Volume 2 Issue 1 Year 2026 Pages 82-99
e–ISSN 3090-6245 | DOI: 10.70152
https://journal.akademimerdeka.com/ojs/index.php/matcha/index

Investigating Students' Informal Use of AI Tools during University English Classes

Reni Apriani[1*], Shibani Basu Dubey[2]

[1] Universitas La Tansa Mashiro, Indonesia
[2] The Bhopal School of Social Sciences, BSSS, Bhopal, India
[*]Corresponding author's email: reni.apriani@unilam.ac.id

DOI: https://doi.org/10.70152/matcha.v2i1.346

Abstract: The rapid proliferation of artificial intelligence (AI) tools has transformed how university students engage with English learning, often beyond formal instructional designs. This qualitative study investigates students' informal use of AI tools during university English classes and examines how they interpret the role of these tools in shaping their learning experiences and classroom engagement. Drawing on classroom observations and semi-structured interviews, the study explores the ways students independently integrate AI tools such as translation, paraphrasing, and generative assistance to support comprehension, participation, and task completion in real time. The findings reveal that students employ AI tools strategically to manage linguistic challenges, maintain engagement, and enhance confidence, while simultaneously negotiating concerns related to overreliance and academic norms. Students generally perceive AI as a supportive, complementary resource rather than a substitute for instruction or effort. By foregrounding informal and learner-initiated AI use, this study contributes to current discussions on AI integration in English language education, highlighting the importance of recognizing students' everyday practices and perspectives when developing pedagogical and policy responses to AI-enhanced learning environments.

Keywords: artificial intelligence, English language learning, informal learning, qualitative research, university students

INTRODUCTION

The rapid development and widespread availability of artificial intelligence (AI) technologies have profoundly influenced educational contexts, including English language classrooms. Among these technologies, AI tools such as language generation models, translation software, paraphrasing applications, and speech recognition systems have become increasingly accessible to students, offering new possibilities for learning, interaction, and engagement (Kasneci et al., 2023). While the integration of AI in formal instructional design has been explored in various studies (Monib et al., 2025; Rad et al.,

2023), less attention has been paid to the informal, self-directed use of AI tools by students during classroom activities. Understanding these informal practices is essential, as students' spontaneous use of AI can significantly shape their learning experiences, strategies, and engagement, yet remains largely under-researched.

Informal technology use in educational settings refers to students' self-initiated, autonomous engagement with digital tools, which occurs outside of structured or mandated instructional activities (Kusuma et al., 2024). In the context of English language learning, informal use can encompass a wide range of behaviours, including using AI for vocabulary support (Javaid et al., 2023), drafting or revising writing tasks (Oates & Johnson, 2025), summarizing or paraphrasing texts (Jiang, 2022), translating materials (Aler Tubella et al., 2024), or supporting oral communication (Fitriati & Williyan, 2025). These practices reflect a learner-driven approach in which students actively negotiate the affordances of technology to meet their individual learning needs. By studying informal AI use, researchers can gain insight into students' agency, adaptive strategies, and decision-making processes, which are central to understanding how AI shapes contemporary learning environments.

Existing literature on AI in language education has primarily focused on formal integration within curriculum design. For instance, AI-powered writing assistants and language generation tools have been studied in the context of classroom assignments, automated feedback, and teacher-guided activities (Demartini et al., 2024; Rahmi et al., 2024; Zhao, 2023). Similarly, AI-supported speaking and listening applications have been explored as scaffolds for pronunciation, fluency, and real-time comprehension, typically within structured instructional frameworks (Akinsemolu & Onyeaka, 2025; Almelhes, 2023; Çelik et al., 2025). While these studies provide valuable evidence of AI's potential to enhance language learning outcomes, they often overlook how students autonomously choose to engage with AI tools during routine classroom activities, outside formal pedagogical mandates. This gap limits the understanding of AI's impact on learner agency, self-regulation, and informal learning strategies, which are increasingly critical in digitally mediated learning environments.

Informal AI use in classrooms can also be examined through the lens of learner agency. Agency refers to the capacity of learners to act intentionally, make strategic decisions, and exercise control over their learning (Williyan et al., 2025). In digitally mediated contexts, agency manifests when students selectively adopt, adapt, or combine technological resources to achieve their learning goals. For instance, some students may choose to use AI translation tools to understand difficult texts, while others may employ AI paraphrasing software to draft or revise written output. These practices not only reflect cognitive engagement with content but also illustrate learners' metacognitive planning and reflective decision-making (Zhou et al., 2024). Investigating informal AI use, therefore, provides insight into the ways students exercise control over their learning processes, extending the conceptualization of agency to include interactions with AI-mediated resources.

