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Indonesian Language Learning Strategies In The Digital Era: Implications For The Preparation Of Adaptive Pedagogy-Based Semester Learning Plans

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Abstract:

Digital transformation has changed the practice of Indonesian language learning with the presence of various technologies, such as Learning Management Systems (LMS), digital media, collaborative platforms, and Artificial Intelligence (AI). These conditions require learning strategies that not only utilize technology as a medium but are also able to adjust learning to the needs, characteristics, and abilities of students. This study aims to analyze and synthesize digital technology-based Indonesian language learning strategies as a foundation for preparing adaptive pedagogy-based Semester Learning Plans (RPS). The research uses a qualitative descriptive approach with a literature review method of 18 research articles published between 2020–2026. Data were analyzed through stages of reduction, grouping, comparison, interpretation, and synthesis based on learning strategies, technologies used, competencies developed, learning activities, assessments, and the application of adaptive pedagogical principles. The results show five main patterns of learning strategies: digital literacy integration, digital media-based multimodal learning, digital collaborative learning, project-based learning and digital content production, and the utilization of adaptive technology and AI. Digital technology no longer simply functions as a medium for delivering material, but has become part of a pedagogical strategy that supports the development of language competence, digital literacy, creativity, communication, collaboration, critical thinking, and independent learning. The synthesis results also indicate that adaptive pedagogy is realized through differentiated learning, the use of multimodal media, digital feedback, technology-based personalization, and authentic assessments based on digital products and portfolios. These findings provide implications for the development of adaptive, multimodal, student-centered, and responsive RPS to digital transformation by considering educator readiness, student digital competence, infrastructure, and technology integration with learning objectives.

Keywords: Indonesian Language Learning Strategies; Digital Technology; Adaptive Pedagogy; Digital Literacy; RPS

Introduction

The advancement of digital technology has transformed Indonesian language teaching practices. The use of various digital media and applications enables a more interactive learning process and encourages teachers to align their instructional strategies with technological developments and student needs. In this context, teachers are required not only to be proficient in using technology but also to select and integrate tools that align with learning objectives, ensuring the process remains student-centered (Abidin et al., 2022, p. 1231). Examining Indonesian language teaching strategies in the digital era is crucial because technological shifts necessitate pedagogical adjustments grounded in student needs and the development of 21st-century competencies. Indonesian language instruction should not focus solely on linguistic mastery; it must also foster critical thinking, creativity, communication, collaboration, and digital literacy. Suhariyanti and Hasugian (2026, p. 19) indicate that the evolution of information and communication technology has altered how students acquire, process, and disseminate information, thereby requiring an expansion of their literacy skills through various digital media. Technologies such as Artificial Intelligence, Learning Management Systems, educational apps, and interactive media offer opportunities to create learning experiences that are more personalized, flexible, and adaptive. However, utilizing technology without sound pedagogical strategies risks prioritizing device usage over actual competency attainment. While various studies highlight the growing use of digital technology in language learning, findings remain fragmented across diverse strategies, technologies, skills, and learning contexts. Consequently, a systematic review is needed to map and synthesize Indonesian language teaching strategies in the digital era, serving as a foundation for developing instruction that is adaptive, relevant, and responsive to student needs.

Although digital technology offers opportunities to create adaptive Indonesian language learning experiences, its implementation does not always align with ideal pedagogical principles. Some instructional practices still treat technology merely as an auxiliary medium for delivering content, completing assignments, or conducting assessments, without substantively transforming the underlying teaching strategies. Nasution et al. (2026, p. 877) found that the use of technology in text-based learning remains largely instrumental and does not yet fully support a deeper understanding of the structure, function, and social context of texts. This situation reveals a gap between technology utilization and the need to design instruction that is responsive to learners' characteristics. While various studies on technology-based language learning report the use of digital platforms, multimedia, applications, and AI, the focus often remains limited to media effectiveness, motivation, or specific learning outcomes. Aspects such as personalization, strategy adaptation, feedback tailored to individual needs, and the development of learner autonomy have not consistently received primary attention. Consequently, technological innovations have not yet fully brought about a pedagogical transformation in Indonesian language instruction.

Addressing this gap, this study focuses on mapping and analyzing Indonesian language learning strategies that have emerged within the digital-era educational context by reviewing prior research. The analysis focuses on the types of learning strategies, digital technologies employed, language competencies developed, characteristics of learning activities, assessment methods, and the application of adaptive pedagogy principles across various learning contexts. This focused approach ensures the study goes beyond merely cataloging the technologies used to analyze how they are integrated into pedagogical strategies to meet learner needs. The research data consists of scholarly

articles discussing digital technology-based Indonesian language learning strategies at both the school and higher education levels. The analysis aims to identify strategic patterns, technology usage trends, adaptive practices, and areas requiring further development. Ultimately, this study seeks to produce an evidence-based synthesis that can serve as a foundation for developing a course syllabus (RPS) for "Indonesian Language Learning Strategies" that aligns with the demands of digital learning.

