

Trends in the development of digital literacy-based learning media for Indonesian language instruction in elementary schools from 2020 to 2025

Ayub Prastiyo*, Sri Wardani, Bambang Subali, Nuni Widiati

Universitas Negeri Semarang, Indonesia

Corresponding email: ayub.prastiyo@gmail.com

Abstract

Over the past five years, advances in information technology have led to a significant increase in the use of digital literacy-based learning media in elementary schools. This trend has become more pronounced since the COVID-19 pandemic, which accelerated the shift from conventional to digital learning environments. This article aims to examine trends in the development of digital literacy-based learning media for Indonesian language instruction in elementary schools during the period 2020–2025. The study adopts a descriptive qualitative approach, employing a systematic literature review (SLR) combined with bibliometric analysis using VOSviewer software. The findings indicate that, since 2020, there has been a shift from the use of relatively simple digital media, such as PDF modules and instructional videos, toward more interactive formats, including Android-based applications, online learning platforms, and gamified media. Furthermore, the integration of digital literacy into Indonesian language instruction not only enhances students' basic literacy skills but also promotes active engagement, collaboration, and creativity. However, several challenges persist, including unequal access to technology, limited teacher competence, and insufficient integration of local cultural contexts. This study concludes that future development of digital literacy-based learning media should move toward more innovative, inclusive, and sustainable approaches to better support the quality of Indonesian language learning in elementary schools.

Keywords: *digital literacy, learning media, Indonesian language, elementary school*

How to cite (APA 7th): Prastiyo, A., Wardani, S., Subali, B., & Widiati, N. (2026). Trends in the development of digital literacy-based learning media for Indonesian language instruction in elementary schools from 2020 to 2025. *Jurnal Penelitian Humaniora*, 31(1), 43-55. <https://doi.org/10.21831/hum.v31i1.92307>

INTRODUCTION

Since 2020, rapid technological advancements have significantly transformed the educational landscape, particularly at the elementary school level. The integration of digital literacy-based learning media has become increasingly essential, especially in online and hybrid learning environments (Rosfiani et al., 2025). This shift has created an urgent demand for learning media that can effectively support both distance and face-to-face instruction through digital approaches. In Indonesian language learning, digital media play a crucial role not only in supporting students' foundational literacy skills but also in enhancing learning motivation and classroom interactivity (Diniyati et al., 2024). Following the COVID-19 pandemic, elementary schools have increasingly adopted digital content, educational games, and learning applications as part of their digital literacy strategies (Wijayanti et al., 2024). Similarly, various forms of digital media—such as instructional videos, Android-based applications, and interactive multimedia—are now more widely implemented in classroom practices (Salam et al., 2024). Previous studies have also identified digital learning media as a dominant solution in situations where face-to-face instruction is limited (Jamilah et al., 2021). Furthermore, innovations in digital media have been shown to align Indonesian language learning more closely with the Merdeka Curriculum while simultaneously increasing students' learning motivation (Sumadyo et al., 2024; Rusdi et al., 2025).

Digital literacy refers to a set of competencies involving the ability to access, evaluate, utilize, and create information in digital environments (Ng, 2012). At the elementary level, this includes not

only basic technical skills but also the capacity to think critically about digital content (Eyal & Te'eni-Harari, 2024). Recent studies emphasize that digital literacy instruction should incorporate critical source evaluation, digital safety awareness, and basic content creation skills (Vargas & Castro, 2020). In the context of language learning, digital literacy extends beyond technical proficiency to include critical awareness in processing and interpreting information (Nugraha, 2022). Digital learning media encompass a wide range of formats, including instructional videos, interactive modules, mobile applications, learning management systems (LMS), augmented reality (AR), and gamification elements (Noviarini et al., 2024). These media not only deliver content but also facilitate interactivity, personalization, and collaboration—key components in fostering 21st-century skills. Empirical evidence indicates a shift since 2020 from passive media, such as PDFs and videos, toward more interactive and collaborative digital platforms (Chusna et al., 2024). The integration of digital literacy is particularly important in elementary education, as it lays the foundation for 21st-century competencies, especially the 4C skills: critical thinking, creativity, communication, and collaboration (UNESCO, 2022). These competencies require active learning environments supported by digital media that enable higher-order thinking, creative expression, and collaborative engagement. Developing the 4Cs at the elementary level involves carefully designed tasks, collaborative learning activities, and explicit instructional strategies facilitated by appropriate digital tools (Dahlan et al., 2024). Moreover, recent literature highlights that these skills are most effectively developed when embedded in authentic learning activities, such as online collaboration and multimedia-based projects (Herlinawati et al., 2024).

Indonesian language learning in elementary schools focuses on developing four core skills: reading, writing, speaking, and listening. Digital media offer significant potential to enrich these literacy practices through approaches such as digital storytelling, interactive exercises, and peer feedback activities, thereby accelerating language competency development (Hafidhi, 2024). Empirical studies in Indonesia consistently demonstrate the positive impact of digital media on students' motivation, language proficiency, and creativity (Hilmansyah et al., 2024; Yulianti et al., 2024). These findings reinforce the role of digital literacy not only as a tool for skill development but also as a means of fostering independent learning in the digital era.

