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Artificial Intelligence-Based Research Trends and Literacy Shifts in Linguistics and Literature Journals: A Systematic Literature Review

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ABSTRACT
This study aims to map trends in artificial intelligence-based research in linguistics and literature journals in Indonesia and to map the shifts in academic literacy that have emerged due to the use of artificial intelligence technology. The method used is a Systematic Literature Review (SLR). The research sample comprises 67 articles from 40 journals, indexed by Sinta 1–5, for the period 2020–2025. Data were collected using document and observation techniques. The analysis focused on four main aspects: research subjects, research types, the type of artificial intelligence used, and data collection techniques, the most prominent of which are document and questionnaire techniques. The results of the study indicate that trends in AI-based linguistics and literature research in Indonesia are dominated by university- and student-led qualitative research. The most commonly used types of artificial intelligence are ChatGPT, Grammarly, and Elsa Speak. Data collection methods include surveys, tests, and questionnaires. However, shifts in academic literacy are also occurring, requiring strengthening reading and writing literacy so that the use of artificial intelligence remains ethical, reflective, and supports the sustainable development of linguistics and literature.

Keywords: artificial intelligence, research tren, literacy shifts, linguistics and literature, journal

Tren Penelitian Berbasis Kecerdasan Buatan Generate dan Pergeseran Literasi dalam Jurnal Linguistik dan Sastra: *Systematic Literature Review*

ABSTRAK
Penelitian ini bertujuan untuk memetakan tren penelitian berbasis kecerdasan buatan dalam jurnal linguistik dan sastra di Indonesia serta memetakan bentuk pergeseran literasi akademik yang muncul akibat pemanfaatan teknologi kecerdasan buatan. Metode yang digunakan adalah *Systematic Literature Review* (SLR). Sampel penelitian ini adalah 67 artikel dari 40 jurnal yang terindeks Sinta 1–5 pada periode 2020–2025. Data dikumpulkan menggunakan teknik dokumen dan observasi. Analisis difokuskan pada empat aspek utama: subjek penelitian, tipe penelitian, jenis kecerdasan buatan yang digunakan, dan teknik pengumpulan data yang paling menonjol adalah teknik dukumen dan kuesioner. Hasil penelitian bahwa tren penelitian linguistik dan sastra berbasis AI di Indonesia didominasi oleh subjek mahasiswa dan siswa dengan tipe kualitatif. Jenis kecerdasan buatan yang paling banyak digunakan adalah ChatGPT, Grammarly, dan Elsa Speak. Jenis pengumpulan data pada survei, tes, dan kuesioner. Namun demikian, pergeseran literasi akademik juga terjadi sehingga menuntut penguatan literasi membaca dan menulis agar pemanfaatan AI tetap etis, reflektif, dan mendukung pengembangan keilmuan linguistik dan sastra secara berkelanjutan.

Keywords: tren penelitian, kecerdasan buatan, pergeseran literasi, jurnal, linguistik dan sastra

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INTRODUCTION

In the last decade, artificial intelligence has become a global phenomenon, transforming the way humans work, learn, and interact. In education, artificial intelligence serves not only as a technological tool but also as a cognitive partner that supports human thinking and learning (Al-Nofaie & Alwerthan, 2024). International studies also show that AI now catalyzes pedagogical transformation, where human-machine interactions shape new paradigms of reflective and collaborative learning (Holmes et al., 2024; Walter, 2024). This technological development has driven innovations in language and literature education, including in Indonesian language learning, which is currently undergoing accelerated digitalization. AI-based learning platforms such as ChatGPT, Quillbot, and ElsaSpeak are increasingly used in teaching and learning, research, and even scientific publications in the fields of linguistics and literature. This aligns with the global trend of large language models being adopted in linguistic analysis and applied Research (Alaqlobi, 2024).

The increasing use of artificial intelligence in the academic realm is evident in the proliferation of research articles in various scientific journals that employ this technology as both an object and an instrument. Based on a preliminary analysis of the Science and Technology Index (Sinta) portal for the 2020–2025 period, at least 67 articles integrated artificial intelligence into linguistics and literary research. This finding indicates a shift in the research paradigm from traditional methods to technology- and data-based approaches (Salsabila, Kustati, & Amelia, 2024). This trend is also occurring internationally, where the integration of artificial intelligence into language and literacy Research has shown a significant increase since 2020, particularly in text analysis, automatic translation, and academic writing (Liu et al., 2024; Zawacki-Richter et al., 2023). This shift marks a significant transition in the epistemology of linguistics and literary studies, increasingly emphasizing collaboration between humans and machines in the production of knowledge.

However, this progress also poses new challenges related to the dimensions of academic literacy. Literacy skills are no longer limited to reading and writing, but have expanded to include digital literacy and artificial intelligence literacy, which require a critical understanding of algorithms, data bias, and the ethics of technology use (Dinihari et al., 2024). This is reinforced by research by Veldhuis et al. (2024), which asserts that AI literacy includes the ability to assess the social, ethical, and epistemic impacts of algorithm-based technology in education and research. This literacy shift is a crucial issue because, on the one hand, AI can accelerate the development of academic literacy. Still, on the other hand, it can undermine critical reasoning and the authenticity of students' and researchers' scientific work (Markus, Carolus, & Wienrich, 2025).

