knowledge, with co-authorship analysis used to map international collaboration directly.

This study has several limitations. First, it relied on a single database (Scopus). Publications indexed only in Web of Science, Dimensions, or national databases such as SINTA and Garuda were not included. Second, the search was term-specific. It captured publications that explicitly use “local wisdom” and may under-represent research framed as indigenous, traditional, or local knowledge, which may partly explain the dominance of Indonesia. Third, data for 2025 cover only January to early October, so 2025 counts are not directly comparable with those of complete years. Fourth, no manual title-abstract screening was applied, so a small number of records may address local wisdom or education only peripherally.

D. CONCLUSION

This study mapped research on local wisdom in education using 544 Scopus-indexed documents published from 2015 to 2025. Publication output increased overall, with a first peak in 2020, a decline in 2021-2022, and the highest count in 2025 based on partial-year data. Conference proceedings, led by the *Journal of Physics: Conference Series*, were the main dissemination channels, and Indonesia contributed the large majority of documents, mostly as single-country publications. The keyword structure shows sociocultural, applied, sustainability, and identity-related clusters converging on local wisdom, while recent topics include ethnoscience, cultural identity, design research, and augmented reality. Overall, the field has

become increasingly diverse, expanding from early topics on biodiversity, local knowledge, and school-level teaching toward environmental, identity-related, and technology-mediated themes, although it remains concentrated in Indonesia and in conference proceedings. Future research should expand international collaboration, synthesize the evidence on ethnoscience and technology-based approaches through systematic review, and broaden the evidence base beyond a single database and search term, including co-authorship analysis.

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