Another important dimension is digital literacy and strategic competence. Informal AI use requires students to navigate digital interfaces, evaluate AI output critically, and integrate the results meaningfully into their tasks (Bećirović et al., 2025). Prior research highlights that the effective use of AI tools depends not only on access but also on students' ability to make judgments about reliability, relevance, and linguistic

appropriateness (Ali et al., 2024; Ali et al., 2024). For example, in writing contexts, students may generate AI-assisted drafts but need to critically evaluate sentence structure, vocabulary choices, or factual accuracy. Similarly, in reading or speaking tasks, AI translation or transcription tools provide immediate support (Hockly, 2023), but students must determine how to integrate suggestions without compromising comprehension or originality. Thus, informal use is tightly intertwined with strategic competence, encompassing both cognitive and evaluative skills that influence learning outcomes.

Moreover, informal engagement with AI may also influence collaborative and social aspects of learning. In classroom activities, students may share AI-generated content, discuss AI suggestions with peers, or collaboratively decide how to integrate AI assistance into group tasks (Lobo-Quintero, 2025). Such interactions reflect a sociocultural perspective on learning, where AI acts as a mediating artifact within students' socially situated practices (Silvola et al., 2025; Raptopoulou, 2025). By understanding these dynamics, researchers can gain insight into how technology shapes peer interaction, collective problem-solving, and the co-construction of knowledge in English classrooms.

Despite the potential significance of informal AI use, there is limited empirical research examining these practices. Most studies either focus on experimental designs evaluating AI tools' effectiveness or on teacher-mediated integration of AI in formal instruction (Chichekian & Benteux, 2022; Dieterle et al., 2022; Law, 2024). Consequently, little is known about students' natural, self-directed use of AI in classroom settings, including the strategies they employ, the purposes for which AI is used, and how learners perceive its value and limitations. This gap is particularly important given the growing accessibility of AI technologies, which enables students to make autonomous choices that may diverge from teacher-directed instruction or institutional guidelines. Understanding these practices can inform both curricular design and pedagogical guidance, ensuring that AI integration aligns with students' lived experiences and promotes meaningful learning.

This study aims to address this gap by investigating two central questions: (1) How do university students informally use AI tools during English classes to support their learning? and (2) How do students interpret the role of AI tools in shaping their classroom engagement and learning experiences? By framing the inquiry around practices and perceptions, the study emphasizes both observable behaviours and learners' reflective understanding of their interactions with AI. This dual focus allows for a comprehensive understanding of informal AI use, capturing both the strategies students deploy and the meanings they attach to those strategies.

The significance of this study lies in its contribution to the understanding of learner-centered AI integration in higher education. By documenting informal practices, the research provides insight into the diverse ways students leverage AI tools to enhance learning, highlighting their agency, adaptability, and strategic competence. The findings can inform educators and instructional designers about how to support effective and ethical AI use, balancing autonomy with guidance and promoting responsible engagement. Additionally, the study contributes to broader discussions on digital pedagogy, technology-mediated learning, and AI literacy, which are increasingly relevant as AI becomes embedded in academic contexts.

LITERATURE REVIEW

Analytical Lens: Learner Agency, Informal Learning, and AI-Mediated Engagement

This study draws on a combination of theoretical perspectives to frame the investigation of students' informal AI tool use. The first lens is learner agency, which refers to learners' capacity to make intentional, strategic, and self-directed choices in the process of learning (Karakaya & Bozkurt, 2022). Learner agency emphasizes the active role of students in managing their learning resources, deciding which strategies to employ, and regulating their cognitive and metacognitive processes (Ouyang & Jiao, 2021). In digitally mediated contexts, agency extends to how students appropriate technological tools, such as AI translation, paraphrasing, or writing assistants, to achieve their learning goals. Students' informal use of AI can thus be understood as an enactment of agency, reflecting deliberate choices in selecting tools, integrating outputs, and adapting strategies based on task demands, perceived benefits, and personal learning preferences.

Complementing agency is the informal learning framework, which highlights learning that occurs outside structured or mandated instructional activities. Informal learning emphasizes self-directed, autonomous, and contextually situated practices where learners experiment with tools, adapt strategies, and negotiate meaning according to their own needs (Cancino & Gonzalez, 2023). In the context of AI, informal learning allows students to engage with technology spontaneously, without prescriptive guidance from teachers, and to integrate AI-mediated practices into daily classroom routines (Liu et al., 2024). This perspective is critical for understanding the natural, self-initiated adoption of AI tools, which may diverge from formal instructional designs but still substantially shape comprehension, participation, and task completion.

