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Integrating Digital Literacy into Indonesian Language Learning in Islamic and General Elementary Schools: A Systematic Literature Review (SLR)

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ABSTRACT

Integrating digital literacy into Indonesian language learning in Islamic elementary schools (*Madrasah Ibtidaiyah*) and general elementary schools is increasingly important for developing language proficiency and students' ability to access, evaluate, and communicate information responsibly. This study aims to examine forms of digital literacy integration, their connections with listening, speaking, reading, and writing skills, and the pedagogical benefits, implementation challenges, and implications for elementary Indonesian language education. The study adopts a Systematic Literature Review (SLR) guided by the PRISMA 2020 framework. Relevant literature is examined through descriptive mapping and thematic synthesis to identify patterns in digital media use, targeted competencies, enabling and constraining factors, and research gaps. The conceptual synthesis indicates that digital literacy should be embedded in the learning process rather than treated merely as technology use. Relevant pedagogical practices include multimodal and interactive activities, information credibility assessment, and digital text production. Effective implementation requires alignment among learning objectives, teachers' digital competence, infrastructure availability, and students' characteristics. Theoretically, this study proposes an analytical framework linking digital literacy dimensions with the four language skills. Practically, the synthesis can inform teachers and school leaders in designing critical, inclusive, context-sensitive, and digitally responsible learning experiences. Future research should empirically examine this framework across diverse Islamic and general elementary school contexts.

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Introduction

The rapid development of digital technologies has transformed educational practices and created new opportunities for strengthening literacy competencies at the elementary school level. Digital platforms, interactive learning applications, multimedia resources, and online reading environments have expanded the ways in which students access, interpret, and produce information. However, meaningful digital literacy extends beyond the ability to operate technological devices. It also involves the capacity to locate, evaluate, interpret, create, and communicate information responsibly in digital environments. Consequently, digital literacy should be understood as an integral educational competency rather than merely a technical skill (UNESCO, 2018).

In Indonesian elementary education, this transformation has important implications for Bahasa Indonesia, or Indonesian language learning, which provides the foundation for students' linguistic development, academic achievement, and participation in social and cultural life. Language learning encompasses four interrelated skills: listening, speaking, reading, and writing. Digital resources can support these skills through interactive storytelling, digital reading materials, audiovisual texts, collaborative writing platforms, and multimedia-based language activities. Nevertheless, the educational value of these resources depends not only on technological availability but also on their pedagogical design, alignment with learning objectives, and integration into meaningful classroom practices.

The integration of digital literacy is particularly relevant to both Madrasah Ibtidaiyah (MI), Islamic elementary schools, and Sekolah Dasar (SD), general elementary schools. Although these institutions share fundamental objectives in developing students' language competencies, their instructional environments may differ in curricular implementation, institutional priorities, and the integration of religious, cultural, and ethical values. Accordingly, digital literacy in Indonesian language learning should be examined not simply as the use of digital media, but as a multidimensional educational process involving language development, critical engagement with information, responsible digital participation, and context-sensitive pedagogical practices.

Despite the increasing availability of digital learning resources, several issues require further scholarly attention. The presence of digital devices does not automatically guarantee that students can distinguish credible information from misleading content, interpret multimodal texts critically, or communicate appropriately in digital environments. Teachers must therefore integrate technological resources with explicit literacy instruction, age-appropriate learning activities, and appropriate guidance concerning digital safety and information credibility. Moreover, differences in technological infrastructure, teacher competence, and access to learning resources may influence the implementation of digital literacy across elementary educational settings. These considerations suggest the need for a comprehensive synthesis that examines both the instructional opportunities and the structural challenges associated with digital literacy integration.

Previous studies have examined digital literacy in elementary education from

several complementary perspectives. Nisfah and Nurroh (2020), for example, investigated digital literacy in Indonesian language learning in elementary schools. Their literature-based study identified digital media as a resource for supporting language instruction and emphasized the importance of teacher and parental assistance. Although this study established an early connection between digital literacy and Indonesian language education, its analysis did not provide a comprehensive synthesis of the pedagogical, critical, and ethical dimensions of digital literacy across different elementary school contexts.

Wijayanti et al. (2024) conducted a systematic literature review of digital literacy in elementary schools in the post-COVID-19 context. Their findings identified digital content, educational games, digital devices, and digital competency assessments as prominent implementation strategies. The authors also highlighted challenges involving teacher preparedness, infrastructure, students' ability to evaluate online information, and digital safety. This study offers a broader understanding of digital literacy in elementary education; however, its primary focus is digital literacy across elementary schooling rather than its specific integration into the four language skills taught in Indonesian language education.