In the context of language education, the shift in literacy is also evident in the emergence of various studies combining gamification and microlearning approaches to strengthen students' learning motivation and reflective abilities (Dinihari, Santosa, & Ayuardini, 2023). This approach demonstrates that artificial intelligency integration not only expands access to learning resources but also reshapes the way students construct meaning and develop metacognitive skills. The new literacies being formed are multimodal and interactive, combining text, visuals, and dialogue with adaptive artificial intelligence systems. A similar phenomenon is also evident in international studies highlighting the emergence of "multimodal literacy" and "artificial intelligency-enhanced reflective learning" across various language-learning contexts (Li & Ma, 2023; Sun et al., 2024).

This phenomenon has direct implications for linguistics and literary research in Indonesia. Studies in narratology, pragmatics, and semantics are now beginning to use artificial intelligence tools to analyze larger, more complex text corpora

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(Pribadi et al., 2023). On the other hand, artificial intelligence is also being used to detect discourse and ideological patterns in digital literary texts such as memes, poetry, and hybrid works (Andriani et al., 2019). This aligns with global research trends in the digital humanities, which show that generative artificial intelligency (such as ChatGPT, DALL-E, and Sora) is driving new ways of producing and analyzing digital literary texts (Liu et al., 2024). This trend indicates that the boundaries between linguistics, literature, and technology research are increasingly blurring, marking a new era for the digital humanities in Indonesia.

However, artificial intelligence-based research in linguistics and literature still faces several methodological challenges. Most studies focus on describing the use of artificial intelligency without in-depth analysis of its epistemological and ethical implications (Telaumbanua et al., 2024). Addressing future challenges requires a research framework that not only highlights the effectiveness of technology but also examines its impact on the transformation of literacy and academic culture. Several global reviews even underscore the need for a reflective and critical approach to artificial intelligence to prevent research from being merely instrumental (Holmes et al., 2024; Cotton et al., 2024). This gap represents a major research gap in previous research.

Furthermore, a gap has emerged between the use of artificial intelligence in higher education and the literacy skills of lecturers and students in using it critically and ethically. Research by Nanda et al. (2025) shows that digital platforms like Learning Room do improve students' reading skills, but in-depth critical literacy skills do not accompany this. A similar trend occurs in higher education, where artificial intelligence is often used instrumentally without ethical or epistemological reflection on its impact on scientific thinking (Wegerif, 2024). According to Holmes et al. (2024), this phenomenon demands a redefinition of the roles of teachers and researchers to place greater emphasis on ethical literacy, digital awareness, and social responsibility in the use of artificial intelligency in higher education.

The importance of this research is further strengthened by the fact that the shift in literacy resulting from artificial intelligence use has also influenced the patterns of knowledge production and consumption in scientific journals. Articles that use artificial intelligence as a writing or data analysis tool tend to demonstrate high efficiency, but risk compromising originality and analytical depth (Zulfadhli et al., 2025). International studies also warn that the use of generative artificial inteligensi without critical literacy can lead to a homogenization of academic style and algorithmic bias in scientific publications (Cotton et al., 2024; Veldhuis et al., 2024). Therefore, research is needed that systematically maps artificial intelligence-based research trends in linguistics and literature journals in Indonesia, while examining their ethical and epistemological implications.

Based on this description, the research problem formulation in this study focuses on four main aspects that align with the research findings: (1) how artificial intelligence-based research trends are developing in linguistics and literature journals in Indonesia during the 2020–2025 period; (2) who are the subjects and types of research most dominantly used in these artificial intelligence studies; (3) what types of artificial inteligensi are most commonly applied in linguistics and literature research; and (4) how the shift in the form of academic literacy has emerged as a result of the use of artificial intelligence in the context of language and literature research in Indonesia.

The purpose of this study is to map trends in artificial intelligence-based linguistics and literary research in Indonesia, identify the subjects and types of research used, explain the most commonly used artificial inteligensi types, and examine shifts in academic literacy. Furthermore, this study aims to provide an overview of future developments in linguistics and literary research that are more ethical, reflective, and oriented towards human-machine collaboration.

Using a Systematic Literature Review (SLR) approach, this study aims to identify trends, patterns, and methodological tendencies in artificial intelligency-based Research and examine the shifts in literacy that have occurred within it. This approach allows for an in-depth analysis of research subjects, research types, the types of artificial intelligency used, and the data collection methods implemented between 2020 and 2025. Thus, this study not only provides a descriptive overview of the development of artificial inteligensi research in Indonesia but also reveals new dimensions of literacy that have emerged from the integration of this technology. This SLR approach aligns with global practice in meta-analyses ofartificial intelligence-based educational Research (Zawacki-Richter et al., 2023; Liu et al., 2024).

Theoretically, this research contributes to the development of discourse on artificial intelligence literacy and digital humanities in linguistics and literary studies. The results are expected to enrich the literature on the relationship between technology and literacy in the era of artificial intelligence and provide a conceptual foundation for further research focusing on the ethics, pedagogy, and epistemology of artificial intelligence. Practically, the results of this study can serve as a reference for researchers, educators, and journal managers in developing publication policies that adapt to technological developments without neglecting academic and scientific values. The study by Cotton et al. (2024) emphasizes the importance of institutional policies that balance the use of artificial intelligence and the protection of academic integrity.

Overall, research on artificial intelligence-based trends and shifts in literacy in linguistics and literary journals in Indonesia is highly urgent. This study is presented in response to fundamental changes in the way knowledge is produced, shared, and interpreted in the digital era. Through systematic mapping, this research is expected to bridge the gap between increasingly rapid technological developments and the need to strengthen critical literacy in academic environments. The results of this study are also expected to make a tangible contribution to the development of research and practice in language and literature education in Indonesia that aligns with the values of ethics, creativity, and sustainability in the use of artificial intelligence technology. Thus, this research expands the global discourse on artificial intelligence literacy and its contribution to the formation of a reflective and humanistic academic culture (Veldhuis et al., 2024; Holmes et al., 2024).