Finally, the study is informed by a sociocultural perspective on digital mediation, rooted in Vygotskian theory. From this viewpoint, AI tools can be considered mediational artifacts that extend learners' cognitive capabilities within socially situated contexts (Fteiha et al., 2025). The tools act as semiotic resources that support problem-solving, knowledge construction, and interaction with content. Through informal use, students not only manage individual cognitive demands but also engage collaboratively with peers by sharing AI outputs, discussing interpretations, or co-constructing understanding (Dergaa et al., 2023). This lens emphasizes the dynamic interplay between cognitive, metacognitive, and social processes in AI-mediated learning environments. Together, these analytical perspectives, agency, informal learning, and sociocultural mediation, provide a comprehensive framework for interpreting students' behaviors and perceptions when using AI tools spontaneously in English classrooms.

Previous Studies: AI Integration and Informal Learning in Language Education

Recent studies have explored the integration of AI technologies in language learning, yet most have emphasized formal instructional contexts. For instance, Chen and Gong (2025) examined AI writing assistants in structured assignments, demonstrating improvements in vocabulary, grammar, and task completion. Similarly, Aljabr (2025) investigated AI speech recognition in EFL classrooms, showing that students could enhance pronunciation and fluency when guided by teachers. These studies highlight the educational potential of AI, yet they do not capture the spontaneous, self-directed ways students might appropriate AI tools in routine classroom interactions.

Research on AI for language learning has also explored reading and comprehension tasks. Pavlova et al. (2024) found that paraphrasing and translation tools facilitate understanding of complex academic texts, improving cognitive and metacognitive processes. Hsiao and Chang (2023) demonstrated that students who actively used AI tools during reading could scaffold comprehension while maintaining engagement with challenging materials. Although these studies provide evidence of AI's cognitive benefits, they are predominantly experimentally or quasi-experimentally designed, focusing on measured outcomes rather than the lived experiences and self-directed strategies of learners.

A smaller but growing body of work has begun to investigate informal and learner-driven AI practices. Lee et al. (2023) emphasized that AI technologies are increasingly embedded in students' autonomous learning, often outside prescribed tasks, enabling learners to manage vocabulary, generate drafts, or check grammar independently. Similarly, Zakir et al. (2025) argued that informal digital tool use reflects students' strategic engagement, metacognitive awareness, and adaptation of resources to fit personal learning goals. In these contexts, AI tools become extensions of learners' cognitive and metacognitive capabilities, supporting both task performance and reflective practice.

In addition, studies have examined digital literacies and critical engagement with AI. Students' effective use of AI requires evaluative skills, including judgment of accuracy, appropriateness, and relevance of AI outputs (Al-Zahrani, 2024). For instance, students using AI for writing must assess grammar suggestions or paraphrased sentences to ensure conceptual fidelity. These findings suggest that informal AI use is not merely mechanical; it involves strategic decision-making, reflection, and active sense-making, which aligns with the learner agency and sociocultural mediation perspectives highlighted in this study.

The role of AI in social and collaborative learning has also been explored, though less extensively. Recent work indicates that students may share AI outputs with peers, discuss interpretations, or co-construct meaning using AI-mediated resources (Ramadevi et al., 2023). These practices suggest that AI can influence not only individual cognitive processes but also the social dynamics of classroom learning, reinforcing the need to consider both individual and collective dimensions when studying informal AI use.

Despite these insights, a significant gap remains regarding informal, spontaneous, and self-directed use of AI tools in classroom contexts. Most existing studies prioritize outcomes such as accuracy, fluency, or comprehension scores and focus on tools introduced within structured instructional designs. Few studies capture students' authentic, everyday engagement with AI, the strategies they employ, and the meanings they assign to these practices. Investigating these informal interactions is essential to understand how AI shapes learners' agency, classroom engagement, and strategic learning behaviours in naturalistic settings.

By situating the present study within these frameworks, the research addresses a clear gap in the literature. It examines how students informally use AI tools during English classes and how they interpret the role of these tools in shaping their learning experiences. Through this approach, the study contributes to emerging scholarship on AI-mediated language learning, extending understanding beyond structured interventions to authentic, self-directed practices that reflect students' agency, strategy use, and reflective engagement.

METHODS

Research Design

This study adopted a qualitative research design to explore university students' informal use of AI tools during English classes and their interpretations of how these tools shape classroom engagement and learning experiences. A qualitative approach was selected because the study sought to capture naturally occurring practices, meanings, and decision-making processes rather than to measure predefined variables or test causal relationships (Leplaa et al., 2025). Informal AI use is inherently context-dependent and learner-driven, making it unsuitable for experimental or survey-only designs.

The study was guided by an interpretive paradigm, which views learning as a socially and cognitively constructed process shaped by learners' interactions with tools, tasks, and peers. From this perspective, AI tools are understood not merely as technological artifacts but as mediating resources that students appropriate in diverse and sometimes unexpected ways. The qualitative design allowed for in-depth examination of how students selected, used, and reflected on AI tools during real classroom activities, without imposing externally defined categories of use.