Saifuddin and Putra (2024) examined digital literacy in elementary schools through a systematic literature review involving 17 articles. Their synthesis discussed interactive learning media, motion comics, digital storytelling, teacher preparedness, parental support, and infrastructure. The findings provide useful insights into digital literacy practices and implementation challenges. Nevertheless, the study's broader elementary education focus leaves room for a more subject-specific examination of how digital literacy supports language learning processes, including text interpretation, oral communication, writing development, and critical evaluation of digital information.

More recently, Prastiyo et al. (2026) examined the development of digital literacy-based learning media for Indonesian language instruction in elementary schools from 2020 to 2025. Their review identified a shift from relatively simple digital resources toward interactive applications, online learning platforms, and gamified media. It also highlighted persistent challenges associated with unequal technology access, teacher competence, and the integration of local cultural contexts. This study is particularly relevant because it addresses the same subject area as the present research. Therefore, the contribution of the proposed review cannot rest solely on reviewing digital media trends; it must establish a distinct analytical focus on the broader concept of digital literacy, its pedagogical integration, and its implications for language competencies and responsible digital participation.

Taken together, these studies demonstrate growing scholarly interest in digital literacy and technology-supported learning in elementary education. However, three areas warrant further investigation. First, existing reviews differ in their analytical scope, with some addressing digital literacy across elementary education and others concentrating on particular media or instructional practices. Second, the relationship between digital literacy competencies and the development of listening, speaking, reading, and writing skills remains insufficiently integrated into a single analytical framework for Indonesian language learning. Third, the educational implications of digital literacy across Islamic and general elementary schools require further conceptual examination, particularly regarding ethical communication, cultural relevance, information credibility, and equitable access to digital resources.

The research gap addressed by this study is therefore the need for an integrated synthesis that connects digital literacy competencies with Indonesian language learning objectives, instructional practices, implementation barriers, and contextual considerations

in Madrasah Ibtidaiyah (MI) and Sekolah Dasar (SD). Rather than assuming that these institutional contexts are fundamentally different, this review treats their similarities and potential differences as analytical considerations to be examined through the available evidence. Its contribution lies in synthesizing these dimensions into a coherent framework that can inform pedagogical decision-making and identify priorities for future empirical research.

Accordingly, this study aims to systematically review research on the integration of digital literacy into Indonesian language learning in Islamic and general elementary schools. Specifically, it seeks to: (1) identify the principal forms and pedagogical approaches used to integrate digital literacy into Indonesian language instruction; (2) examine how digital literacy is associated with the development of listening, speaking, reading, and writing competencies; (3) identify the pedagogical, technological, institutional, and contextual factors that facilitate or constrain implementation; and (4) formulate evidence-informed implications for teachers, educational policymakers, and future researchers. Through these objectives, the study seeks to advance a more comprehensive understanding of digital literacy as both a pedagogical resource and a learning competency in elementary Indonesian language education.

Method

Research Design

This study adopts a Systematic Literature Review (SLR) to critically examine the integration of digital literacy into Indonesian language learning in Islamic and general elementary schools. An SLR was selected because it provides a structured approach to identifying, evaluating, and synthesizing existing research, enabling researchers to map established knowledge, identify methodological patterns, and determine gaps requiring further investigation (Snyder, 2019). The review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines to promote transparent and reproducible reporting of the literature identification, screening, eligibility assessment, and inclusion processes (Page et al., 2021).

The review is guided by the following research questions:

1. How has research on digital literacy integration in Indonesian language learning at the elementary level developed?
2. What digital tools, instructional approaches, and learning activities have been used to support Indonesian language competencies?
3. What pedagogical benefits and implementation challenges have been reported?
4. What research gaps and practical implications can inform future teaching practices and educational policy?

Data Sources and Search Strategy

The literature search should cover relevant multidisciplinary and education-focused databases, particularly Scopus, ERIC, and Google Scholar. Where available, additional searches may be conducted in Web of Science and Indonesian scholarly databases to capture studies addressing Madrasah Ibtidaiyah and Indonesian-language educational contexts. The final manuscript must specify the databases actually searched, the search dates, and the publication period covered.