METHOD

The method used was a Systematic Literature Review (SLR) approach with a descriptive qualitative design to map trends in artificial intelligence -based research in the fields of linguistics and literature in Indonesia and examine emerging shifts in academic literacy. The research procedure was conducted in four stages, following PRISMA guidelines: identification, selection, eligibility, and inclusion. Data was obtained from the Sinta (Science and Technology Index) portal, which lists Sinta-accredited journals from 2020–2025. A search using the keywords Artificial Intelligence, ChatGPT, Grammarly, and linguistic/literary studies identified 67 articles that met the inclusion criteria, namely research discussing the application of artificial intelligence in the context of linguistics or literature in Indonesia. Data collection was conducted online from February–April 2025.

The data collection tool was an article classification sheet that included indicators for publication year, research subject, research type, type of AI used, and data collection techniques. All data were analyzed using content analysis to identify research patterns and trends. The frequency of themes and categories is presented in tables and diagrams to illustrate their distribution. The analysis results were then interpreted descriptively to demonstrate the shift in academic literacy in linguistics and literature as artificial intelligence technology increasingly applies to research and scientific writing.

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RESULTS

All articles were classified based on predetermined categories and aspects. This information was obtained from the authors in the form of abstracts and clarified by reviewing the research methodology and conclusions of each article. The collected data was then processed into a bar chart. The emergence of artificial intelligence in linguistics and literature journals is indicated by the massive number of articles published annually. This demonstrates the relevance of artificial intelligence to Indonesian researchers, who still need extensive research to support various aspects, especially language development.

1. Trends in AI-Based Research in Linguistics and Literature Journals in Indonesia (2020–2025)

Before describing the findings in more detail, it is important to review the general development of artificial intelligence-based research publications in the linguistics and literature fields in Indonesia. This trend demonstrates how researchers' interest in integrating AI into linguistic studies has evolved over the 2020–2025 period. Therefore, Figure 1 below presents the pattern of increasing publications on artificial intelligence in this context.

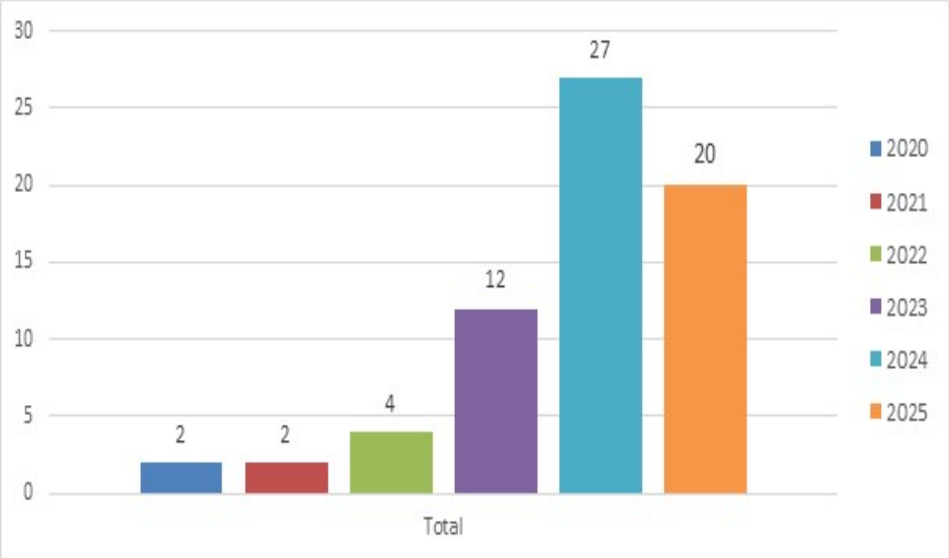

Figure 1
Development of Article Publications

The data above shows the development of published articles from September 2020 to August 2025. The graph shows a significant year-over-year increase, reflecting the high level of interest among researchers in integrating artificial intelligence into linguistic and literary studies. In 2020 and 2021, the number of published articles was still very low, with only two articles each, indicating that the application of artificial intelligence in linguistic Research at that time was still experimental and limited to early exploratory contexts. An increase began in 2022, with 4 articles, marking the adaptation phase to the use of digital tools such as Grammarly, Mendeley, and Turnitin in academic writing.

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Aspect	Category	
Research Subject	A.1 books and articles A.2 books and articles A.3 journal articles and conference proceedings A.4 secondary school teacher A.5 middle school students A.6 student	A.7 nobility and the general public A.8 assignment text A.9 teaching model A.10 teaching model A.11 words and phrases A.12 children's books A.13 newspaper article 1.14 local language
Research Type	B.1 quantitative B.2 qualitative	B.3 quantitative - qualitative
AI Generated	C.1 grammarly, quillbot, chatGPT, mendelet, and turnitin C.2 lingua franca core (LFC) C.3 replica, andy, and google assistant C.4 CAT tools C.5 aizzy AI and perplexity AI C.6 classcard and kahoot C.7 copilot deepl C.8 due ai elsa speak C.9 google translate & bing translator C.10 hablo	C.11 pcapdroid C.12 praat app C.13 app writtingaid C.14 robot nao C.15 smalltalk2me C.16 the elsa and the plot generator ap C.17 SDLC (software development life cycle) C.18 amazon kindle C.19 deepl C.20 duolingo C.21 node.js, visual code studio, botpress, and zapier C.22 google assistand C.23 tutorgram ai C.24 chatbot C.25 undefined
Data Collection	D.1 test D.2 document D.3 observation D.4 questionnaire D.5 interview D.6 literature	D.7 questionnaire D.8 interview D.9 literature review D.10 critical review D.11 survey