Data were collected in natural classroom settings, with minimal researcher intervention, to ensure that students' AI use remained informal and self-initiated. The design emphasized thick description and thematic interpretation, enabling the study to document patterns of use while also attending to individual variation in strategies and perceptions.

Participants

The participants were university students enrolled in English courses that involved a range of communicative activities such as reading, writing, group discussions, and short presentations. A total of 35 students participated in this study. These courses did not formally require the use of AI tools; however, students had independent access to AI applications on personal devices, including laptops and smartphones. This context provided an appropriate setting for observing informal, voluntary AI use during class activities.

Participation in the study was voluntary. Students were informed about the purpose of the research, the types of data to be collected, and their rights as participants. Written informed consent was obtained prior to data collection. To protect participants' privacy, pseudonyms were assigned, and all identifying information was removed from transcripts and observation records.

The participant group represented diverse academic backgrounds and varying levels of English proficiency, reflecting the heterogeneity typical of university English classrooms. No specific proficiency level was imposed as a selection criterion, as the study aimed to capture a broad range of informal AI practices rather than to compare proficiency-based differences. Inclusion was based on students' regular attendance in class and their willingness to share experiences related to AI tool use.

Data Collection

Data were collected using multiple qualitative methods to ensure methodological triangulation and to enhance the credibility of the findings. The primary data sources

included classroom observations, semi-structured interviews, and student reflective journals.

Classroom observations were conducted during regular English class sessions over a designated instructional period**.** The observations were carried out over a period of eight weeks, covering regular weekly class meetings. The observations focused on identifying instances of informal AI tool use, including when students accessed AI tools, the types of tools used, and the apparent purposes of use. Field notes documented observable behaviors such as consulting AI during tasks, switching between AI tools and course materials, and peer interaction related to AI use. Attention was also given to contextual factors such as task type, classroom activity, and interaction patterns that appeared to influence students' decisions to use AI tools.

Semi-structured interviews were conducted with a subset of participants (ten participants) to gain deeper insight into students' experiences, interpretations, and reasoning behind their informal AI use. The interview protocol included open-ended questions addressing topics such as reasons for using or avoiding AI tools, perceived impact on learning and engagement, and reflections on how AI fit into classroom activities. Interviews were conducted in a language comfortable for the participants to encourage rich and reflective responses. All interviews were audio-recorded with permission and transcribed verbatim for analysis.

In addition, participants were invited to maintain reflective journals documenting their experiences with AI tools during English classes. Students were encouraged to write brief reflections after selected class sessions, focusing on whether they used AI tools, how they used them, and how they perceived the impact on their learning or participation. These journals provided valuable introspective data that complemented observation and interview findings by capturing students' perspectives over time.

Data Analysis

Data analysis followed a thematic analysis approach (Braun & Clarke, 2021), conducted inductively to allow patterns to emerge from the data rather than being imposed a priori. Observation notes, interview transcripts, and reflective journals were analysed iteratively following established qualitative analysis procedures.

The analysis began with familiarization, during which the researcher repeatedly read all data sources to gain an overall understanding of students' AI-related practices and experiences. Initial coding was then conducted, with segments of data labelled according to meaningful units related to AI tool use, learning strategies, engagement, and interpretation. Codes were kept close to participants' language to preserve meaning and reduce premature abstraction.

In the next phase, codes were examined for similarities and differences and grouped into broader categories and themes. These themes captured recurring patterns in how students informally used AI tools and how they interpreted the role of AI in classroom learning. Throughout this process, constant comparison was used to ensure that themes were grounded across multiple data sources and participants.

Analytical memos were written during the analysis to document emerging interpretations, relationships between themes, and reflexive considerations. These memos supported transparency and helped refine thematic boundaries. Triangulation across observations,

interviews, and journals strengthened the trustworthiness of the analysis by allowing themes to be confirmed or nuanced through multiple perspectives.

To enhance credibility, preliminary findings were revisited in relation to the research questions, ensuring that themes directly addressed students' informal AI practices and interpretations. The final themes were organized to reflect both observable behaviors and students' sense-making, providing a coherent account of informal AI use in English classrooms.

FINDINGS

This section presents the findings of the study in relation to the two research questions. Drawing on classroom observations, semi-structured interviews, and student reflective journals, the analysis reveals how students informally used AI tools during English classes and how they interpreted the role of these tools in shaping their classroom engagement and learning experiences. The findings are organized into two subsections corresponding to research questions.

How University Students Informally Use AI Tools during English Classes to Support Their Learning

Analysis of the qualitative data indicates that students engaged in diverse and situational uses of AI tools during English classes. These uses were not prescribed by instructors but were initiated by students in response to task demands, linguistic challenges, and personal learning preferences. Three overarching themes emerged: task-oriented support, real-time problem-solving, and learning efficiency management. Table 1 summarizes these themes and illustrative practices.