Search terms should combine three conceptual domains: digital literacy, Indonesian language learning, and elementary education. Boolean operators, quotation marks, and database-specific search fields should be used to improve retrieval precision. The proposed search string is:

("digital literacy" OR "digital competence" OR "digital skills" OR "digital learning

media" OR "digital technology")
AND
("Indonesian language learning" OR "Bahasa Indonesia" OR "language learning" OR "language education" OR literacy)
AND
("elementary school" OR "primary school" OR "Islamic elementary school" OR "Madrasah Ibtidaiyah" OR "elementary education")

Search strategies should be adapted to the indexing and syntax requirements of each database. The search process should be documented in sufficient detail to enable replication, consistent with PRISMA 2020 reporting recommendations (Page et al., 2021).

Eligibility Criteria

Studies should be selected according to predefined inclusion and exclusion criteria. Establishing these criteria before screening helps maintain consistency between the review objectives and the evidence included in the synthesis (Page et al., 2021).

Inclusion and Exclusion Criteria

The eligibility criteria are established to ensure that the selected literature is relevant to the research questions and provides sufficient information for analysis. The criteria are presented in Table 1.

Table 1. Inclusion and Exclusion Criteria

Criterion	Inclusion	Exclusion
Publication type	Peer-reviewed journal articles reporting empirical findings or relevant research syntheses	Editorials, opinion pieces, book reviews, and non-scholarly publications
Publication period	2016–2026, subject to the final search date	Publications outside the specified period
Language	English or Indonesian	Publications in other languages
Educational context	Islamic or general elementary education, including Madrasah Ibtidaiyah	Studies exclusively addressing secondary or higher education
Research focus	Digital literacy, digital learning media, or digital technology integrated into Indonesian language learning or relevant language-literacy competencies	Studies without a clear connection to digital literacy, language learning, or elementary education
Availability	Full-text articles accessible for eligibility assessment and data extraction	Records with insufficient information to assess relevance or extract the required data

The inclusion criteria allow the review to capture research conducted in both Indonesian and international educational contexts while maintaining a clear focus on elementary-level language learning. Studies that examine general literacy or digital learning are eligible only when their findings have a demonstrable connection to the review questions. This approach helps prevent the inclusion of studies that are technologically relevant but conceptually unrelated to the research objectives (Snyder, 2019).

Study Selection Process

The study selection process comprises four stages: identification, screening, eligibility assessment, and final inclusion. First, all records retrieved from the selected databases are compiled in a reference-management system, and duplicate records are

removed. Second, titles and abstracts are screened against the predefined eligibility criteria. Third, the full texts of potentially relevant studies are examined to determine whether they satisfy the inclusion requirements. Finally, studies meeting all criteria are retained for data extraction and synthesis.

To strengthen methodological consistency, two reviewers should independently assess the records at the title-and-abstract and full-text stages, where feasible. Disagreements should be resolved through discussion or consultation with a third reviewer. Reasons for full-text exclusion should be documented. The entire process should be summarized using a PRISMA 2020 flow diagram, reporting the actual number of records identified, duplicates removed, records screened, full-text reports assessed, and studies included (Page et al., 2021).

Data Extraction and Coding

A standardized data-extraction form should be developed to ensure that information is collected consistently across the included studies. The extracted information should cover the following elements:

1. Bibliographic information, including author(s), publication year, and country or educational context.
2. Research characteristics, including study design, participants, sample size, and research instruments.
3. Digital literacy dimensions addressed in the study.
4. Digital tools, platforms, and instructional approaches used in Indonesian language learning.
5. Language competencies targeted, including listening, speaking, reading, and writing.
6. Reported learning outcomes, pedagogical benefits, and implementation challenges.
7. Study limitations, research gaps, and implications for educational practice.

The extraction process should preserve the original meaning of the findings and distinguish between authors' reported results and interpretations developed by the reviewers. Where feasible, the extraction form should be piloted on a small subset of eligible studies and refined before full-scale extraction. These procedures support methodological transparency and help ensure that the synthesis remains aligned with the review questions (Snyder, 2019).

Quality Appraisal

The methodological quality of the included studies should be assessed using an appraisal checklist appropriate to their research designs. For example, quantitative, qualitative, and mixed-methods studies may require different appraisal criteria. The assessment should consider the clarity of research objectives, the appropriateness of the research design, the adequacy of sampling and data collection, the transparency of analysis, and the consistency between findings and conclusions.