Figure 2
Aspects and Categories in Research

The data above demonstrates some of the instruments and findings in this article. The left column displays the research question in the form of aspects, while the right column contains the answers classified into categories. Aspects are part of the research question, encompassing four main components: research type, research subjects, data collection, and the type of artificial intelligence used, obtained from an analysis of 67 articles. Categories describe concrete findings from these four aspects. Based on the data, it is clear that the most dominant research subjects were university and high school students, indicating a focus on the development of digital and academic literacy in educational contexts. The most common type of research used was qualitative, followed by mixed methods, indicating a reflective analytical approach to technology-based learning phenomena. The types of artificial intelligence used varied, with tools such as ChatGPT, Grammarly, and Elsa Speak, which function as writing aids and language training, predominating. Meanwhile, the majority of data collection was conducted through documents, questionnaires, and interviews, reflecting

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a research trend oriented toward digital content analysis and user perceptions. Overall, the relationship between these aspects and categories indicates the direction of development of linguistic and literary research in Indonesia which is increasingly integrated with artificial intelligence and marks a shift towards reflective and collaborative academic literacy.

2. Aspects of Digital Literacy Most Improved Through Wordwall Training

One important dimension in mapping AI-based research trends is identifying the research subjects used. Subject variations can reflect the context in which AI is applied in language learning and academic literacy. Figure 3 below displays the distribution of dominant research subjects in artificial intelligence-based linguistics and literature studies. Before describing the findings in more detail, it is important to review the general development of artificial intelligence-based research publications in the linguistics and literature fields in Indonesia. This trend demonstrates how researchers' interest in integrating artificial intelligence into linguistic studies has evolved over the 2020–2025 period. Therefore, Figure 3 below presents the pattern of increasing publications on artificial intelligence in this context.

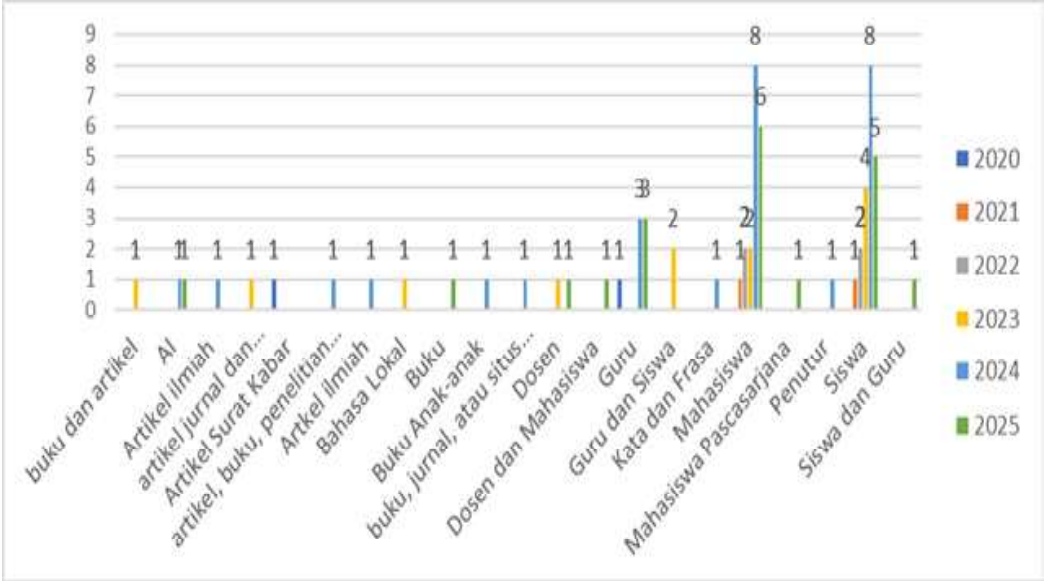

Figure 3
Research Subjects

The data in the graph shows that texts sourced from students dominate the artificial intelligence-based research corpus, with a total of 26 articles published between 2020 and 2024. This dominance demonstrates that students are the most researched subject group in the context of language learning and digital literacy in Indonesia. This phenomenon aligns with 21st-century educational trends that emphasize personalized learning through the use of artificial intelligence-based adaptive technology. In various studies, student engagement reflects the need to understand how technology can adapt to individual learning styles, strengthen interactions, and increase accessibility for learners from diverse social and cultural backgrounds (Telaumbanua et al., 2024).

Furthermore, teachers emerged as research subjects in two articles from 2023 to 2024, indicating that exploration of the role of educators in artificial intelligence integration remains relatively limited in Indonesia. This limitation is largely due to low levels of technological literacy

and teachers' pedagogical readiness to utilize artificial intelligence critically and reflectively. Wegerif (2024) noted that many teachers face challenges in terms of technical competency, training availability, and institutional acceptance of artificial intelligence-based innovations. However, as emphasized by Al-Nofaie &Alwerthan (2024), the integration of artificial intelligence into teaching practices should not be viewed merely as a technological tool, but as a means to enrich the learning experience, foster creativity, and support sustainable educational transformation. Thus, the analysis of this research subject reveals a disparity in focus between learners and educators, which could provide an important opportunity for further research to strengthen teacher literacy and collaboration in the use of artificial intelligence in language and literature education.