Table 1.
Themes of Informal AI Tool Use during English Classes

Theme	Description	Representative Excerpt
Task-oriented support	Using AI to assist with completing specific classroom tasks	*"When we had to respond to a discussion question, I used AI to help organize my ideas before speaking." (Interview, Student 4)*
Real-time problem-solving	Addressing immediate linguistic or conceptual difficulties	*"I checked AI quickly for the meaning of some academic words so I could keep following the lesson." (Journal, Student 9)*
Learning efficiency management	Managing time, workload, and cognitive demands	*"Using AI helped me save time, especially when the task was short but needed accuracy." (Interview, Student 2)*

Task-oriented support was evident across different classroom activities, including reading discussions, short writing tasks, and group work. Observations showed that students frequently consulted AI tools to generate examples, rephrase sentences, or clarify task instructions. For instance, during a group discussion activity, several students were observed typing prompts into AI applications before contributing orally. One participant explained:

> *"I didn't want to stay silent, so I used AI to help me structure my response. Then I adjusted it to sound more like me." (Interview, Student 4)*

This indicates that AI was used as a preparatory scaffold rather than as a substitute for participation. Real-time problem-solving emerged as a prominent theme, particularly during reading and listening activities. Students used AI tools to resolve vocabulary gaps, clarify sentence meaning, or confirm understanding of complex explanations. Reflective journals frequently mentioned brief, targeted AI consultations aimed at maintaining comprehension flow:

> *"When the lecturer explained something fast, I used AI to check the meaning of some terms so I didn't get lost." (Journal, Student 9)*

These practices were typically short and situational, suggesting that students viewed AI as an on-demand resource rather than a constant companion.

The third theme, learning efficiency management, reflects students' pragmatic orientation toward AI use. Many participants described using AI to manage limited class time, reduce cognitive overload, or complete tasks more efficiently. Observations showed that students often accessed AI discreetly during independent work phases. One participant noted:

> *"Sometimes I know what I want to say, but I use AI to make it clearer faster, especially when time is limited." (Interview, Student 2)*

Overall, the findings suggest that students' informal AI use was strategic, selective, and closely aligned with immediate classroom needs, rather than habitual or excessive.

RQ2: How Do Students Interpret the Role of AI Tools in Shaping Their Classroom Engagement and Learning Experiences?

The second research question focused on students' interpretations of how informal AI use influenced their engagement and learning. Three interrelated themes were identified: enhanced participation confidence, perceived learning support, and boundary-setting between assistance and dependence. These themes are summarized in Table 2.

Table 2.
Students' Interpretations of AI Tools in Classroom Learning

Theme	Interpretation	Representative Excerpt
Enhanced participation confidence	AI as support for willingness to participate	*"AI gives me confidence to speak because I can check my ideas first." (Interview, Student 7)*
Perceived learning support	AI as a facilitator of understanding and clarity	*"It helps me understand tasks better, especially academic language." (Journal, Student 1)*
Boundary-setting	Awareness of limits and potential overuse	*"I try not to rely too much because I still want to learn by myself." (Interview, Student 11)*

A key interpretation expressed by participants was enhanced confidence in classroom participation. Many students reported that AI support reduced anxiety related to speaking

or writing in English. This confidence was particularly evident among students who were hesitant to speak spontaneously. One participant explained:

> *"I feel more confident joining discussions because AI helps me prepare my thoughts quickly." (Interview, Student 7)*

This perception suggests that AI tools played an indirect role in increasing engagement by lowering affective barriers.

Students also interpreted AI as a form of learning support, particularly for clarifying expectations and academic language. Reflective journals frequently emphasized that AI tools helped students make sense of task instructions, discussion prompts, or complex materials:

> *"Sometimes the task sounds simple, but the wording is academic. AI helps me understand what is actually expected." (Journal, Student 1)*

However, students did not view AI uncritically. A strong theme of boundary-setting emerged, indicating students' awareness of the risks of over-reliance. Several participants emphasized the importance of using AI as support rather than as a replacement for learning:

> *"AI is helpful, but I don't want to depend on it. I still need to think and practice myself." (Interview, Student 11)*

This awareness reflects students' reflective stance toward AI use and suggests emerging critical digital literacy. Across interviews and journals, students described AI as a supplementary resource that enhanced engagement and understanding without fundamentally replacing human effort. Their interpretations indicate that informal AI use was integrated into existing learning practices, shaped by personal values, perceived usefulness, and self-regulation.