Previous research indicates that Indonesian language learning strategies in the digital era have evolved through the utilization of digital literacy, digital media, and multimodal learning. Susanti, Indriyeni, and Astuti (2024) demonstrate that digital literacy can be implemented through information access, the use of digital media, communication, a reading culture, and creative applications to foster learners' creativity and motivation. Studies on teacher strategies for integrating digital literacy for Generation Z highlight the use of digital learning resources, videos, digital projects, and online learning platforms, alongside activities involving information analysis and evaluation that support engagement, critical thinking, communication, and creativity. Hidayati (2023), Holisoh (2023), and Rahmad (2022) show that Canva can enhance efficiency, creativity, collaboration, and learner engagement. Furthermore, Artajaya, Pinatih, and Ekasriadi (2025) emphasize multimodal literacy and its integration with character education, while Purba et al. (2024) demonstrate that multimodal strategies support text comprehension and critical thinking. Lestari et al. (2025) also found that multimodal texts can improve learners' comprehension, motivation, and participation. These findings confirm that digital technology and multimodality hold significant potential for transforming Indonesian language learning. Although these six studies showcase various strategies and technologies capable of supporting Indonesian language learning, the findings remain fragmented based on their specific focus—whether on technology, strategies, language skills, or learning contexts.

For instance, the research by Susanti, Indriyeni, and Astuti (2024) focuses on digital literacy; Hidayati (2023), Holisoh (2023), and Rahmad (2022) concentrate on the use of Canva; while Artajaya, Pinatih, and Ekasriadi (2025), Purba et al. (2024), and Lestari et al. (2025) emphasize multimodality. There is currently no evident synthesis linking these various findings to the principles of adaptive pedagogy—particularly regarding learner needs, learning objectives, activities, assessments, technology, and the role of the educator. This situation represents a significant research gap, as the use of technology does not automatically result in adaptive learning. The novelty of this study lies in synthesizing these strategies through the lens of adaptive pedagogy to establish an evidence-based foundation for developing the course syllabus (*RPS*) for the "Indonesian Language Learning Strategies" course. Thus, the study bridges prior research findings with the need for Indonesian language instructional designs in higher education that are responsive to digital transformation.

This study aims to analyze and synthesize various Indonesian language learning strategies from the digital era—drawing on prior research—to formulate a relevant pedagogical foundation for developing an adaptive pedagogy-based syllabus for the "Indonesian Language Learning Strategies" course. The analysis focuses on identifying learning strategy types, digital technologies employed, language competencies developed, learning activities, assessment methods, and the educator's role across various digital learning practices. Furthermore, the study seeks to identify patterns, trends, potentials, and limitations of implemented strategies to determine learning characteristics capable of addressing the needs and diversity of learners. The synthesis of prior research is expected to provide an evidence-based basis for defining syllabus components, including learning objectives, content, strategies, activities, technology, and

assessments. Ultimately, this study aims to generate conceptual recommendations for developing a syllabus that is adaptive, relevant, learner-centered, and responsive to digital transformation.

Methods

This study employs a qualitative descriptive approach using a literature review method. It aims to analyze and synthesize findings from previous research on Indonesian language learning strategies in the digital era to establish a conceptual foundation for developing a course syllabus (RPS) based on adaptive pedagogy. The data sources consist of scholarly articles relevant to Indonesian language learning strategies, digital technology in language learning, digital literacy, multimodal learning, digital learning media, and adaptive pedagogy. Articles were selected based on their relevance to the research focus, recency of publication, and connection to the context of Indonesian language instruction. The data used is secondary, derived from findings, concepts, strategies, technologies, learning activities, assessments, and pedagogical implications reported in prior studies.

Data collection involved searching databases and scholarly publication sources using keywords related to Indonesian language learning strategies, digital learning, technology-enhanced learning, digital literacy, multimodal learning, artificial intelligence, and adaptive pedagogy. Retrieved articles were screened based on the suitability of their titles, abstracts, research focus, and the availability of relevant information. Articles meeting the criteria were then recorded and categorized according to research focus, learning strategies, technologies employed, language competencies, learning activities, assessment methods, and the role of the educator.

Data analysis was conducted qualitatively through stages of data reduction, categorization, comparison, interpretation, and synthesis. Each study was analyzed to identify patterns, similarities, differences, potentials, and limitations regarding digital technology-based Indonesian language learning strategies. Subsequently, the findings were compared to identify strategic trends that support adaptive pedagogy principles—specifically, tailoring instruction to the needs and characteristics of learners. The synthesis results were used to formulate pedagogical implications for developing syllabus components, including learning outcomes, course materials, learning strategies, activities, technology integration, and assessment methods. Thus, the analysis not only maps existing research but also provides an evidence-based foundation for developing a syllabus that is adaptive and relevant to the demands of Indonesian language learning in the digital era.