Where a standardized appraisal instrument is used, its name, version, scoring procedure, and decision rules should be reported explicitly. Quality appraisal results should inform the interpretation of the evidence rather than being used automatically to exclude studies without a predefined justification. Transparent reporting of appraisal procedures is an important component of a rigorous literature review (Page et al., 2021; Snyder, 2019).

Data Synthesis and Analysis

The extracted data should be analyzed using thematic synthesis and descriptive mapping. Descriptive mapping will be used to summarize publication trends, geographical distribution, research designs, educational contexts, and the digital technologies examined. Thematic synthesis will be applied to identify recurring patterns across the included studies

and organize the findings into analytical categories.

The thematic analysis will proceed through five interconnected activities: familiarization with the extracted data, initial coding, grouping related codes into descriptive themes, developing broader analytical themes, and interpreting the resulting patterns in relation to the research questions. The analysis will focus on four principal dimensions: (1) forms of digital literacy integration, (2) instructional strategies and digital learning tools, (3) reported pedagogical benefits and implementation challenges, and (4) research gaps and implications for future practice.

Similarities and differences across studies will be examined, with attention to variations in educational settings, research designs, and the types of language competencies addressed. Quantitative findings will be summarized descriptively where comparable data are available. A meta-analysis will not be conducted unless the included studies provide sufficiently compatible outcomes and statistical data. The synthesis will distinguish consistent findings from limited or conflicting evidence to avoid overstating the conclusions (Snyder, 2019).

Reporting and Research Transparency

The review should be reported in accordance with PRISMA 2020, including a transparent account of the search strategy, eligibility criteria, study-selection process, and synthesis procedures (Page et al., 2021). The final manuscript should also disclose any deviations from the planned methodology, identify the limitations of the search and evidence base, and provide the complete search strings used for each database.

To strengthen reproducibility, the authors should retain the search records, screening decisions, extraction matrix, and quality-appraisal results. If available, these materials may be provided as supplementary files or deposited in an appropriate research repository. The final report must describe procedures that were actually performed rather than presenting proposed procedures as completed research.

Results and Discussion

1. Results

Overview of the Literature

The literature on digital literacy in elementary education addresses two closely related dimensions: the integration of digital technologies into instructional practices and the development of students' competencies to access, interpret, evaluate, and communicate information through digital environments. Within Indonesian language education, these dimensions intersect because language learning involves not only the acquisition of linguistic skills but also the interpretation and production of meaning across different media and communication contexts.

Previous studies have examined digital literacy in elementary schools, the use of digital learning media in Indonesian language instruction, and the opportunities and challenges associated with technology-supported learning. Nisfah and Nurroh (2020), for example, discussed the application of digital literacy in elementary Indonesian language learning, while Saifuddin and Putra (2024) reviewed digital literacy practices, learning resources, and implementation challenges in elementary education. More recent reviews have also examined the development of digital learning media and students' digital literacy competencies in Indonesian primary schools. These publications provide a relevant foundation for examining the relationship between digital literacy and language learning, although their specific research questions and analytical scopes differ.

For the present review, the literature should be organized according to the research objectives, publication characteristics, educational settings, digital tools, language skills addressed, reported outcomes, and implementation barriers. This classification enables the synthesis to move beyond a descriptive inventory of technologies toward an explanation of how digital literacy is integrated into Indonesian language learning.

Forms of Digital Literacy Integration in Indonesian Language Learning

The literature suggests several analytical categories for examining the integration of digital literacy into Indonesian language instruction. First, digital multimedia and audiovisual resources can support listening and speaking activities through videos, recorded stories, digital presentations, and audiovisual narratives. These resources provide contextual cues, including images, sounds, gestures, and spoken language, that can help learners interpret meaning and develop oral communication skills. Second, interactive digital learning resources can support reading comprehension, vocabulary development, and text analysis. Digital storybooks, interactive presentations, educational applications, and online exercises offer opportunities for learners to engage with texts through structured activities and immediate responses. Third, digital writing and content creation provide opportunities for students to compose, revise, and publish written texts using digital platforms. Activities such as creating digital stories, writing short narratives, producing multimodal texts, and collaborating on shared documents can connect writing instruction with communication in contemporary digital environments. Fourth, information evaluation and responsible digital communication represent a broader dimension of digital literacy. These activities require learners to distinguish relevant information from irrelevant content, consider the credibility of sources, recognize appropriate online behavior, and communicate respectfully in digital spaces.