The findings demonstrate that students' informal use of AI tools during English classes was purpose-driven, situational, and reflective. AI tools were used to support task completion, resolve immediate challenges, and manage learning efficiency. At the same time, students interpreted AI as a confidence-enhancing and comprehension-supporting resource, while remaining aware of the need to maintain control over their learning processes. These findings provide a nuanced picture of informal AI use as an agentive and self-regulated practice, embedded within everyday classroom learning.

DISCUSSION

This study set out to explore university students' informal use of AI tools during English classes and their interpretations of how such use shapes classroom engagement and learning experiences. Rather than viewing AI use as a binary of appropriate or inappropriate practice, the findings reveal a more nuanced picture of student-initiated, context-sensitive, and self-regulated AI engagement (Lodge et al., 2024). In this section, the discussion interprets these findings through the lenses of learner agency, informal learning, and technology-mediated language learning, while also highlighting how this study extends existing research.

First, the ways students used AI tools during English classes point to a reconceptualization of classroom boundaries. Although AI use occurred within formal

instructional settings, the practices themselves were informal in nature, being neither prescribed nor systematically guided by instructors (Rad et al., 2023). This supports arguments in informal digital learning research that learning practices increasingly transcend institutional control and emerge from learners' immediate needs and strategies. Students' selective and situational use of AI suggests that they were not passively adopting technology but actively integrating it into their learning ecology (Leal Filho et al., 2024). This aligns with sociocultural perspectives that view tools as mediational means whose function depends on users' intentions and contexts, rather than on the tools themselves.

Importantly, the findings challenge deficit-oriented narratives that frame student AI use primarily as avoidance of effort or academic misconduct. Instead, students' practices demonstrate instrumental agency, where AI tools are mobilized to sustain participation, maintain comprehension, and manage cognitive demands under time constraints (Pesovski et al., 2024). From an agency perspective, this reflects learners' capacity to make strategic decisions in response to perceived challenges. AI tools functioned as adaptive resources that enabled students to remain engaged in classroom activities rather than disengaging when difficulties arose (Southworth et al., 2023). This interpretation contributes to emerging discussions on learner agency in AI-mediated environments by showing how agency can manifest in subtle, moment-by-moment classroom decisions.

The role of AI in supporting participation confidence is particularly significant when viewed through affective dimensions of language learning. Prior research has consistently identified anxiety and fear of negative evaluation as barriers to oral participation in EFL contexts (Pakpahan et al., 2025; Tai, 2022). The present findings suggest that informal AI use may operate as an affective buffer, allowing students to rehearse ideas, check linguistic accuracy, or confirm understanding before public participation. This does not imply that AI directly improves proficiency, but rather that it reshapes learners' emotional relationship with classroom interaction (Galindo-Domínguez et al., 2024). Such a role resonates with previous studies on digital scaffolding, yet extends them by highlighting how learners independently appropriate AI tools without instructional prompting.

At the same time, students' interpretations of AI as a learning support rather than an answer-providing authority indicate a relational understanding of technology. AI was not positioned as a replacement for the teacher or for personal effort, but as a supplementary aid embedded within existing pedagogical structures (Williyan et al., 2026). This finding nuances claims that AI inevitably undermines deep learning. Instead, students demonstrated discernment in how and when AI was useful, particularly for clarifying academic language and task expectations (Fadillah & Ahad, 2026). This suggests that students possess emerging forms of AI literacy that are experiential rather than formally taught, developed through repeated use and reflection.

The theme of boundary-setting between assistance and dependence is especially important for ongoing debates about responsible AI use in education. Students' expressed concern about over-reliance indicates an internalized sense of academic responsibility, even in the absence of explicit institutional guidelines (Pratiwi et al., 2025). This counters assumptions that students are indifferent to ethical or pedagogical implications of AI use. From a self-regulated learning perspective, such boundary-setting reflects metacognitive awareness and goal-oriented behavior. Learners actively negotiated the extent to which AI should support, rather than dominate, their learning processes (Bidari & Taufiqi,

2026). This negotiation process itself can be seen as a form of learning, contributing to students' ability to critically evaluate digital tools.

Comparatively, this study extends previous research on AI in language education in three ways. First, much existing literature focuses on structured AI integration, such as teacher-assigned use of chatbots or translation tools (Pack & Maloney, 2024; Godwin-Jones, 2022). By contrast, this study foregrounds informal, learner-initiated use, offering insight into practices that often remain invisible to instructors. Second, prior studies frequently emphasize outcomes such as writing quality or accuracy (Khampusaen, 2025; Raitskaya & Tikhonova, 2025). The present discussion shifts attention to process-oriented dimensions, including engagement, confidence, and learning management, which are equally central to language development. Third, while earlier research often treats AI tools as homogeneous (Rahmi et al., 2024), this study illustrates how students attribute meaning and function to AI based on situational demands rather than technological affordances alone.