Results and Discussion

Findings

The literature selection process yielded 18 research articles that met the criteria for analysis regarding digital technology-based Indonesian language learning strategies. The analyzed articles were published between 2020 and 2026, with a predominance of publications in 2025. The studies covered various educational levels—ranging from elementary (SD), junior high (SMP), and senior high (SMA) schools—as well as literature-based studies that did not restrict themselves to a specific level.

Regarding research methodology, the majority of the articles employed a descriptive qualitative approach, particularly to describe the implementation of digital learning strategies, the role of teachers, and students' experiences using technology. Additionally, studies utilizing quantitative experimental methods, Classroom Action

Research (CAR), Systematic Literature Reviews (SLR), and Research and Development (R&D) were also identified.

Table 1. Profile of Analyzed Research Articles

No	Study	Year	Focus Study	Educational level	Method Study	Technology /Media Used
1	Susanti , Indriyeni , & Astuti – Analysis Strategy Improveme nt Digital Literacy in Indonesian Language Learning	2024	Strategy improveme nt digital literacy in learning Indonesian and factor supporters and obstacles	SENIOR HIGH SCHOOL	Qualitative descriptive ; observation , interviews , documentation	Internet, social media , electronic media , applications creative , digital literacy program
2	Suhariyanti & Hasugian – Teacher Integration Strategies Digital Literacy in Indonesian Language Learning for Generation Z	2026	Teacher strategies in integrate digital literacy for Indonesian language learning	School (no specific)	Qualitative	Google Classroom, YouTube, Google Search, Canva, Google Docs, social media educative
3	Anzar , Akbar, & Syarif – Integration Wisdom Local via Canva Digital Media	2026	Integration culture local through digital media in learning Indonesian Language and Literature	JUNIOR HIGH SCHOOL	Qualitative descriptive	Canva, e- posters, infographics , digital works
4	Idawati , Febriyanti , & Boty – Improveme nt Interest in Reading through	2025	Utilization digital literacy for increase interest read student	SENIOR HIGH SCHOOL	Qualitative descriptive studies case	E-book, Google Classroom, Padlet, Quipper , social media educative

	Digital Literacy					
5	Artajaya , Pinatih , & Ekasriadi – Integration of Tri Hita Karana in Multimodal Literacy	2025	Strengthening character through multimodal literacy in Indonesian language learning	No specific (study library)	Studies library / qualitative descriptive	Videos, podcasts, vlogs, animations , digital posters, infographics
6	Tessar et al . – Integration of Media Technology and Strategy Managerial For Digital Literacy	2025	Technology media relations with digital literacy and outcomes learn Indonesian	Elementary School	Studies literature	Interactive video , e-learning, digital storytelling
7	Hidayah et al . – TPACK and Deep Learning approaches Indonesian Language Learning	2025	Improvement ability find idea main via TPACK	5th grade elementary school	Study Class Action (CAR)	Learning videos , digital presentations , quizzes interactive
8	Puspita Sari & Kaylacika – Development Content Learning Indonesian on Social Media	2025	Strategy development content Indonesian language learning on social media	No specific	Descriptive qualitative / study literature	Social media , short videos , infographics , quizzes interactive
9	Hutabarat et al . – Strategy Effective Learning Indonesian in the Digital Era	2025	Strategy Indonesian language learning based on technology	No specific	Studies literature	Digital platforms, e-learning, applications learning
10	Dewi – Strategy AI-Based Indonesian	2025	Influence strategy AI -based on students'	JUNIOR HIGH SCHOOL	Quasi experiment	AI, Grammarly, Google AI Writing

	Language Learning in Increase Digital Literacy		digital literacy			Assistant, NLP
11	Mustari et al. – Strategy Learning Active Digital Media Based	2026	Implementa tion learning active digital media based	Elementary School	Qualitative descriptive	Learning videos , interactive PowerPoint , applications digital quiz
12	Ati , Cleopatra, & Widiyarto – Strategy Learning Writing Indonesian in the Revolutiona ry Era Industry 4.0	2020	Strategy learning write with support technology	8th grade junior high school	Qualitative descriptive	LCD, web, social media , internet
13	Alwi et al. – The Influence of Digital Dictionary Media on Indonesian Language Learning Outcomes	2023	Influence use digital dictionary against results Study	4th grade elementary school	Quantitative experiment	digital dictionary
14	Lusianti , Sari, & Budiman – SLR Indonesian Language Digital Learning Media	2024	Study of the application of digital media in Indonesian language learning	Various level	Systematic Literature Review	Google Classroom, WhatsApp, Zoom, Google Meet, Kahoot, Quizizz, Padlet, YouTube
15	Kusumanin grum & Guntar – Strategy Developme	2025	Developmen t competence Language through	8th grade junior high school	Qualitative descriptive	Flipbook, Google Docs, Padlet, digital apps

	nt Competenc e through Digital Technology		digital technology			
16	Nasution et al. – Indonesian Language Learning Based on Text in the Digital Age	2026	Learning based text with support digital technology	High school class X	Qualitative studies case	YouTube, Google Classroom, e-learning, Google Docs, blogs, e-portfolios
17	Abidin et al. – Learning Indonesian Using Educandy	2022	Strategy use application game in Indonesian language learning	5th grade elementary school	Qualitative studies case	Educandy
18	Simanungkalit & Damanik – Deep Learning for Indonesian Language Learning	2025	Deep learning strategies in increase quality Indonesian language learning	No specific	Studies library narrative	AI/deep learning, Kahoot, Android digital dictionary