Recent studies further confirm that the use of digital media significantly influences Indonesian language learning outcomes. The integration of digital tools has been shown to improve elementary students' reading, writing, speaking, and listening skills (Aziizah Khoirunnisaa et al., 2025; Topuha et al., 2025). In addition, digital storytelling and interactive multimedia have been found to increase students' learning interest and engagement (Nayla Adhwa et al., 2025). Although conducted at the junior high school level, the study by Yulianti et al. (2024) also demonstrates that strengthening digital media literacy positively affects Indonesian language literacy skills. Beyond technical use, digital literacy is now recognized as a fundamental competency that supports critical thinking, creativity, communication, and collaboration (Susandi et al., 2025). Despite these positive developments, several research gaps remain. Existing studies tend to focus primarily on learning motivation and outcomes, while limited attention has been given to identifying the most effective types of digital media (Khoirunnisaa et al., 2025). Other challenges include teacher competency, infrastructure readiness, and the adaptation of media to diverse learner characteristics (Sumadyo et al., 2024; Jamilah et al., 2021).

Moreover, current research on digital media in Indonesian language learning at the elementary level is largely dominated by case studies and small-scale experiments, resulting in a lack of comprehensive and longitudinal insights. Previous studies have noted the absence of consistent trend mapping in digital media use over time (Nafis, 2024). In addition, evaluation practices often rely solely on cognitive learning outcomes, without adequately addressing 21st-century skills such as communication, collaboration, creativity, and critical thinking (Zahra et al., 2025). Variations in evaluation indicators across studies further complicate comparisons of media effectiveness across contexts (Wardani et al., 2024). Meanwhile, international research by Cheng et al. (2022) suggests that trends in the adoption of digital media technologies in elementary education can be mapped more systematically and robustly. Therefore, a comprehensive study that integrates bibliometric analysis, systematic review, and national-level data is needed to provide a stronger evidence base for the

development of policies and practices in digital media-based Indonesian language learning at the elementary school level.

Given these conditions, this study seeks to map the development trends of digital literacy-based learning media in Indonesian language instruction at the elementary school level from 2020 to 2025. The findings are expected to provide a comprehensive understanding of media types, emerging innovations, key challenges, and patterns of use. Previous research by Rusdi et al. (2025) suggests that mapping digital learning media can support teachers in selecting more appropriate instructional strategies to enhance students' learning motivation. Similarly, Yulianti et al. (2024) highlight the importance of trend-based research in providing a foundation for more effective educational policies and practices. In this regard, the present study aims to contribute to the identification of more effective, adaptive, and contextually relevant media strategies to improve the quality of Indonesian language learning in elementary schools.

METHOD

This study used a descriptive qualitative approach with a systematic literature review (SLR) method combined with bibliometric analysis using VOSviewer software. The purpose of this design was to map trends in the development of digital literacy-based learning media in Indonesian language learning at the elementary school level from 2020 to 2025 and to identify research gaps based on bibliometric visualization.

Data Sources and Search Criteria

The data sources were obtained from open-access and reputable scientific articles indexed in Google Scholar and Scopus. The keywords used in searching for references included “media belajar,” “literasi digital,” “Bahasa Indonesia SD,” “digital learning elementary school,” and “teaching media in Indonesian language learning.”

The inclusion and exclusion criteria were determined as follows.

Table 1. Inclusion and Exclusion Criteria

Criteria	Description
Publication Year	2020–2025
Document Type	Scientific journal articles (nationally accredited and internationally reputable journals)
Relevant Topic	The use of digital media, literacy, or innovations in Indonesian language learning at the elementary school level
Exclusion Criteria	Non-peer-reviewed proceedings, articles outside the elementary school context, or non-academic reports

Data Collection Technique

The data collection process followed the PRISMA (*Preferred Reporting Items for Systematic Reviews and Meta-Analyses*) procedure, which consists of four stages: identification, screening, eligibility, and inclusion (Haddaway et al., 2022). The identification stage began with searching for articles to be analyzed using Publish or Perish 8. The screening stage was conducted to identify duplicate or inaccessible articles. The eligibility stage applied inclusion and exclusion criteria based on the criteria presented in Table 1. The inclusion stage was the final stage, in which the selected articles were analyzed bibliometrically using the VOSviewer application to visualize all information. Data analysis using VOSviewer produced three aspects: network visualization, overlay visualization, and density visualization.

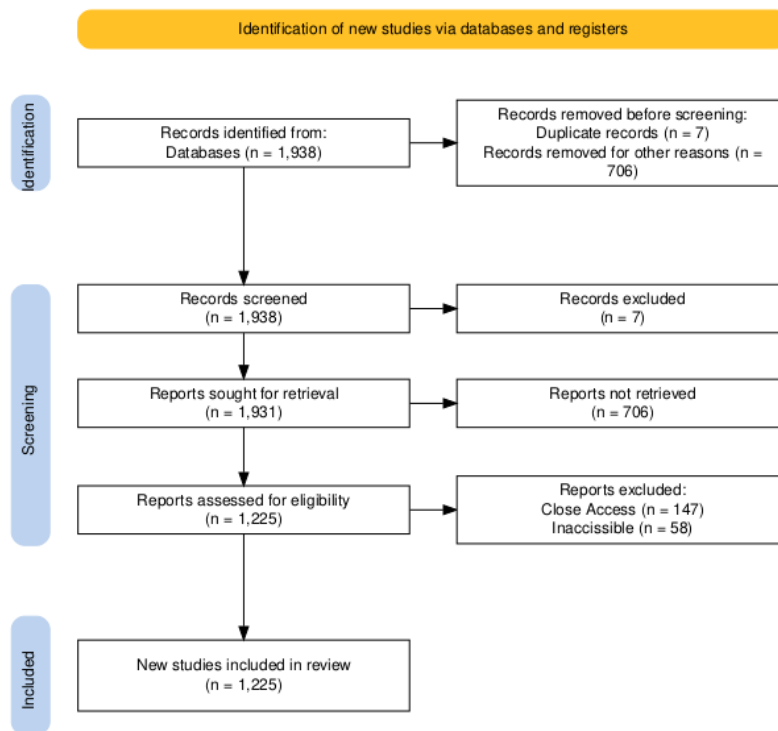


Figure 1. PRISMA Model Stage (Haddaway et al., 2022)

The stages of data collection using PRISMA included: a) identification of articles from various databases (n = 1938), b) removal of duplicates (n = 7), c) initial selection based on closed-access and inaccessible articles (n = 706), and d) final articles analyzed totaling 1225 articles (2020–2025).