These categories provide a framework for coding the selected studies. The final results should identify which categories are most frequently investigated, which language skills receive the greatest attention, and whether studies explicitly assess digital literacy competencies or primarily evaluate the effectiveness of digital learning media.

Reported Educational Outcomes

The outcomes of digital literacy integration should be examined at three levels: language learning outcomes, learner engagement, and digital competence. At the language learning level, relevant indicators include reading comprehension, vocabulary acquisition, listening comprehension, oral expression, writing quality, and the ability to interpret different text forms. At the engagement level, studies may report student participation, motivation, collaboration, and task completion. At the digital competence level, the relevant indicators include information searching, source evaluation, digital content creation, and responsible technology use. The distinction between these outcome categories is important because improvements in learning engagement do not necessarily demonstrate improvements in language proficiency or digital literacy. A study reporting positive student responses to an educational application, for instance, provides evidence about learners' perceptions but does not automatically establish that their reading or writing competencies have improved.

Accordingly, the synthesis should distinguish between outcomes measured

through direct assessments, outcomes reported by teachers or researchers, and outcomes based on students' perceptions. It should also record whether studies use experimental, quasi-experimental, descriptive, qualitative, or mixed-methods designs. Such distinctions are necessary to assess the strength and comparability of the available evidence.

Implementation Challenges and Research Gaps

The literature identifies several issues that warrant systematic examination: unequal access to digital devices and internet connectivity, variations in teachers' digital competence, the availability and quality of instructional resources, and the need for appropriate guidance regarding online safety. Saifuddin and Putra (2024) identify teacher preparedness, parental support, infrastructure, and cybersecurity as relevant considerations in elementary digital literacy education. These issues should not be treated solely as technical barriers. Their implications depend on the learning context, the availability of institutional support, the characteristics of the learners, and the pedagogical purposes for which digital tools are used.

Three potential research gaps are particularly relevant to this review. The first concerns the distinction between using digital media as an instructional aid and explicitly developing digital literacy as a learning outcome. The second concerns the integration of all four language skills listening, speaking, reading, and writing rather than concentrating predominantly on reading or the use of digital media. The third concerns the extent to which existing studies address the specific characteristics of Islamic elementary schools (Madrasah Ibtidaiyah) alongside those of general elementary schools.

These gaps should be confirmed through coding and comparison of the final eligible studies. Their frequency, significance, and relationship to existing evidence cannot be established conclusively without the completed review dataset.

2. Discussion

Digital Literacy as a Pedagogical Framework Rather Than a Technological Add-On

The integration of digital literacy into Indonesian language learning should be understood as a pedagogical process rather than merely the introduction of digital devices or applications into the classroom. The educational value of technology depends on how it supports learning objectives, facilitates meaningful language practices, and enables students to engage critically with information. This distinction is important because the presence of digital tools does not necessarily indicate that students have developed digital literacy competencies.

This interpretation is consistent with Nisfah and Nurroh (2020), who discussed the use of digital media in elementary Indonesian language learning with teacher or parental assistance. It is also aligned with Atmojo et al. (2025), whose review of elementary digital literacy identified a broader conceptual orientation encompassing critical reflection, social-emotional competence, digital health, and digital citizenship.

Taken together, these perspectives suggest that digital literacy should be integrated into the instructional process through purposeful activities involving information access, interpretation, evaluation, and communication. For example, when students read a digital narrative, the learning objective should extend beyond identifying characters and events.

Students can also be encouraged to evaluate the source, distinguish factual information from opinion, interpret the relationship between text and illustrations, and discuss the responsible use of digital content.

The theoretical contribution of this perspective lies in connecting digital literacy with the substantive goals of language education. Rather than treating technology as an independent instructional variable, the review should examine how digital environments reshape opportunities for reading, writing, speaking, and listening. This approach also provides a basis for distinguishing studies that investigate the effectiveness of digital media from those that explicitly assess students' digital literacy development.

Integrating Digital Literacy Across the Four Language Skills

The integration of digital literacy offers opportunities to connect the four language skills through multimodal and interactive learning experiences. However, the pedagogical value of such integration depends on whether digital activities are aligned with specific language competencies.

In listening instruction, audiovisual stories and recorded narratives can expose students to spoken language in meaningful contexts. In speaking activities, students may produce oral presentations, record storytelling performances, or participate in guided discussions. In reading instruction, digital texts can provide access to diverse genres and enable students to examine textual meaning alongside visual and interactive elements. In writing instruction, digital composition tools can facilitate drafting, revision, collaborative writing, and the production of multimodal texts.