Patterns of Digital Technology-Based Indonesian Language Learning Strategies

An analysis of 18 articles reveals that digital technology in Indonesian language instruction serves not merely as a learning medium but has become an integral part of pedagogical strategies aimed at fostering students' digital literacy, creativity, collaboration, and critical thinking skills. The identified strategic patterns include the integration of digital literacy, multimodal learning, digital collaboration, the creation of digital works, and AI-driven adaptive technologies.

Integration of Digital Literacy

The most prominent strategy is the integration of digital literacy through the use of digital resources and platforms. Technology is employed to enhance students' abilities to access, comprehend, evaluate, and generate digital information. Studies by Susanti et al. as well as Suhariyanti and Hasugian demonstrate that the use of digital media—such as Google Classroom, YouTube, Canva, and Google Docs—assists teachers in developing students' digital literacy skills in a critical and responsible manner (Susanti et al., 2024; Suhariyanti & Hasugian, 2026).

Digital Media-Based Multimodal Learning

Indonesian language instruction is evolving through the use of diverse media forms, including text, images, video, audio, and infographics. This strategy is evident in research conducted by Artajaya et al., Anzar et al., and Mustari et al. The use of interactive multimedia helps students grasp language and literature concepts in a more contextual

way through visual and interactive learning experiences (Artajaya et al., 2025; Anzar et al., 2026).

Digital Collaborative Learning

Digital technology fosters collaborative learning through platforms such as Google Classroom, Google Docs, and Padlet. These tools enable students to draft texts, make revisions, and provide feedback digitally. Research by Kusumaningrum and Guntar, as well as Nasution et al., indicates that collaborative platforms support the improvement of students' writing and digital communication skills (Kusumaningrum & Guntar, 2025; Nasution et al., 2026).

Project-Based Learning and AI

Digital technology also supports project-based learning through the creation of products such as videos, vlogs, podcasts, infographics, and e-portfolios. Studies by Anzar et al. and Puspita Sari & Kaylacika demonstrate that producing digital work enhances students' creativity and communication abilities (Anzar et al., 2026; Puspita Sari & Kaylacika, 2025). Furthermore, research is beginning to highlight the use of Artificial Intelligence (AI) to support adaptive learning. Dewi found that AI tools like Grammarly and Google AI Writing Assistant aid in developing students' writing skills and digital literacy, while Simanungkalit and Damanik demonstrated the potential of deep learning in personalizing Indonesian language learning (Dewi, 2025; Simanungkalit & Damanik, 2025). Overall, the synthesis of findings indicates that digital technology-based strategies for teaching Indonesian are shifting toward learning that is more adaptive, collaborative, multimodal, and student-centered. Technology serves not merely as a tool for delivering content but as a means to develop learners' language competence, digital literacy, creativity, and critical thinking skills.

Analysis

Based on the analysis of the articles, it can be concluded that digital technology-based strategies for teaching Indonesian possess the following key characteristics:

Table 2. Key Characteristics and Forms of Implementation of Digital Technology-Based Indonesian Language Learning Strategies

Key Findings	Form Implementation
Integration digital literacy	Search digital information , evaluation sources , production content
Multimodal learning	Video, infographics , animation , audio, interactive multimedia
Digital collaboration	Google Classroom, Google Docs, Padlet, e-learning
Learning based project	Videos, vlogs, blogs, podcasts, e-portfolios
Technology adaptive	AI, chatbot, app learning intelligent

Research findings indicate that digital technology serves to support pedagogical strategies rather than acting merely as a learning tool. Successful technology implementation is heavily influenced by teacher readiness, infrastructure availability, and students' ability to utilize technology productively.

Forms of Adaptive Pedagogy in Indonesian Language Instruction

An analysis of 18 research articles reveals that adaptive pedagogy in Indonesian language instruction is an approach that positions digital technology as an integral part of pedagogical strategies designed to tailor the learning process to students' needs, characteristics, and capabilities. Adaptive pedagogy extends beyond the mere use of digital devices in learning activities; it encompasses a teacher's ability to adjust materials,

instructional strategies, media, student activities, and evaluation systems to create a more flexible and contextual learning experience. These findings align with research by Susanti, Indriyeni, and Astuti, which demonstrates that integrating digital literacy into Indonesian language instruction requires teachers to strategically select and manage digital media in accordance with learning needs and student conditions (Susanti et al., 2024).