Research Type

In addition to the research subject, the type of research also plays a crucial role in determining the analytical approach used. By classifying research types, researchers' epistemological tendencies in utilizing artificial intelligence can be identified, whether they are quantitative, qualitative, or mixed. Figure 4 below shows the distribution of research types that emerged in the 67 articles reviewed.

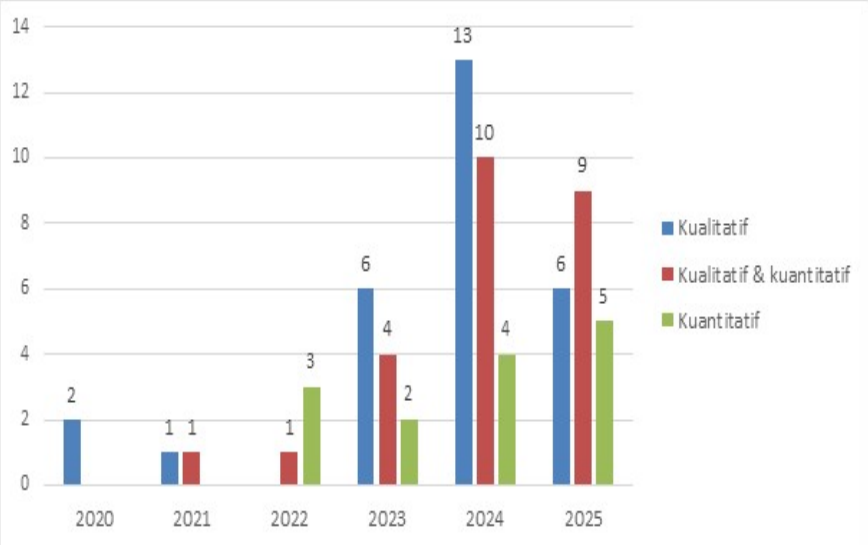

Figure 4
Research Type Graph
Data Source: Processed Research Data

The type of research determines the approach and direction of analysis used. In the context of this study, the identified research types included qualitative, quantitative, and a combination of both (mixed methods). The analysis was conducted descriptively to map trends based on the topic, research subject, data collection techniques, and analysis methods used in the 67 articles reviewed. The graph above shows that in 2020, research was still dominated by quantitative approaches, with one article, reflecting the initial phase of adapting numerical data-driven research in linguistics and literature studies. However, in 2023, there was a shift in dominance toward qualitative research with nine articles, indicating an increased interest in phenomenological and interpretive explorations that emphasize the social meanings of artificial intelligence use in educational and language contexts. 2024 saw a peak period for mixed-methods research (qualitative-quantitative) with a

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total of ten articles, demonstrating a trend toward integration between statistical analysis and contextual exploration. In 2025, this pattern continued with a balance between the three research types: nine qualitative, five quantitative, and six mixed-methods—signaling methodological stability in artificial intelligence research in the digital humanities.

The dominance of quantitative research in the early stages demonstrated researchers' focus on hypothesis testing and measuring the impact of artificial intelligence on learning outcomes and linguistic performance. This approach made a significant contribution in answering the "what" and "how much" aspects of a phenomenon (Clarke & Collier, 2015). However, the development of qualitative research in subsequent years emphasized that a deeper understanding of human-artificial intelligence interactions requires a narrative, interpretive, and reflective approach. According to Johnson (2024) and Pandey (2024), qualitative research plays a crucial role in uncovering the social, emotional, and ethical dimensions of artificial intelligence user experiences—things that cannot be quantified numerically.

Furthermore, the significant rise in mixed-method research signals a shift toward an integrative methodological paradigm. This approach allows researchers to combine the power of quantitative analysis to measure empirical trends with the depth of qualitative analysis that captures context and meaning. In the context of artificial intelligence-based linguistic and literary research, this combination is crucial because the phenomena studied are not only textual and linguistic but also involve complex social, cognitive, and technological dimensions. Thus, the development of research types from year to year illustrates the epistemological evolution in language and literature studies in Indonesia—from number-based research to a more reflective, multidimensional, and humanistic understanding of artificial intelligence.

3. Types of AI Used in Linguistic and Literary Research

In addition to the research subject, the type of research also plays a crucial role in determining the analytical approach used. By classifying research types, researchers' epistemological tendencies in utilizing artificial intelligence can be identified, whether they are quantitative, qualitative, or mixed. Figure 5 below shows the distribution of research types that emerged in the 67 articles reviewed.