These possibilities are consistent with the broader direction of research on digital literacy in elementary education. Saifuddin and Putra (2024) identified interactive media, motion comics, and digital storytelling among the approaches discussed in the literature. Their review also highlighted the importance of teacher preparedness, parental support, infrastructure, and cybersecurity.

Nevertheless, the availability of multiple digital formats should not be interpreted as evidence that all four language skills are equally developed. A digital storytelling activity, for example, may provide opportunities for listening and speaking, but its contribution to writing competence depends on whether students are required to compose, organize, and revise their own texts. Similarly, reading a digital story does not automatically develop critical digital literacy unless learners are guided to evaluate the information and interpret the content.

The present review can therefore contribute by examining the relationship between the instructional format, the targeted language skill, and the outcome measurement used in each study. Such a framework would make the synthesis more analytically meaningful than a simple classification of educational applications.

Digital Literacy, Critical Thinking, and Information Evaluation

A further issue concerns the relationship between digital literacy and higher-order thinking. In digital environments, students encounter information presented through written texts, images, videos, hyperlinks, and interactive content. Effective participation requires more than operational competence; students also need to interpret messages, evaluate sources, identify relevant evidence, and communicate conclusions appropriately.

Atmojo et al. (2025) describe digital literacy in elementary education as extending beyond technical skills toward critical-reflective competence and responsible digital citizenship. This broader orientation supports the argument that digital literacy should be incorporated into language learning outcomes rather than treated solely as a means of delivering instructional materials.

From a pedagogical perspective, Indonesian language learning provides a suitable context for developing these competencies. Students can compare two digital texts addressing the same topic, identify differences in the information presented, examine the evidence supporting each claim, and explain which source is more appropriate for a particular task. Teachers can also guide students to recognize persuasive language, distinguish fact from opinion, and discuss the ethical use of information when producing written work.

However, the relationship between digital literacy and critical thinking should be interpreted cautiously. Unless the reviewed studies directly measure these competencies, it would be inappropriate to conclude that digital learning media necessarily improve critical thinking. The synthesis should distinguish between studies that explicitly assess critical evaluation and those that merely suggest its potential as a pedagogical benefit.

This distinction strengthens the scientific rigor of the review by separating demonstrated outcomes from theoretical possibilities and recommendations for future practice.

Teacher Competence, Infrastructure, and Educational Equity

The success of digital literacy integration is influenced by the interaction between pedagogical competence, technological resources, and the learning environment. Teachers need to select appropriate digital materials, design activities that support language development, assess student learning, and provide guidance on safe and responsible technology use. Access to devices and connectivity is also important, but infrastructure alone cannot guarantee meaningful learning.

Atmojo et al. (2025) identified teacher digital competence as a key consideration in technology integration and discussed barriers involving pedagogical readiness, unequal access, and the limited capacity to adapt technology to instructional needs. Saifuddin and Putra (2024) likewise highlighted the importance of teacher preparedness, parental support, infrastructure, and cybersecurity in elementary digital literacy education.

These findings indicate that digital literacy initiatives should not be evaluated solely by the availability of devices, internet connections, or digital learning platforms. A more comprehensive assessment should consider whether students can access the learning materials, whether teachers can integrate them meaningfully into instruction, and whether students receive sufficient guidance to use digital resources responsibly.

The implications are particularly important when comparing Islamic elementary schools (Madrasah Ibtidaiyah) with general elementary schools. Although both educational settings address foundational language competencies, their institutional contexts, curricula, resources, and educational priorities may differ. The review should investigate whether the existing literature adequately represents both settings rather than assuming that findings from one context automatically apply to the other.

Where evidence is limited, future research should examine how school resources, teacher professional development, parental involvement, and local learning contexts shape digital literacy integration. This would support more equitable recommendations for schools operating under different technological and institutional conditions.

Research Gaps and the Contribution of the Present Review

Existing literature provides a foundation for understanding digital literacy and technology-supported language learning in elementary education. Nevertheless, the contribution of the present review needs to be established through a systematic comparison of the research questions, populations, methods, and findings of previous studies.

A relevant starting point is the distinction between reviews of digital literacy in elementary education generally and reviews specifically concerned with Indonesian language learning. Nisfah and Nurroh (2020) addressed digital literacy in elementary Indonesian language instruction, whereas Saifuddin and Putra (2024) examined digital literacy in elementary education more broadly. Atmojo et al. (2025) subsequently analyzed trends, challenges, and implications in elementary digital literacy research.