A primary form of adaptive pedagogy identified is differentiated instruction based on student needs. In this approach, teachers move away from using a uniform method for all students, instead tailoring materials and activities based on students' literacy proficiency levels, learning characteristics, and digital readiness. Research by Suhariyanti and Hasugian shows that teachers integrate digital literacy into Indonesian language instruction by utilizing various digital resources—such as Google Classroom, YouTube, Canva, Google Docs, and educational social media—thereby providing students with learning experiences better suited to the characteristics of Generation Z (Suhariyanti & Hasugian, 2026).

Adaptive pedagogy is also manifested through technology-based multimodal learning. Analysis indicates that Indonesian language instruction is evolving from single-text approaches toward learning that combines diverse forms of representation, such as text, images, audio, video, animations, and interactive media. Artajaya, Pinatih, and Ekasriadi explain that multimodal literacy in Indonesian language instruction can be implemented through the use of digital storytelling, podcasts, films, vlogs, animations, posters, and digital infographics to strengthen students' understanding of language and literature content while simultaneously fostering learner character (Artajaya et al., 2025). These findings are reinforced by Mustari et al., who demonstrate that the use of instructional videos, interactive PowerPoint presentations, images, animations, and educational applications helps enhance student engagement in Indonesian language learning at the elementary school level (Mustari et al., 2026).

Beyond the diverse presentation of material, adaptive pedagogy is also evident in digital feedback-based learning. Technology enables the processes of evaluation and instructional improvement to occur more rapidly and continuously. In writing instruction, for instance, the use of collaborative platforms allows students to receive immediate input on their work. Kusumaningrum and Guntar found that the use of Google Docs and Padlet supports collaborative writing by enabling students to co-construct texts, leave comments, make revisions, and enhance writing quality through digital interaction (Kusumaningrum & Guntar, 2025). Similar findings emerged from research by Nasution et al., indicating that text-based Indonesian language learning supported by technologies such as Google Classroom, Google Docs, and e-learning applications can boost student engagement through collaborative activities and feedback exchange during the learning process (Nasution et al., 2026).

Another form of adaptive pedagogy involves learning personalization driven by technology and artificial intelligence (AI). Analysis reveals a growing research focus on adaptive technologies capable of tailoring learning experiences to individual student needs. Dewi found that AI-based Indonesian language learning strategies can improve students' digital literacy through tools like Grammarly and Google AI Writing Assistant, which support the writing process and language refinement (Dewi, 2025). Furthermore, Simanungkalit and Damanik explain that applying deep learning to Indonesian language instruction offers opportunities to support personalized learning through student needs analysis, interactive applications, and the use of technologies such as Kahoot and Android-based digital dictionaries (Simanungkalit & Damanik, 2025). Nevertheless,

studies indicate that the application of AI in Indonesian language learning remains relatively limited compared to the use of conventional digital technologies.

Adaptive pedagogy is also manifested through digital collaborative learning. Digital technology enables students to interact, discuss, and create work together. A systematic literature review by Lusianti, Sari, and Budiman found that various digital media—such as Google Classroom, WhatsApp, Google Meet, Zoom, Padlet, Quizizz, Kahoot, and YouTube—have been utilized in Indonesian language instruction to enhance student interaction and engagement in the learning process (Lusianti et al., 2024). Furthermore, research by Ati, Cleopatra, and Widiyanto demonstrated that the use of social media, websites, and the internet in teaching Indonesian writing provides students with opportunities to read, discuss, and respond to texts within a digital environment (Ati et al., 2020).

Other identified approaches include project-based learning and digital content production. In this strategy, students move beyond being mere recipients of information to become knowledge producers through the creation of digital works. Anzar, Akbar, and Syarif demonstrated that Canva can be used in Indonesian language and literature instruction to create e-posters, interactive infographics, and various digital projects that integrate local wisdom with students' language skills (Anzar et al., 2026). Meanwhile, Puspita Sari and Kaylacika explained that developing learning content via social media—through short videos, infographics, interactive quizzes, and language challenges—fosters student creativity in using the Indonesian language within digital spaces (Puspita Sari & Kaylacika, 2025).