FINDINGS AND DISCUSSION

General Overview of the Article Analysis Results

Based on the selection process using the PRISMA diagram, 1225 scientific articles published between 2020 and 2025 were identified as relevant to the topic of developing digital literacy-based learning media in Indonesian language learning at the elementary school level. The distribution of publications shows a significant increase after the COVID-19 pandemic, with the highest number of publications occurring in 2022 (Figure 2).

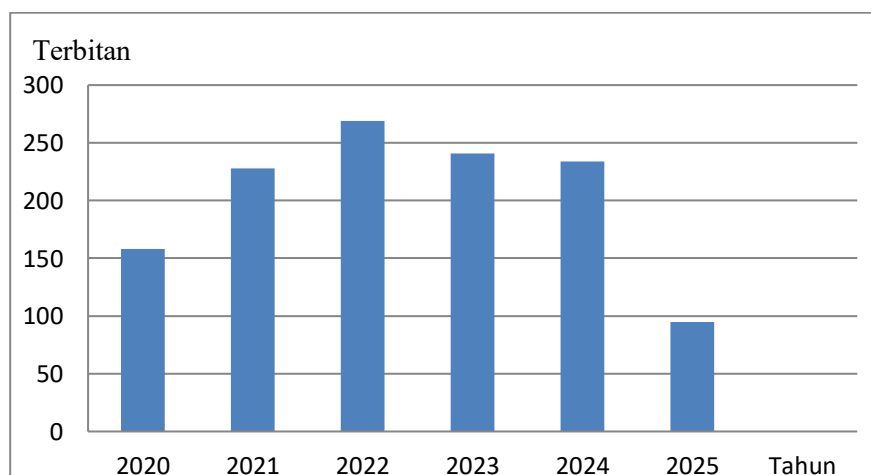


Figure 2. Publications on the Topic of Learning Media Development

Most articles were published in reputable journals such as *Jurnal Pendidikan Bahasa dan Sastra*, *International Journal of Instructional Media*, and *Cogent Education*. This trend indicates growing academic attention to the importance of digital innovation in elementary education.

Bibliometric Analysis Using VOSviewer

The bibliometric analysis was conducted using VOSviewer 1.6.20, producing three main types of visualization maps: network visualization, overlay visualization, and density visualization.

Network Visualization

The bibliographic data collected from the articles were exported in .RIS or .CSV format and then processed using VOSviewer 1.6.20 to generate three types of visualization maps.

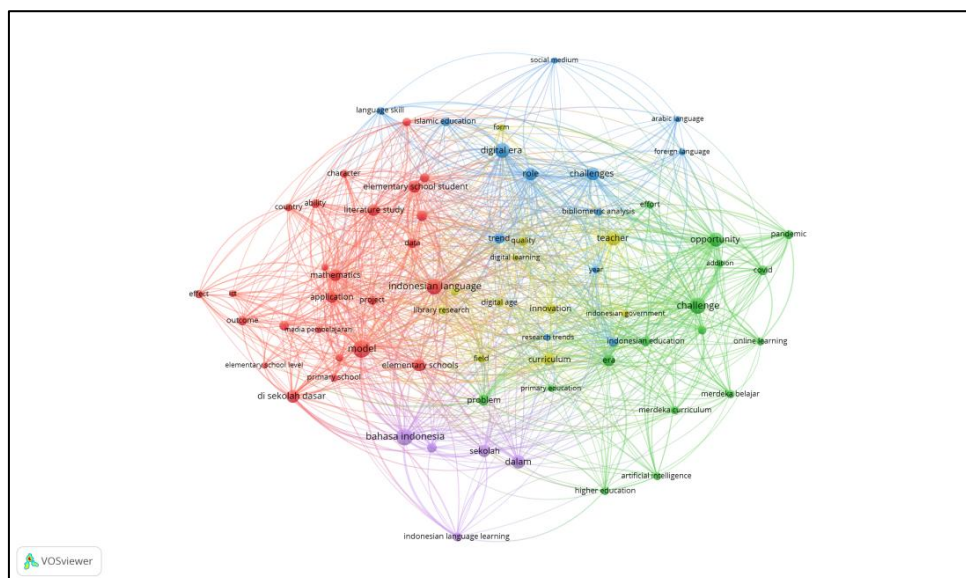


Figure 3. Network Visualization

Based on Figure 2, the relationships between keywords (co-occurrence) are shown in topics related to digital learning media, digital literacy, Indonesian language in elementary schools, digital learning in elementary schools, and teaching media in Indonesian language learning. The network visualization provides an overview of several topics that are frequently cited and closely connected to other topics. In general, there are five main topic clusters distinguished by color: green, red, yellow, blue, and purple. Digital learning media have numerous connections with other topics, indicating that digital learning media are widely discussed in many research articles (Mulyani et al., 2024).