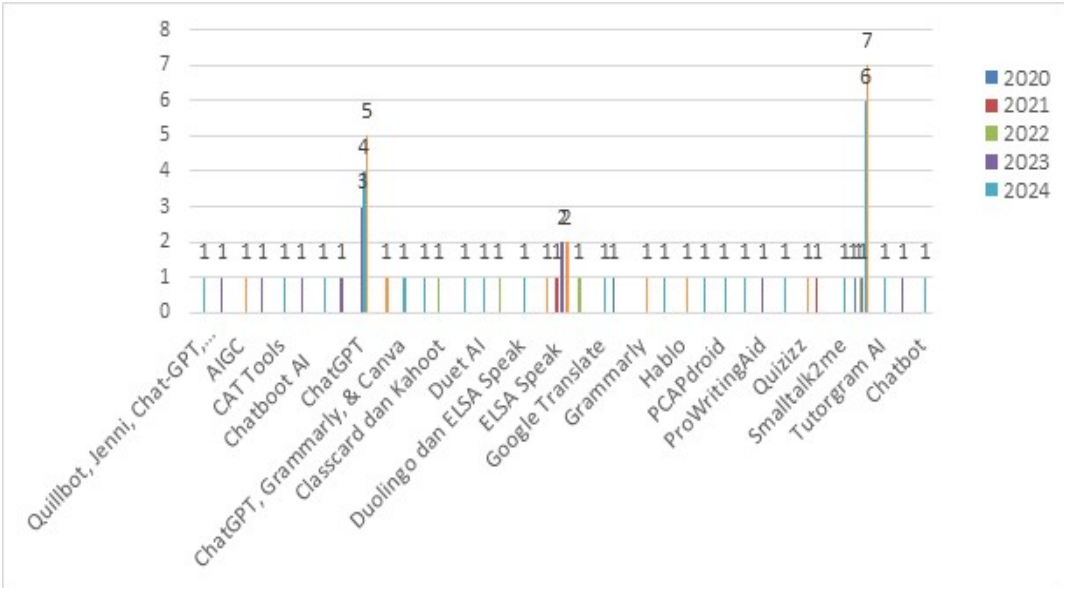

Figure 5
Artificial Intelligence Type Graph

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Based on the statistical data above, the use of artificial intelligence, particularly ChatGPT, dominated almost every research study in Indonesia from 2020 to 2024. This type of artificial intelligence was used in eight research articles, and its use falls into the artificial intelligence Generation category. Artificial intelligence Generation allows the obtained data to be shaped into various approaches, such as images, audio, visuals, and others. This significantly improves student academic performance by enhancing material understanding, critical thinking skills, and task efficiency. However, it also poses challenges such as potential dependency and reduced direct interaction with educators (Salsabila et al., 2024). The use of ChatGPT is not without its challenges. Some anthropology students benefit from ChatGPT's easy access and time efficiency, but face risks such as dependency and plagiarism, which can lead to reduced reading habits and analytical skills (Adistya et al., 2024).

The second most commonly used artificial intelligence-generated language is Elsa Speak, with two studies in 2023. This artificial intelligence is cited for its ease of use and the immediate feedback provided by Elsa Speak, which helps improve pronunciation and speaking confidence (Khadijahet al., 2023). It is crucial for language learners to identify and correct their mistakes, as Elsa Speak uses artificial intelligence to provide real-time feedback. Several studies have shown this to be a significant advantage, helping improve pronunciation and speaking skills (Senowarsito & Ardini, 2023).

In addition to ChatGPT and Elsa Speak, research has also identified various other types of artificial intelligence-generated language used in linguistics and language learning contexts, such as Grammarly, Duolingo, and Tutorgram artificial intelligence although their use is not as widespread as these two main applications. Grammarly is widely used in research as a tool to improve academic writing skills, particularly in aspects of grammar and style, while Duolingo is used to strengthen language learning motivation through gamification and adaptive feedback. On the other hand, Tutorgram artificial intelligence serves as a personalized learning platform that can tailor materials to individual learners' needs. This variety of uses demonstrates that artificial intelligence research trends in Indonesia are increasingly moving toward an integrated learning ecosystem that incorporates technological tools, interactivity, and reflective learning. However, as highlighted by Cotton et al. (2024) and Veldhuis et al. (2024), the use of artificial intelligence technology still requires strong ethical oversight and digital literacy to avoid over-reliance and to ensure that artificial intelligence is used to enhance, not replace, the role of humans in the education and research process.

Data Collection

The next step is to identify the data collection techniques used in these studies. The patterns of use of questionnaires, interviews, documents, and observations can provide insight into researchers' methodological preferences in examining artificial intelligence integration in linguistics and literature. Figure 6 below shows the distribution of data collection methods used in the analyzed articles.