Regarding evaluation, adaptive pedagogy is evident in the shift from conventional evaluation methods to assessments based on technology and digital products. Research by Abidin et al. showed that the Educandy application can serve as a game-based evaluation tool in Indonesian language instruction, thereby increasing student engagement in the learning process (Abidin et al., 2022). Additionally, a study by Alwi et al. indicated that the use of digital dictionaries influences Indonesian language learning outcomes among elementary school students, demonstrating that technology can play a role in evaluation strategies and the reinforcement of students' language proficiency (Alwi et al., 2023). Based on the overall results of the analysis, it can be concluded that adaptive pedagogy in Indonesian language instruction possesses three main characteristics: pedagogical adaptation, technological adaptation, and assessment adaptation. Pedagogical adaptation is evident in the implementation of differentiated instruction, collaborative learning, and student-centered strategies. Technological adaptation is realized through the use of digital multimedia, online learning platforms, interactive applications, and AI-based technologies. Meanwhile, adaptation in assessment is reflected in the use of digital evaluations, technology-based projects, and electronic portfolios. Thus, research findings indicate that digital technology in Indonesian language instruction serves not merely as a teaching aid but has evolved into an integral part of pedagogical strategies, enabling learning that is more personalized, flexible, and collaborative, while aligning with the demands of the digital era.

Media, Learning Strategies, and Competencies Developed in Digital Technology-Based Indonesian Language Instruction

An analysis of 18 research articles reveals that the utilization of digital technology in Indonesian language instruction involves various media designed to support specific learning strategies. These digital media serve not only as tools for delivering content but also as components of pedagogical strategies aimed at developing students' language

competencies, digital literacy, creativity, collaboration skills, and critical thinking abilities.

Table 3. Media, Learning Strategies, and Competencies Developed in Digital Technology-Based Indonesian Language Instruction

No	Media / Technology Used	Strategy Applied Learning	Developed Competencies
1	Google Classroom, e-learning, Moodle, online learning platforms	Learning digital platform based (<i>digital learning</i>), blended learning, learning independent	literacy , independence learning , ability communication digital, management information
2	Google Docs, Padlet, apps collaborative	Learning digital collaborative and <i>peer feedback</i> in activity write	Skills writing , collaboration , ability revise text , digital communication
3	Canva, infographics , digital posters	Learning based Project - <i>Based Learning</i> and production digital works	Creativity , visual literacy , ability convey idea digitally
4	Learning videos , YouTube, interactive multimedia	Multimodal and contextual learning	Ability listen , understand text , thinking critical , media literacy
5	Social media educational (Instagram, blogs, digital platforms)	Learning based production content and publication work	Ability digital writing , communication , ethics speaking in digital space
6	Kahoot, Quizizz, Educandy , AI Zep Quiz	Gamification and evaluation based technology	Motivation learning , understanding draft language , involvement student
7	E-book, e- module , digital flipbook	Learning based source digital learning	Literacy reading , comprehension text , learning independent
8	dictionary and Android app	Learning based digital sources and reinforcement vocabulary	Mastery vocabulary , skills reading ability use digital sources
9	Artificial Intelligence (AI), Grammarly, Google AI Writing Assistant	Learning personalization and feed come back automatic	Skills writing , reflection language , AI literacy
10	Digital storytelling, vlog, podcast, e-portfolio	Learning based multimodal projects and communication	Creativity , skills speaking , presentation , production digital text
11	Internet and digital resources	Learning based inquiry and exploration information	Literacy information , evaluation source , thinking critical

Pedagogical adaptation is evident in the implementation of differentiated instruction, collaborative learning, and student-centered strategies. Technological adaptation is realized through the use of digital multimedia, online learning platforms, interactive applications, and AI-based technologies. Meanwhile, assessment adaptation is reflected in the use of digital evaluations, technology-based projects, and electronic portfolios. Thus, research findings indicate that digital technology in Indonesian language instruction serves not merely as a teaching aid but has evolved into an integral part of pedagogical strategies, enabling learning that is more personalized, flexible, collaborative, and aligned with the demands of the digital era.

Media, Learning Strategies, and Competencies Developed in Digital Technology-Based Indonesian Language Instruction

Based on an analysis of 18 research articles, it was found that the utilization of digital technology in Indonesian language instruction involves various media aimed at supporting specific learning strategies. The most frequently used media include digital learning platforms such as Google Classroom, e-learning systems, and internet-based applications. These media support digital-based learning strategies, allowing teachers to distribute materials, assign tasks, facilitate discussions, and provide feedback flexibly. Research by Susanti, Indriyeni, and Astuti indicates that integrating digital literacy into Indonesian language instruction requires teachers to employ strategies for selecting and managing digital media to meet learning needs (Susanti et al., 2024). Similar findings were reported by Suhariyanti and Hasugian, who noted that the use of Google Classroom, YouTube, Canva, and Google Docs helps teachers develop instruction that better aligns with the characteristics of digital-era learners (Suhariyanti & Hasugian, 2026).