Pedagogically, the findings suggest that ignoring or prohibiting informal AI use may be less productive than acknowledging and critically engaging with it. Students are already using AI in ways that intersect with classroom learning, whether or not instructors address it explicitly. Recognizing these practices opens opportunities for dialogue about effective, ethical, and pedagogically sound AI use. Rather than prescribing rigid rules, educators might focus on supporting students' existing capacity for boundary-setting and reflective use. This aligns with calls for pedagogy that emphasizes AI literacy, not merely tool proficiency.

However, the findings also invite caution. While students reported positive interpretations of AI use, the absence of structured guidance means that learning gains may be uneven and dependent on individual judgment. Not all students may possess the same level of critical awareness or self-regulation. Thus, informal AI use should not be romanticized as inherently beneficial. Instead, it should be understood as a contested and evolving practice, shaped by institutional norms, assessment pressures, and learners' prior experiences. Future pedagogical frameworks need to balance learner autonomy with supportive scaffolding.

Finally, from a theoretical standpoint, this study contributes to ongoing discussions about the nature of learning in AI-saturated environments. The findings suggest that learning is increasingly characterized by micro-level interactions between learners and digital tools, often occurring alongside formal instruction. These interactions do not replace traditional classroom dynamics but coexist with them, creating hybrid learning spaces. Understanding these spaces requires moving beyond binary distinctions between formal and informal learning, or between human and artificial support. Instead, learning should be conceptualized as distributed across actors, tools, and contexts.

In sum, the discussion demonstrates that students' informal use of AI tools during English classes is not merely a technological trend but a meaningful educational phenomenon. It reflects learner agency, adaptive strategy use, and evolving understandings of responsibility and support in language learning. By interpreting these practices through theoretical and pedagogical lenses, this study offers a more balanced and context-sensitive perspective on AI in university English education.

CONCLUSION

This study explored university students' informal use of AI tools during English classes and how they interpret the role of these tools in shaping their classroom engagement and learning experiences. The findings demonstrate that students' AI use is neither random nor purely convenience-driven, but rather reflects purposeful, self-initiated strategies aimed at sustaining comprehension, participation, and confidence in real-time classroom contexts. Students positioned AI tools as supplementary resources that supported learning without replacing teacher guidance or personal effort. These practices highlight the emergence of learner agency in AI-mediated environments, where students actively negotiate the boundaries between assistance and dependence. By foregrounding informal and learner-driven AI use, this study contributes to a more nuanced understanding of how AI becomes embedded in everyday classroom practices, extending existing research that has largely focused on formal or instructor-led AI integration.

Based on these insights, several directions for future research are recommended. Longitudinal studies could examine how students' informal AI use evolves over time and how such practices influence language development, academic autonomy, and ethical awareness. Future research might also explore instructors' perceptions of students' informal AI use and how pedagogical responses align or conflict with learners' practices. Comparative studies across disciplines or educational contexts would further illuminate how institutional norms shape informal AI engagement. Additionally, research that integrates critical AI literacy frameworks could deepen understanding of how students develop reflective and responsible AI use. Together, these directions would help build a more comprehensive and pedagogically grounded perspective on AI's role in contemporary English language education.

REFERENCES

Akinsemolu, A. A., & Onyeaka, H. (2025). The role of artificial intelligence in transforming language learning: Opportunities and ethical considerations. *Journal of Language and Education*, *11*(1), 148–152. https://doi.org/10.17323/jle.2025.22118

Al-Zahrani, A. M. (2024). Unveiling the shadows: Beyond the hype of AI in education. *Heliyon*, *10*(9). https://doi.org/10.1016/j.heliyon.2024.e30696

Aler Tubella, A., Mora-Cantallops, M., & Nieves, J. C. (2024). How to teach responsible AI in Higher Education: Challenges and opportunities. *Ethics and Information Technology*, *26*(1), 3. https://doi.org/10.1007/s10676-023-09733-7

Ali, D., Fatemi, Y., Boskabadi, E., Nikfar, M., Ugwuoke, J., & Ali, H. (2024). ChatGPT in teaching and learning: A systematic review. *Education Sciences*, *14*(6), 643. https://doi.org/10.3390/educsci14060643

Ali, O., Murray, P. A., Momin, M., Dwivedi, Y. K., & Malik, T. (2024). The effects of artificial intelligence applications in educational settings: Challenges and strategies. *Technological Forecasting and Social Change*, *199*, 123076. https://doi.org/10.1016/j.techfore.2023.123076

Aljabr, F. (2025). ASR using Speechnotes for EFL learners: A study of the effects on English pronunciation and prosody skills. *Journal of Ecohumanism*, *4*(2). https://doi.org/10.62754/joe.v4i2.6384