The following table presents the network map of the most frequently occurring keywords.

Table 1. Top 10 Keywords with the Highest Frequency (2020–2025)

No.	Keyword	Occurrences	Total Link Strength (TLS)	Average Publication Year
1	Learning Model	70	112	2023.9
2	Indonesian Language	66	127	2024.1
3	Challenge	60	138	2023.7
4	Indonesian Language	59	115	2024.0
5	Digital Era	51	112	2024.2
6	Teacher	50	98	2023.5

7	Opportunity	49	152	2023.4
8	In Elementary School	40	69	2024.2
9	Role	40	75	2024.2
10	Elementary School Student	37	74	2024.0

The top five keywords indicate a strong research focus on digital literacy and 21st-century skills (4C).

Table 2. Research Clusters Based on Network Visualization

Cluster No.	Main Theme	Main Keywords	Research Focus
1	Elementary Education and Literacy	Elementary school student, elementary schools, literature study, mathematics education, science learning	Focuses on the implementation of learning in elementary schools, particularly in the context of literacy, character education, ICT, and mathematics and science learning.
2	Educational Transformation and the Digital Era	Artificial intelligence, challenges, Merdeka Curriculum, Merdeka Belajar, pandemic, online learning, transformation	Highlights research on curriculum adaptation and digital learning after the pandemic, the integration of AI, and the implementation of the Merdeka Belajar policy in Indonesia.
3	Bibliometric and Language Studies	Bibliometric analysis, digital era, Indonesian context, research trends, Arabic language, foreign language, role	Focuses on meta-analysis and current research trends, including studies on Arabic and Indonesian language learning in the digital era.
4	Curriculum and Learning Innovation	Curriculum, digital learning, innovation, teacher, quality, library research	Emphasizes curriculum development, innovations in learning media, and the role of teachers and educational quality.
5	Indonesian Language and Contextual Implementation	Bahasa Indonesia, learning media, school, in elementary school, Indonesian language learning, journal	Focuses on Indonesian language learning in elementary schools, including the implementation of learning media and local contexts such as mutual cooperation and school culture.

Among the five main clusters, Cluster 5 (Indonesian Language and Contextual Implementation) has the fewest number of articles (low density), indicating a potential research gap that can be further developed, particularly in the development of learning models and literacy in elementary schools.

Overlay Visualization

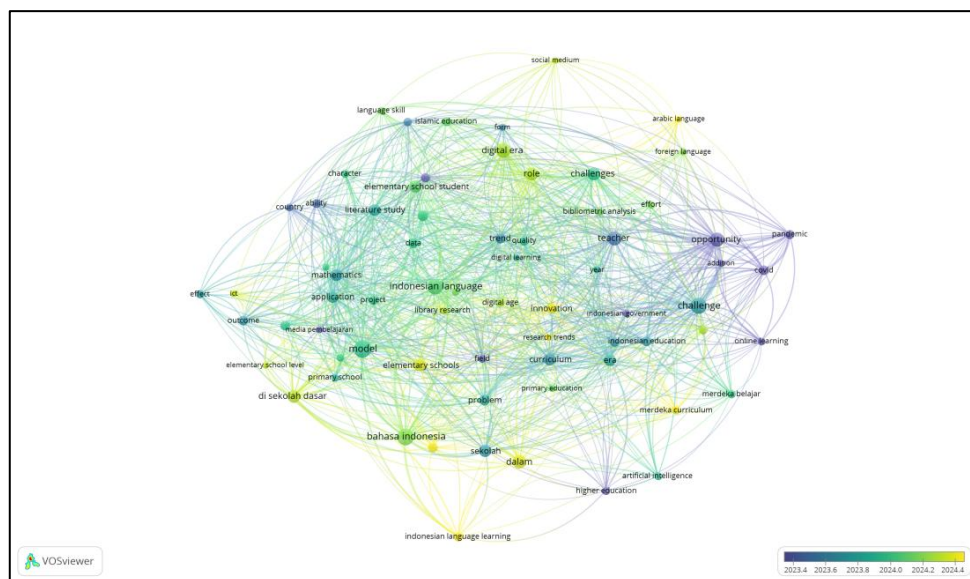


Figure 4. Overlay Visualization

The results of the analysis based on the overlay visualization in Figure 3 show two main areas with contrasting colors, namely yellow and purple. Indonesian language learning can be identified as a research topic that has been widely studied in recent years, indicated by the yellow color. The yellow area represents topics that are currently trending.