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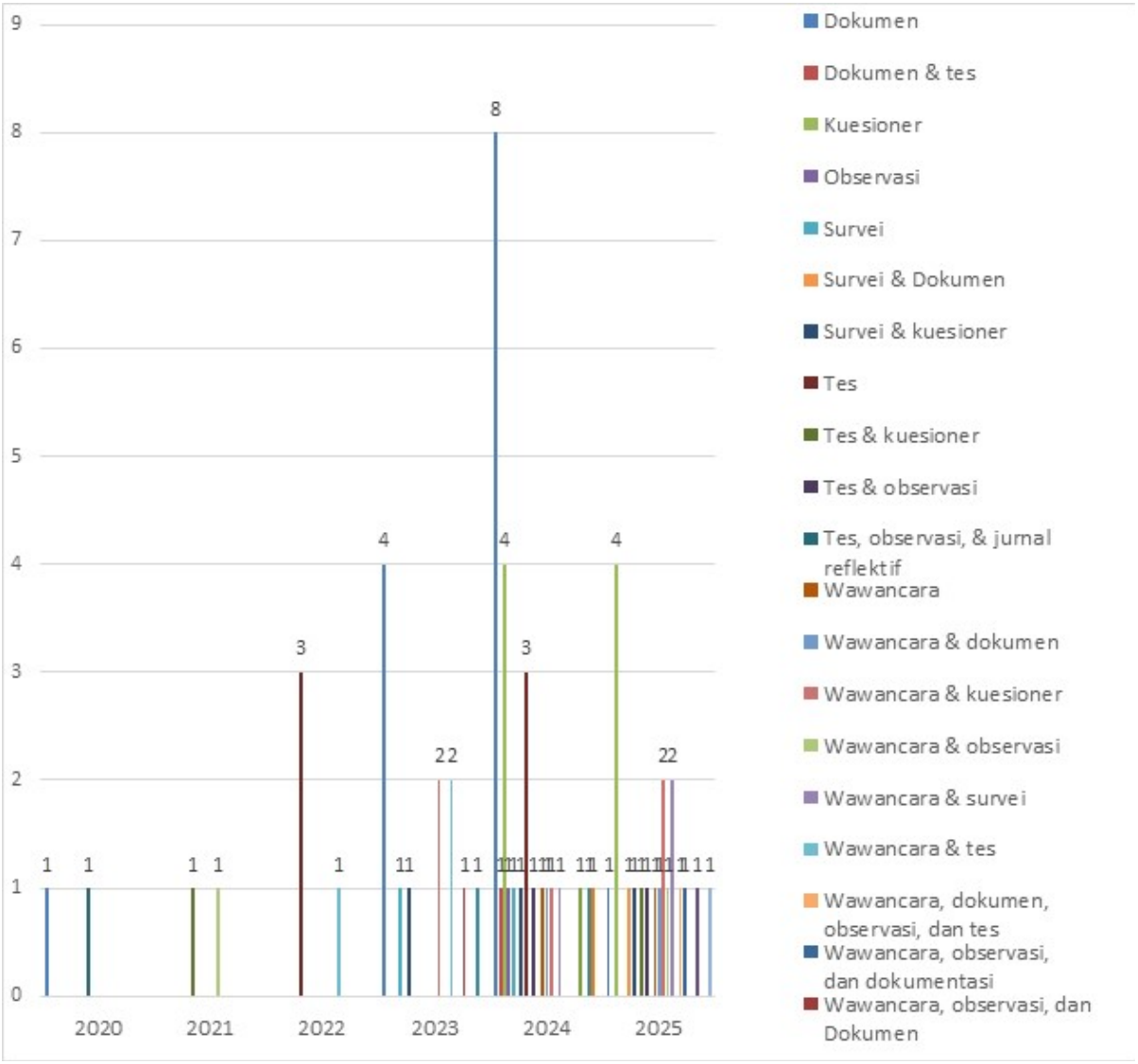

Figure-6
Types of Data Collection

Research using questionnaires and tests dominated the overall data collection in Sinta 1-5, with five each from 2020 to 2025. A fundamental element of questionnaires is their ability to meet the needs of the research users. Effective questionnaire design involves creating questions that are relevant, specific, and aligned with the research topic and purpose. Questions should be structured to ensure clarity and avoid ambiguity, with mutually exclusive options and logical sequencing to help identify and address potential issues that could impact data quality (Lei & Pang, 2024; Sajko, 2024). The goal is to collect accurate and reliable data. In both quantitative and qualitative research, this method is crucial for investigating phenomena or testing hypotheses. To ensure that the data accurately reflect the facts being studied, the quality of the instruments and techniques used must be valid and reliable.

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The second most common data collection method found in Sinta 1-5 was four documents from 2023-2024. Documentary data collection is a presentation based on students' writing or essays, based on assignments and papers from their teachers. Documentary data collection is a fundamental method in qualitative research, providing a means to explore cultural and social nuances through existing documents. This approach is often used in conjunction with participant observation to gain a comprehensive understanding of the Research context (Court et al., 2024).

DISCUSSION

The SLR results show an acceleration in AI-themed publications in linguistics and literature from 2020 to 2025, with a sharp spike in 2024 (27 articles) and a sustained high level in 2025 (20 articles as of the review period). This increase demonstrates artificial intelligence's shift from being a mere technical tool to becoming part of a "research ecosystem" supporting text analysis, academic writing production, and language-based learning design. This increasing pattern is consistent with the widespread adoption of large language models (LLMs) and educational artificial intelligence applications on campus/schools, which has prompted researchers to examine the benefits, limitations, and ethical impacts of AI in academic literacy practices (Salsabila et al., 2024; Al-Nofaie & Alwerthan, 2024; Embracing the Future of Artificial Intelligence in the Classroom, 2024; Li et al., 2024).

In terms of research subjects, the corpus sourced from students dominates (26 studies, 2020–2024). This dominance is logical because these two groups are the most intensive users of artificial intelligence-based technology in academic assignments and digital literacy practices. These findings demonstrate a shift in research orientation from "proving the effectiveness of tools" to "understanding how artificial intelligence shapes learning, writing, and argumentation" at the individual level. An emphasis on personalized learning, adaptive feedback, task differentiation, and accessibility for diverse backgrounds emerged as key benefits (Telaumbanua et al., 2024). On the other hand, teachers/lecturers are only just beginning to emerge as subjects (2 articles in 2023–2024), indicating that there is still significant room for strengthening educators' artificial intelligence literacy. Barriers to technical knowledge, pedagogical readiness, and institutional acceptance make teachers' integration of AI cautious (Wegerif, 2024), even though AI's potential to enrich pedagogy and enhance learning sustainability has been confirmed (Al-Nofaie & Alwerthan, 2024; Advancing Artificial Intelligence Literacy in Teacher Education, 2024).