Accordingly, the novelty of the present review should not rest solely on the claim that it combines digital literacy and language learning. Instead, it should be demonstrated through a clearly defined analytical contribution, such as mapping the relationships among digital literacy dimensions, the four language skills, instructional approaches, learning outcomes, and the contextual differences between Islamic and general elementary schools.

Three questions may guide this contribution:

1. To what extent does the literature explicitly integrate digital literacy competencies into Indonesian language learning, rather than using digital media solely as instructional tools?
2. Which language skills, assessment approaches, and digital literacy dimensions are most frequently examined, and which remain insufficiently investigated?
3. How do teacher competence, school infrastructure, and institutional context shape the implementation of digital literacy in Islamic and general elementary schools?

Answering these questions would allow the review to move beyond summarizing existing publications and toward developing an evidence-informed framework for future research and educational practice. Nevertheless, claims about the novelty of this framework should be made only after comparing the final set of included studies with relevant prior reviews.

Theoretical and Practical Implications

The theoretical implication of this review is the need to conceptualize digital literacy as an integrated dimension of language learning. This perspective connects the development of linguistic competence with students' ability to interpret multimodal information, evaluate sources, produce digital content, and communicate responsibly. It also provides an analytical basis for distinguishing digital technology use from the development of digital literacy as an educational outcome.

The practical implications concern curriculum design, teacher professional development, instructional material selection, and assessment. Teachers should select digital resources according to specific learning objectives and the developmental

characteristics of elementary school students. Digital activities should also incorporate opportunities for collaboration, critical evaluation, content creation, and reflection rather than focusing exclusively on consumption of digital information.

At the institutional level, schools need to support teachers through professional development, accessible learning resources, and appropriate digital safety guidance. Policies should also account for differences in infrastructure and students' access to technology. Such support is consistent with the emphasis on teacher competence, inclusive implementation, and sustainable digital literacy development identified by Atmojo et al. (2025).

For future research, greater attention should be given to longitudinal investigations, comparative studies across school contexts, and assessments that directly measure both language proficiency and digital literacy competencies. These approaches would help establish whether observed improvements are sustained over time and clarify which instructional designs are most appropriate for particular learning objectives.

Overall, the principal contribution of the review should be to establish a clearer conceptual and empirical relationship between digital literacy and Indonesian language learning at the elementary level. The strength of this contribution will depend on the transparency of the review procedures, the quality of the included evidence, and the extent to which conclusions remain proportional to the findings.

Conclusion

The integration of digital literacy into Indonesian language learning in Islamic and general elementary schools represents an important pedagogical direction for strengthening students' language competencies and preparing them to participate critically, ethically, and responsibly in digital environments. This systematic literature review provides a framework for examining how digital technologies can be incorporated into listening, speaking, reading, and writing activities while supporting information evaluation, critical thinking, creativity, and multimodal communication. However, the educational value of digital integration depends not merely on technology availability but also on the alignment between digital resources, learning objectives, students' developmental characteristics, teachers' pedagogical competencies, and the learning environment. Theoretically, this review may contribute to a more integrated understanding of digital literacy as a component of Indonesian language education rather than simply a technical skill. Practically, the findings can inform teachers, school leaders, and policymakers in designing inclusive, context-sensitive, and ethically grounded learning experiences, particularly by addressing disparities in digital access, strengthening teacher professional development, and promoting responsible technology use. For Islamic elementary schools, digital literacy initiatives may also be aligned with religious and moral values, including honesty, responsibility, respect, and critical evaluation of information, without compromising the development of students' linguistic competencies. Nevertheless, the conclusions of this review should be interpreted in relation to the scope, quality, and methodological limitations of the literature included in the final synthesis. Future research should employ longitudinal and mixed-methods designs to investigate the sustainability of learning outcomes, examine differences between Islamic and general elementary school contexts, and evaluate the roles of teacher digital competence, socioeconomic conditions, and school infrastructure. Further empirical studies should also assess the contribution of specific digital approaches, including digital storytelling, interactive reading platforms, and artificial intelligence-supported writing activities, using validated measures of

language proficiency and digital literacy. Such investigations would provide a stronger evidence base for developing equitable, pedagogically sound, and contextually relevant models of digital literacy integration in elementary Indonesian language education.

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