Density Visualization

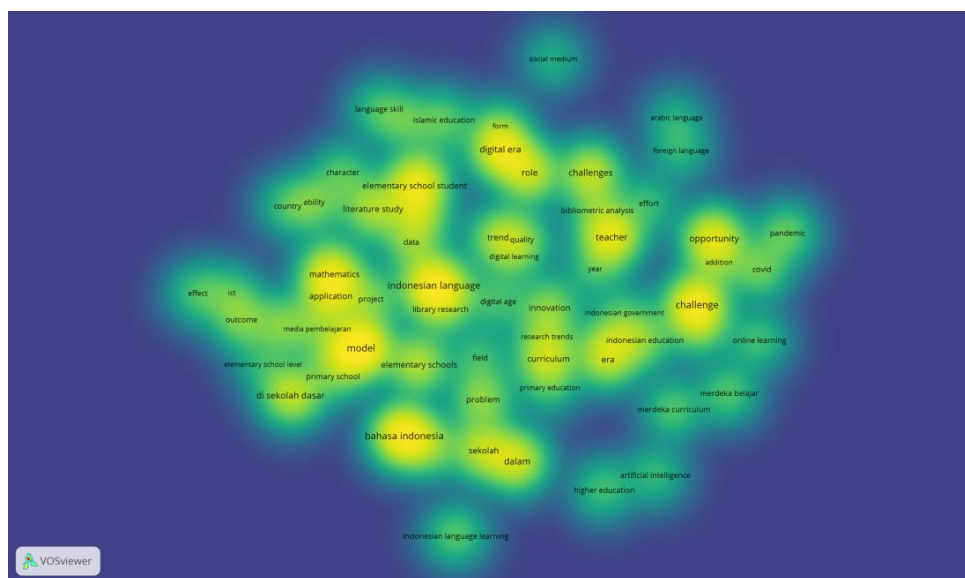


Figure 5. Density visualization

In general, the results of the analysis in Figure 4 can be distinguished based on the color distribution. The yellow area indicates terms that have received considerable attention from researchers, while the green area represents topics that have received less attention. Keywords such as learning

model, Indonesian language, and digital era have become the current focus of research. Meanwhile, themes related to digital learning, digital literacy, and cultural literacy still show low density.

Evolution of Research Trends in Digital Learning Media (2020–2025)

Bibliometric analysis shows that research on digital literacy-based learning media in elementary schools has increased rapidly since 2020. The 2020–2021 period was dominated by studies on the adaptation of online learning due to the COVID-19 pandemic, focusing on the use of simple digital media such as Google Classroom and WhatsApp Learning (Apriyanto & Farhan, 2021). Since 2022, the focus of research has gradually shifted toward strengthening digital literacy and integrating 21st-century skills. A study by Mulyanti & Gading (2023) confirmed that the use of interactive digital media can simultaneously develop students' critical thinking and collaborative skills. This finding is consistent with Dinihari (2025), who reported that digital gamification in Indonesian language learning improves creative thinking skills while also strengthening students' intrinsic motivation. The latest trends from 2024–2025 indicate a new research direction toward strengthening teacher competencies and digital pedagogical innovation. Teachers are no longer positioned solely as users but are beginning to act as developers of digital content based on local contexts (Wati & Nurhasannah, 2024). Recent studies have also identified shifts in the types of digital media used in elementary schools. A systematic study conducted during the 2020–2023 period found that instructional videos, mobile applications, and interactive multimedia were the three most widely developed forms of media for elementary learning (Salam et al., 2024). Empirical research in the Indonesian context further shows that gamification and collaborative platforms are increasingly being adopted to improve student engagement and collaboration (Nasution et al., 2025). Other empirical studies in Indonesia identified digital storytelling, interactive quizzes, and adaptive practice applications as growing trends since 2021–2022 (Widyaningrum et al., 2023). However, the literature also highlights that the quality of interactivity and personalization still varies across products, indicating that trend mapping should consider instructional design aspects in addition to the technical format of the media (Wibowo, 2023).

The Contribution of Digital Media to Indonesian Language Learning

Digital media have proven to be effective tools for improving elementary students' language skills. In a study by Hafizin et al. (2024), the use of interactive Indonesian language media in third-grade classrooms improved reading skills by 35% compared to conventional classes. In addition, Wowoseko & Kalukar (2025) found that interactive digital dictionaries help students expand their vocabulary and understand contextual meanings more quickly. Digital media such as e-books and literacy videos also strengthen reading and speaking practices among elementary school students. These findings confirm that digital literacy is not only about technology but also about transforming collaborative and reflective language practices (Santi & Fitria, 2023). With relevant technological support, students can more easily construct meaning, engage in discussions, and write independently. However, Maisarah et al. (2022) caution that the effectiveness of digital media depends heavily on instructional design and its suitability for children's developmental stages. Without proper design, digital media may lead students to consume content passively without genuinely developing critical thinking skills.

Integration of Digital Literacy and Local Wisdom in the Merdeka Curriculum

The Merdeka Curriculum emphasizes contextual, student-centered learning that aligns with local characteristics. A study by Simarmata (2023) showed that the implementation of digital media in rural schools requires contextual adaptation to remain relevant to students' everyday lives. Research by Andriani et al. (2024) further emphasizes the importance of inclusivity and curriculum adaptation in digital learning for all students, including those with special needs. In the context of Indonesian language learning, digital literacy-based approaches that incorporate cultural values such as *gotong royong* (mutual cooperation) and politeness in online communication can strengthen students' identity formation (Khusyairin et al., 2024). Thus, digital media function not only as instructional tools but also as a means of internalizing local cultural values in digital environments.

Research Gaps and Research Implications

The results of the overlay and density map analyses indicate that high-density themes include *model pembelajaran, Bahasa Indonesia* dan *Literasi digital*. Meanwhile, low-density areas that represent research gaps include: (1) the integration of local wisdom into Indonesian language digital media; (2) longitudinal studies on the long-term effectiveness of digital literacy; and (3) the development of digital pedagogical frameworks based on the Merdeka Curriculum. Effective digital education must be supported by longitudinal research and continuous reflection in order to produce sustainable educational policies. These findings provide new directions for the development of future research based on bibliometric insights.

Research Journal Summary Table

Based on the secondary data collected and analyzed from the literature studies (2020–2025), information was obtained regarding various trends in the development of digital literacy-based learning media, categorized into the ten highest-cited references from Google Scholar as of October 2025.