Regarding research types, a methodological evolution is evident. The initial phase was marked by quantitative studies (2020) to answer the question of "what/how much" impact artificial intelligence has (Clarke & Collier, 2015). Entering 2023, qualitative studies became dominant (9 articles), indicating the need for interpretive reading of the phenomenon—how artificial intelligence mediates learning/writing experiences, ethical considerations, and discursive practices. 2024 saw the peak of mixed methods research (10 articles), combining the power of statistical measurement with the depth of interpretation (Johnson, 2024; Pandey, 2024; Chen et al., 2024; Educause, 2024). This pattern demonstrates maturity: research no longer stops at effectiveness, but rather moves to explain the mechanisms and contexts underlying it.

The most prominent type of artificial intelligence used is ChatGPT (8 studies), followed by ELSA Speak (2 studies). At the same time, other tools such as Grammarly, Duolingo, Tutorgram artificial intelligence, ProWritingAid, and Google Translate/Bing Translator appear sporadically. ChatGPT is used for text ideation and composition, argumentation assistance, and language modeling; its benefits include efficiency, increased comprehension, and support for critical thinking, but it also poses risks of dependency, stylistic homogenization, and plagiarism (Salsabila et al.,

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2024; Adistya et al., 2024; Drivers and Consequences of ChatGPT Use in Higher Education, 2024). ELSA Speak stands out for its pronunciation improvement through real-time feedback and impact on speaking confidence (Khadijah et al., 2023; Senowarsito & Ardini, 2023). This variety of tools demonstrates a shift in literacy from linear-textual to multimodal and dialogic, where text, voice, and interactions with intelligent agents shape new literacy practices (ChatGPT for Language Teaching and Learning, 2024; Exploring the Potential of ChatGPT for Foreign Language Education, 2024; ChatGPT in Foreign Language Lesson Plan Creation, 2024).

From the data collection, the dominance of documents, questionnaires, and interviews indicates two trends: (1) digital content-based research (student assignments, articles, online corpora) to analyze rhetorical style, cohesion, errors, or discourse patterns; (2) perception/ experience-based research to map attitudes, strategies, and practices in AI use. The combination of the two allows researchers to link changes in performance (writing/exam results) with the mechanisms of change (how and why artificial intelligence is used), thereby enhancing the validity of the findings (AI Literacy in K-12: A Systematic Literature Review, 2023; artificial intelligence Literacy for All: Adjustable Interdisciplinary Curriculum, 2024).

Combined, these four aspects clarify the shift in literacy, a key variable in the title of this study. Literacy is no longer defined solely as reading and writing skills, but rather extends to digital literacy and artificial intelligence literacy: the ability to understand how models work, their biases and limitations, ethical use, and the ability to integrate artificial intelligence output with critical reasoning and academic integrity. In the linguistic-literary realm, this shift is evident in the practice of large-scale corpus analysis, artificial intelligence-assisted academic writing, and the exploration of digital literary works (memes, bot dialogues, generative texts). The observed benefits of efficiency, access, differentiation, and increased feedback need to be balanced with ethical and pedagogical guardrails so that artificial intelligence enhances (rather than replaces) the role of human reasoning (Veldhuis et al., 2024; Educause, 2024; ED-artificial intelligence Lit Framework, 2024).

This discussion also reveals a gap in focus: many studies focus on learners, while educator engagement and policy dimensions remain limited. In fact, the quality of artificial intelligence integration is largely determined by educators' artificial intelligence literacy, task design that demands originality and reflection, and institutional rules regarding transparency in artificial intelligence use. Therefore, the next research agenda is important to strengthen (a) educator-centric research (competencies, beliefs, and assessment practices), (b) multidimensional measurement of artificial intelligence literacy (cognitive-ethical-metacognitive), and (c) pedagogical models that balance AI assistance with the development of academic voice and writer's creativity (Defining artificial intelligence Literacy for Higher Education, 2024; Navigating the Landscape of artificial intelligence Literacy Education, 2025).

Finally, the strategic direction suggested by these findings is the development of a framework for ethical and sustainable artificial intelligence integration in language/literature research and teaching: transparency of use (e.g., artificial intelligence contribution statements), authentic tasks that require analysis and synthesis of primary sources, scaffolding of artificial intelligence output evaluation skills, and educator training in artificial intelligence-resilient instructional design and assessment. With these steps, the benefits of artificial intelligence in improving the quality of academic literacy, enriching linguistic methodologies, and innovating literary studies can be optimized while mitigating its risks—in line with the mandate to develop reflective, ethical, and humanistic knowledge (Holmes et al., 2024; Cotton et al., 2024; Educause, 2024).

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CONCLUSION

A review of 67 articles in linguistics and literature journals indexed in Sinta 1–5 for the 2020–2025 period indicates that artificial intelligence-based research in Indonesia has experienced significant growth and increasingly diverse approaches. This trend is characterized by a predominance of university and student subjects, with research predominantly using qualitative and mixed methods. The most commonly used artificial intelligence tools include ChatGPT, Grammarly, and ELSA Speak, which support writing and pronunciation skills, as well as digital literacy development. Furthermore, the predominant data collection techniques, which include questionnaires, documents, and interviews, indicate that research tends to focus on user experiences and technology-based academic practices.

Overall, these findings indicate a shift in academic literacy from conventional patterns to digital literacy and artificial intelligence literacy, which are collaborative, reflective, and multimodal. Artificial intelligence serves not only as a technical tool but also as a cognitive partner in the scientific thinking process. This shift demands strengthening critical literacy, academic ethics, and transparency in technology use so that linguistics and literature research in Indonesia develops ethically, sustainably, and remains oriented toward humanitarian values.

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