In addition to learning platforms, collaborative media such as Google Docs and Padlet show significant usage patterns in the development of Indonesian writing skills. These media support collaborative learning strategies by enabling students to co-author texts, leave comments, and make revisions in real-time. Kusumaningrum and Guntar found that the use of Google Docs and Padlet assists students in the processes of planning, drafting, and editing texts, thereby fostering the development of writing skills through digital interaction (Kusumaningrum & Guntar, 2025). This demonstrates that digital technology can transform the writing learning process from a solitary activity into a more interactive one. The use of Canva, infographics, digital posters, and interactive multimedia reflects the application of project-based learning and multimodal learning strategies. Through these media, students not only grasp language and literary concepts but also create digital communication products. Research by Anzar, Akbar, and Syarif indicates that using Canva in Indonesian language and literature instruction fosters students' ability to produce digital works that integrate linguistic, cultural, and creative elements (Anzar et al., 2026). Meanwhile, Artajaya et al. explain that multimodal literacy—incorporating videos, podcasts, vlogs, animations, and infographics—can strengthen students' understanding of language and literature material while simultaneously supporting character education (Artajaya et al., 2025). Media such as instructional videos, YouTube, and interactive multimedia are widely used to support contextual learning strategies. These tools enable teachers to present examples of language use in real-world situations, making it easier for students to comprehend the material. Research by Mustari et al. shows that the use of videos, images, animations, and educational apps can boost student engagement in Indonesian language lessons at the elementary school level (Mustari et al., 2026). Furthermore, research by Nasution et al. demonstrates that utilizing YouTube videos, Google Classroom, and e-learning

applications in text-based instruction can enhance students' motivation, comprehension, and the quality of their text production (Nasution et al., 2026).

Digital media has also evolved to include game-based assessment applications such as Kahoot, Quizizz, Educandy, and AI Zep Quiz. These tools facilitate gamification strategies that transform learning assessments into more engaging and interactive activities. Research by Abidin et al. on the use of Educandy indicates that game-based applications can boost student engagement in Indonesian language learning (Abidin et al., 2022). Furthermore, a study by Lusianti, Sari, and Budiman shows that applications like Kahoot and Quizizz are widely used in Indonesian language instruction to enhance student motivation and interaction (Lusianti et al., 2024).

Recent developments highlight the emergence of Artificial Intelligence (AI) as a medium supporting adaptive learning. AI technology is utilized to provide automated feedback, assist in the writing revision process, and support more personalized learning experiences. Research by Dewi demonstrates that the use of AI tools—such as Grammarly and Google AI Writing Assistant—can help improve students' digital literacy and writing skills (Dewi, 2025). Meanwhile, Simanungkalit and Damanik explain that deep learning technology holds potential for personalizing Indonesian language learning through the analysis of learning needs and the use of interactive digital applications (Simanungkalit & Damanik, 2025).

Based on the overall analysis, it can be concluded that there is a relationship between the type of digital media, the learning strategy employed, and the competencies developed. Informative digital media, such as e-books and videos, primarily support reading literacy and text comprehension. Collaborative media, such as Google Docs and Padlet, foster writing and communication skills. Meanwhile, creative media—including Canva, vlogs, podcasts, and digital storytelling—nurture creativity and the production of digital texts. Additionally, adaptive technologies like AI are paving the way for the development of more personalized learning experiences.

Thus, digital technology-based strategies for Indonesian language learning are not solely focused on improving language proficiency; they also cultivate 21st-century competencies, including digital literacy, creativity, communication, collaboration, critical thinking, and independent learning.

Implications of the Results for the Development of the Indonesian Language Learning Strategy Course Syllabus

A synthesis of 20 studies on digital technology-based Indonesian language learning strategies reveals that the development of Semester Learning Plans (RPS) requires adjustment to accommodate technological advancements, 21st-century competency needs, and the characteristics of learners in the digital era. The findings indicate that an RPS can no longer simply outline learning objectives, content, methods, and evaluation in a conventional manner; instead, it must be designed as a pedagogical document that integrates digital technology, adaptive learning strategies, and the development of learners' digital literacy.

The first implication concerns the formulation of learning outcomes within the RPS. The synthesis shows that Indonesian language learning competencies are not solely oriented toward mastering language skills—such as reading, writing, listening, and speaking—but also encompass digital literacy, critical thinking, creativity, communication, and collaboration. Consequently, learning outcomes in the RPS need to be expanded to include students' ability to utilize digital technology for comprehending, producing, and evaluating texts. Research findings by Susanti et al. (2024) and

Suhariyanti & Hasugian (2026) demonstrate that integrating digital literacy is crucial to Indonesian language instruction, given that technology has become a new learning environment for students.

The second implication is the need to develop multimodal-based learning materials. The synthesis indicates that Indonesian language instruction is evolving through the combined use of text, visuals, audio, video, and interactive media. Therefore, materials within the Semester Learning Plan (RPS) should not be limited to conventional reading resources but should also incorporate digital learning assets such as instructional videos, infographics, podcasts, e-books, digital storytelling, and various forms of digital text. This aligns with research by Artajaya et al. (2025), which shows that multimodal literacy can strengthen language and literature comprehension through diverse forms of information representation. The third implication relates to the selection of learning strategies within the RPS. The synthesis results indicate that the dominant strategies used in technology-based Indonesian language instruction include digital collaborative learning, Project-Based Learning, Problem-Based Learning, the TPACK approach, and technology-based adaptive learning. Therefore, the RPS needs to provide greater scope for student-centered learning activities. Students do not merely receive material but are guided to produce digital products such as articles, videos, podcasts, infographics, blogs, or digital portfolios. Research by Anzar et al. (2026) and Puspita Sari & Kaylacika (2025) demonstrates that the production of digital work can enhance students' creativity and communication skills.