Table 3. Research Summary

No.	Author(s) (Year)	Article Title	Main Findings	Citations
1	(Abidah et al., 2020)	The Impact of COVID-19 on Indonesian Education and Its Relation to the Philosophy of “Merdeka Belajar”	The COVID-19 pandemic accelerated the digitalization of education and encouraged the implementation of the Merdeka Belajar philosophy.	1503
2	(Syahputra, 2024)	21st-Century Learning and Its Implementation in Indonesia	21st-century education requires digital competence, collaboration, critical thinking, and ICT-based problem-solving skills.	1307
3	(Salsabila et al., 2020)	The Use of the Quizizz Application as a Learning Medium During the Pandemic for High School Students	Quizizz effectively improved students’ motivation, concentration, and accuracy during online learning.	706
4	(Pratama et al., 2022)	Augmented Reality-Based Reptile Learning Application	AR applications help students understand biology materials through interactive 3D visualization.	636
5	(Wulandari & Mudinillah, 2022)	The Effectiveness of Using Canva as a Science Learning Medium in MI/Elementary Schools	Canva helps teachers create engaging visual learning media and increases elementary students’ learning motivation.	558
6	(Citra & Rosy, 2020)	The Effectiveness of Game-Based Learning Media Using Quizizz on Office Technology Learning Outcomes	Android-based e-modules improve learning independence and the effectiveness of history learning among university students.	542
7	(Ambarwati et al., 2021)	Literature Study: The Role of Educational Innovation in Digital Technology-Based Learning	Educational innovation plays a very important role in digital technology-based learning.	483
8	(Annisa et al., 2020)	The Importance of Character Education for School Children in the Digital Era	A person’s character is formed when activities are carried out repeatedly and consistently until they become habits.	468
9	(Sidiq, 2020)	Development of an Android-Based Interactive E-Module for the Teaching and Learning Strategies	Android-based e-modules improve learning independence and the effectiveness of history	430

		Course	learning among university students.	
10	(Subroto et al., 2023)	Technology Implementation in Learning in the Digital Era: Challenges and Opportunities for Education in Indonesia	The localization of digital content into regional languages is important to accommodate Indonesia's linguistic diversity.	421

CONCLUSION

This study concludes that the trend in the development of digital literacy-based learning media for Indonesian language learning in elementary schools during the 2020–2025 period has shown significant and dynamic growth. The transformation of learning from conventional systems to digital learning has created new opportunities for strengthening 21st-century skills, namely critical thinking, creativity, communication, and collaboration. The bibliometric results and literature analysis indicate that research has focused not only on the use of technology but also on how learning media can be integrated contextually within the Merdeka Curriculum. Conceptually, this study emphasizes that digital literacy is no longer merely a learning support tool but has evolved into a medium for shaping a new learning culture that emphasizes collaboration, digital ethics, and appreciation of local values. An important contribution of this study lies in mapping research directions that connect digital literacy, teacher competence, and local wisdom values within a unified framework for Indonesian language learning in elementary schools.

The future development of digital literacy-based learning media should focus not only on technological innovation but also on strengthening teachers' capacity to design and utilize digital media that are oriented toward local contexts and students' characteristics. Future studies are expected to conduct longitudinal research and in-depth evaluations of the effectiveness of digital media in improving language competencies and fostering a sustainable literacy culture. Further research may also examine the integration of local wisdom values into Indonesian language digital media to strengthen national identity while preparing students to face global challenges.

REFERENCES

- Abidah, A., Hidaayatullah, H. N., Simamora, R. M., Fehabutar, D., Mutakinati, L., & Suprpto, N. (2020). The impact of COVID-19 to Indonesian education and its relation to the philosophy of "Merdeka Belajar." *Studies in Philosophy of Science and Education*, 1(1), 38–49.
- Andriani, O., Saputri, A., & Nuraini, S. (2024). Media pembelajaran untuk ABK dengan model adaptasi Kurikulum Merdeka pada mata pelajaran Bahasa Indonesia. *Sintaksis: Publikasi Para Ahli Bahasa dan Sastra Inggris*, 2(1), 141–148.
- Apriyanto, M. T., & Farhan, M. (2021). Merancang pembelajaran matematika daring sederhana dengan aplikasi WhatsApp kombinasi Google Classroom pada masa pandemi. *Prosiding Penelitian Pendidikan dan Pengabdian 2021*, 1(1), 115–128.
- Aziizah Khoirunnisaa, Aldani, V., Alwi, N. A., & Syam, S. S. (2025). Dampak media digital dalam meningkatkan kemampuan Bahasa Indonesia di SDN 10 Tiumbang Kabupaten Dharmasraya. *Jurnal Pendidikan Guru Sekolah Dasar*, 2(3), 10. <https://doi.org/10.47134/pgsd.v2i3.1570>
- Cheng, Y. P., Huang, C. H., & Hsu, L. C. (2022). Research trends in educational technology: A review of studies published in five social science citation indexed journals from 2010 to 2019. *International Journal of Technology and Human Interaction*, 18(1). <https://doi.org/10.4018/IJTHI.293191>
- Chusna, N. L. U., Khasanah, U., & Najikhah, F. (2024). Interactive digital media for learning in primary schools. *Asian Pendidikan*, 4, 72–78. <https://doi.org/10.53797/aspen.v4i2.10.2024>
- Dahlan, T., Judijanto, L., & Hali, F. (2024). Improving the quality of mathematics teacher education: An integrated approach to the 4C skills. *JRAMathEdu: Journal of Research and Advances in Mathematics Education*, 16–31. <https://doi.org/10.23917/jramathedu.v9i1.2687>
- Dinihari, Y. (2025). Kajian kritis tentang gamifikasi sebagai strategi penguatan literasi di era digital. *Diskusi Panel Nasional Pendidikan Matematika*, 11.

- Diniyati, A., Salma, N. D., & Farhurahman, O. (2024). Pemanfaatan media pembelajaran digital untuk meningkatkan literasi siswa pada mata pelajaran IPS di sekolah dasar. *Aliansi: Jurnal Hukum, Pendidikan dan Sosial Humaniora*, 2, 97–110. <https://doi.org/10.62383/aliansi.v2i1.672>
- Eyal, K., & Te'eni-Harari, T. (2024). Systematic review: Characteristics and outcomes of in-school digital media literacy interventions, 2010–2021. *Journal of Children and Media*, 18(1), 8–28. <https://doi.org/10.1080/17482798.2023.2265510>
- Haddaway, N. R., Page, M. J., Pritchard, C. C., & McGuinness, L. A. (2022). PRISMA2020: An R package and Shiny app for producing PRISMA 2020-compliant flow diagrams, with interactivity for optimised digital transparency and open synthesis. *Campbell Systematic Reviews*, 18(2), e1230. <https://doi.org/10.1002/cl2.1230>
- Hafidhi, N. M. (2024). Literasi digital siswa sekolah dasar: Penggunaan bahan ajar berbasis digital pada pembelajaran Bahasa Indonesia. *Ayan*, 15(1), 37–48. <https://doi.org/10.23969/jp.v9i2.13690>
- Hafizin, M., Hasanah, N., & Agustina, S. (2024). Pengaruh media pembelajaran interaktif terhadap literasi membaca pada pembelajaran Bahasa Indonesia kelas III di SDN 03 Mamben Lauk. *NUSRA: Jurnal Penelitian dan Ilmu Pendidikan*, 5(3), 1218–1230.
- Herlinawati, H., Marwa, M., Ismail, N., Junaidi, Liza, L. O., & Situmorang, D. D. B. (2024). The integration of 21st century skills in the curriculum of education. *Heliyon*, 10(15), e35148. <https://doi.org/10.1016/j.heliyon.2024.e35148>
- Hilmansyah, A. A., Janah, A. N., & Febrianti, A. (2024). Media pembelajaran Bahasa Indonesia di SD/MI. *Journal of Educational and Language Research*, 3(6), 2807–2937.
- Jamilah, J., Sukitman, T., & Fauzi, M. (2021). Opportunities and challenges of digital learning media during the COVID-19 pandemic in primary school. *Formatif: Jurnal Ilmiah Pendidikan MIPA*, 11(2). <https://doi.org/10.30998/formatif.v11i2.9732>
- Khusyairin, K., Sa'ud, U. S., Sururi, S., & Hartini, N. (2024). Integrating local wisdom into learning in school's curriculum: A bibliometric analysis. *Inovasi Kurikulum*, 21(4), 2155–2172. <https://doi.org/10.17509/jik.v21i4.75667>
- Llorens Vargas, A., & Alarcon Castro, J. (2020). Study of the impact of digital literacy in primary education contexts: Diagnosis and evaluation. *EDULEARN20 Proceedings*, 1, 6063–6070. <https://doi.org/10.21125/edulearn.2020.1590>
- Maisarah, M., Lestari, T. A., & Sakulpimolrat, S. (2022). Urgensi pengembangan media berbasis digital pada pembelajaran Bahasa Indonesia. *EUNOIA: Jurnal Pendidikan Bahasa Indonesia*, 2(1), 65–75.
- Mulyani, A., Hartono, H., & Subali, B. (2024). Literature review: A snapshot of research on the argumentation of bibliometric analysis in the period 2015–2023. *International Journal of Cognitive Research in Science, Engineering and Education*, 12(2), 451–465. <https://doi.org/10.23947/2334-8496-2024-12-2-451-465>
- Mulyanti, N. M. B., & Gading, I. K. (2023). Dampak penerapan model pembelajaran inkuiri terbimbing terhadap hasil belajar IPA dan kemampuan berpikir kritis siswa. *Jurnal Ilmiah Pendidikan Profesi Guru*, 6(1), 109–119.
- Nafis, A. A. (2024). Meningkatkan kreativitas menulis siswa dengan menggunakan pembelajaran problem centered learning pada mata pelajaran Bahasa Indonesia kelas 2 SD. *Aneka Inovasi Pembelajaran dari Studi Kepustakaan*, 6(2), 33.
- Nasution, R. F., Hasugian, P. S., & Ritonga, M. U. (2025). Pengembangan multimedia interaktif pembelajaran sastra berbasis kearifan lokal Sumatra Utara untuk meningkatkan literasi digital tingkat sekolah dasar. *Jurnal Teknologi Pendidikan*, 18(1), 47–51. <https://doi.org/10.24114/jtp.v18i1.65242>
- Nayla Adhwa, Faeza, N., Alwi, N. A., & Syam, S. S. (2025). Pemanfaatan teknologi digital dalam meningkatkan minat belajar Bahasa Indonesia siswa di sekolah dasar. *Semantik: Jurnal Riset Ilmu Pendidikan, Bahasa dan Budaya*, 3(2), 329–339. <https://doi.org/10.61132/semantik.v3i2.1723>
- Ng, W. (2012). Can we teach digital natives digital literacy? *Computers and Education*, 59(3), 1065–1078. <https://doi.org/10.1016/j.compedu.2012.04.016>