The fourth implication is the integration of digital technology as an integral part of the instructional design, rather than merely as a supplementary medium. Analysis shows that effective technology use occurs when technology is designed to align seamlessly with learning objectives, learning activities, and assessment. Consequently, the RPS should clearly specify the technology used in each session—for instance, Google Classroom for learning management, Google Docs and Padlet for collaborative writing activities, Canva for visual content creation, and digital quiz applications for formative assessment. Research by Kusumaningrum & Guntar (2025) indicates that the use of digital collaborative platforms can improve the quality of the writing process by facilitating direct interaction, revision, and feedback.

The fifth implication relates to the development of the assessment system within the RPS. Based on a synthesis of findings, technology-based evaluation of Indonesian language learning should move beyond written tests and evolve into authentic assessments that evaluate both the learning process and its outcomes. Evaluation methods may include digital projects, electronic portfolios, multimedia presentations, digital text production, and app-based assessments using tools such as Quizizz, Kahoot, and Educandy. Research by Abidin et al. (2022) indicates that the use of game-based applications can enhance student engagement during the evaluation process, while research by Alwi et al. (2023) demonstrates that specific digital media can influence Indonesian language learning outcomes.

A sixth implication is the need to strengthen adaptive pedagogy within the Semester Learning Plan (RPS). Synthesis results indicate that the success of technology-based learning is determined not only by the availability of digital devices but also by educators' ability to tailor learning strategies to students' needs. Therefore, the RPS needs to allow for flexibility in the use of methods, media, and learning activities based on students' digital literacy levels. The use of artificial intelligence (AI) technology can also be considered as part of learning innovation, particularly in providing feedback on writing skills and language usage. Findings by Dewi (2025) and Simanungkalit & Damanik (2025)

demonstrate that AI has the potential to support more personalized and adaptive Indonesian language learning.

Based on these research results, the development of an RPS for digital technology-based Indonesian language learning can focus on several key components, namely:

Table 4. Implications of Research Findings for the Development of RPS Components for Digital Technology-Based Indonesian Language Learning

RPS Components			Implications of Results
Achievements Learning			Enter competence language , digital literacy , creativity , communication , collaboration , and thinking critical
Material Learning			Develop multimodal based teaching materials digital text , video, infographics , and online resources
Strategy Learning			Integrating Project-Based Learning, collaborative learning, TPACK, blended learning, and pedagogy adaptive
Instructional Media			Leveraging LMS, Google Classroom, Canva, Padlet, Google Docs, AI, video, and apps interactive
Activity Students / Participants Educate			Produce digital work , doing collaboration , analysis digital text , and reflection learning
Evaluation Learning			Use assessment authentic based projects , digital portfolios , quizzes interactive and digital products

Thus, the synthesis of the research indicates that the development of Indonesian language course syllabi (RPS) needs to shift from a content-delivery-oriented model toward a model that is adaptive, multimodal, technology-based, and focused on creating digital learning experiences. The resulting syllabus should serve not merely as an administrative guide for instruction but as a pedagogical design capable of equipping students with both language and digital competencies relevant to 21st-century educational demands.

Conclusion

This study aimed to analyze and synthesize digital technology-based Indonesian language learning strategies—drawing on prior research—to serve as a foundation for developing syllabi based on adaptive pedagogy. A review of 18 articles revealed five key patterns: the integration of digital literacy, digital media-based multimodal learning, digital collaborative learning, project-based learning involving digital content creation, and the utilization of adaptive technology and Artificial Intelligence (AI). These findings demonstrate that digital technology has evolved from a mere medium for content delivery into an integral part of pedagogical strategies that foster literacy, creativity, collaboration, communication, and critical thinking. However, implementation still faces challenges regarding educator readiness, student digital competence, infrastructure availability, and the ability to integrate technology with learning objectives.

Theoretically, this study reinforces the view that digital transformation in Indonesian language learning must be situated within a pedagogical framework rather than being driven solely by technology. Practically, the synthesis provides a basis for designing syllabi that integrate digital strategies, multimodal activities, collaboration, projects, adaptive technology, and assessments responsive to student needs. In terms of policy, these findings offer valuable insights for study programs and higher education institutions seeking to develop curricula that respond to digital transformation and 21st-century competency requirements. Therefore, syllabus development should be conducted systematically, taking into account student characteristics, learning outcomes,

educator readiness, and technology availability. Future research is encouraged to develop and validate these syllabi through implementation trials across diverse higher education contexts.

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