- Ni Putu Noviarini, Prabawati, P. L. S., & Suryanata, I. P. A. (2024). Media pembelajaran digital dalam pembelajaran sastra. *Journal of Education Action Research*, 8(2), 327–331. <https://doi.org/10.23887/jear.v8i2.77878>
- Nugraha, D. (2022). Literasi digital dan pembelajaran sastra berpaut literasi digital di tingkat sekolah dasar. *Jurnal Basicedu*, 6(6), 9230–9244. <https://doi.org/10.31004/basicedu.v6i6.3318>
- Rosfiani, O., Aini, M. N., Wafi, M. Z., Fadhillah, M. R., & Husain, F. N. (2025). Efektivitas pembelajaran hybrid dalam meningkatkan literasi digital siswa sekolah menengah atas. *EDUCATIONAL: Jurnal Inovasi Pendidikan & Pengajaran*, 5(2), 376–386. <https://doi.org/10.51878/educational.v5i2.5918>
- Rusdi, H., Ervianti, R., Adrias, A., & Zulkarnaini, A. P. (2025). Pengaruh media pembelajaran digital terhadap motivasi belajar siswa sekolah dasar. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 10(2), 347–360. <https://doi.org/10.23969/jp.v10i2.23991>
- Salam, N., Suyanto, S., & Ningsih, S. N. (2024). Maximizing the potential of digital learning media in primary education: Insights from a systematic literature review. *Indonesian Journal of Educational Research and Review*, 7(3), 615–629. <https://doi.org/10.23887/ijerr.v7i3.80617>
- Santi, A. N., & Fitria, Y. (2023). Analisis penerapan media pembelajaran Bahasa Indonesia berbasis TIK dalam membangun budaya literasi siswa di SD. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 8(3).
- Simarmata, M. Y. (2023). Media pembelajaran Bahasa Indonesia kelas VII dalam Kurikulum Merdeka di desa tertinggal. *EduIndo: Jurnal Pendidikan Bahasa dan Sastra Indonesia*, 4(1), 86–96.
- Sumadyo, B., Prameswari, J. Y., & Susanti, D. I. (2024). Inovasi media pembelajaran Bahasa Indonesia berbasis digital dalam Kurikulum Merdeka di SDS IT Nurul Yaqin. *Metafora: Jurnal Pembelajaran Bahasa dan Sastra*, 11(2), 391. <https://doi.org/10.30595/mtf.v11i2.24690>
- Susandi, A., Amelia, D. J., Huda, M. M., MZ, A. F. S. A., & Khasanah, L. A. I. U. (2025). Relevansi Kurikulum Merdeka berbasis literasi digital menuju Generasi Indonesia Emas 2045. *Journal of Nusantara Education*, 4(2), 107–117.
- Topuha, O. K., Rizal, R., Aqil, M., Gagaramusu, Y. B. M., & Fasli, M. (2025). Pengaruh penggunaan media digital terhadap hasil belajar siswa pada mata pelajaran Bahasa Indonesia di sekolah dasar. *Attadrib: Jurnal Pendidikan Guru Madrasah Ibtidaiyah*, 8(1), 174–183. <https://doi.org/10.54069/attadrib.v8i1.866>
- UNESCO. (2022). *UNESCO international literacy prizes 2021: Inclusive distance and digital literacy learning: Trend analysis of nominated applications*. <https://unesdoc.unesco.org/ark:/48223/pf0000380601>
- Wardani, D. A. P., Pujiastutik, E. F., & Sholekha, N. (2024). Efektivitas model pembelajaran project based learning terhadap kemampuan literasi numerasi untuk meningkatkan berpikir kritis siswa. *Primary Education Journals: Jurnal Ke-SD-An*, 4(3), 321–326. <https://doi.org/10.36636/primed.v4i3.5892>
- Wati, S., & Nurhasannah, N. (2024). Penguatan kompetensi guru dalam menghadapi era digital. *Jurnal Review Pendidikan Dasar: Jurnal Kajian Pendidikan dan Hasil Penelitian*, 10(2), 149–155.
- Wibowo, H. S. (2023). *Pengembangan teknologi media pembelajaran: Merancang pengalaman pembelajaran yang inovatif dan efektif*. Tiram Media.
- Widyaningrum, H. K., Suwandi, S., & Wardani, N. E. (2023). The use of digital-based media in children's literature learning in universities during the pandemic. *International Journal of Instruction*, 16(3), 53–76.
- Wijayanti, A., Dwiningrum, S. I. A., & Saptono, B. (2024). Digital literacy in elementary schools post COVID-19: A systematic literature review. *International Journal of Learning, Teaching and Educational Research*, 23(12), 96–112. <https://doi.org/10.26803/ijlter.23.12.6>
- Wowoseko, H. C. A., & Kalukar, V. J. (2025). Pengaruh media kamus digital terhadap hasil belajar Bahasa Indonesia siswa kelas IV SD. *JIM: Jurnal Ilmu Multidisiplin*, 1(3), 16–20.

- Yulianti, E., Sahredin, S., Marlina, L., & Rayhan, M. (2024). Penggunaan media pembelajaran digital terhadap peningkatan kemampuan literasi Bahasa Indonesia siswa SMP. *Edu Sociata: Jurnal Pendidikan Sosiologi*, 7(2), 41–49. <https://doi.org/10.33627/es.v7i2.2746>
- Zahra, A., Dewi, I., Puspita, M., & Darwanto, D. (2025). Efektivitas penggunaan media video animasi dalam meningkatkan kemampuan membaca siswa di sekolah dasar: Tinjauan literatur. *Al-Irsyad: Journal of Education Science*, 4(2), 584–597.