Almelhes, S. A. (2023). A review of artificial intelligence adoption in second-language learning. *Theory and Practice in Language Studies*, *13*(5), 1259–1269. https://doi.org/10.17507/tpls.1305.21

Bećirović, S., Polz, E., & Tinkel, I. (2025). Exploring students' AI literacy and its effects on their AI output quality, self-efficacy, and academic performance. *Smart Learning Environments*, *12*(1), 29. https://doi.org/10.1186/s40561-025-00384-3

Bidari, S., & Taufiqi, M. A. (2026). Deciding when and how to Use AI in EFL speaking instruction: Evidence from surveys and teacher interviews. *DUTIES: Education and Humanities International Journal*, *2*(1), 47–68. https://doi.org/10.70152/duties.v2i1.309

Braun, V., & Clarke, V. (2021). Thematic analysis: A practical guide. In *Sage Publications* (p. 320). https://books.google.se/books?id=Hr11DwAAQBAJ&hl=sv

Cancino, M., & Gonzalez, N. (2023). Exploring reading attitudes, reading self-efficacy, and reading proficiency in a blended learning context among EFL learners. *Journal of Language and Education*, *9*(4), 31–45. https://doi.org/10.17323/jle.2023.16303

Çelik, F., Baturay, M. H., Yastıbaş, A. E., Namaziandost, E., & Ersanlı, C. Y. (2025). Modelling the complex dynamic effect of L2 speaking anxiety in metaverse on students' academic enjoyment, pronunciation anxiety, speaking performance, and task load. *British Educational Research Journal*. https://doi.org/10.1002/berj.70062

Chen, C., & Gong, Y. (Frank). (2025). The role of AI-assisted learning in academic writing: A mixed-methods study on Chinese as a second language students. *Education Sciences*, *15*(2), 141. https://doi.org/10.3390/educsci15020141

Chichekian, T., & Benteux, B. (2022). The potential of learning with (and not from) artificial intelligence in education. *Frontiers in Artificial Intelligence*, *5*. https://doi.org/10.3389/frai.2022.903051

Demartini, C. G., Sciascia, L., Bosso, A., & Manuri, F. (2024). Artificial intelligence bringing improvements to adaptive learning in education: A case study. *Sustainability*, *16*(3), 1347. https://doi.org/10.3390/su16031347

Dergaa, I., Chamari, K., Zmijewski, P., & Saad, H. Ben. (2023). From human writing to artificial intelligence generated text: Examining the prospects and potential threats of ChatGPT in academic writing. *Biology of Sport*, *40*(2), 615–622. https://doi.org/10.5114/BIOLSPORT.2023.125623

Dieterle, E., Dede, C., & Walker, M. (2022). The cyclical ethical effects of using artificial intelligence in education. *AI and Society*. https://doi.org/10.1007/s00146-022-01497-w

Fadillah, E. N., & Ahad, U. (2026). When feedback must be human: Pedagogical resistance to AI in EFL speaking classrooms. *DUTIES: Education and Humanities International Journal*, *2*(1), 25–46. https://doi.org/10.70152/duties.v2i1.314

Fitriati, S. W., & Williyan, A. (2025). AI-enhanced self-regulated learning: EFL learners ' prioritization and utilization in presentation skills development. *Journal of Pedagogical Research*, *9*(2), 22–37. https://doi.org/https://doi.org/10.33902/JPR.202530647

Fteiha, M., Al-Rashaida, M., & Ghazal, M. (2025). General and special education teachers' readiness for artificial intelligence in classrooms: A structural equation modeling study of knowledge, attitudes, and practices in select UAE public and private schools. *PLOS One*, *20*(9), e0331941. https://doi.org/10.1371/journal.pone.0331941

Galindo-Domínguez, H., Delgado, N., Losada, D., & Etxabe, J. M. (2024). An analysis of the use of artificial intelligence in education in Spain: The in-service teacher's perspective. *Journal of Digital Learning in Teacher Education*, *40*(1), 41–56. https://doi.org/10.1080/21532974.2023.2284726

Godwin-Jones, R. (2022). Partnering with AI: Intelligent writing assistance and instructed language learning. *Language Learning & Technology*, *26*(2), 5–24. http://doi.org/10125/73474

Hockly, N. (2023). Artificial intelligence in English language teaching: The good, the bad and the ugly. *RELC Journal*, *54*(2), 445–451. https://doi.org/10.1177/00336882231168504

Hsiao, J.-C., & Chang, J. S. (2023). Enhancing EFL reading and writing through AI-powered tools: Design, implementation, and evaluation of an online course. *Interactive Learning Environments*, 1–16. https://doi.org/10.1080/10494820.2023.2207187

Javaid, M., Haleem, A., Singh, R. P., Khan, S., & Khan, I. H. (2023). Unlocking the opportunities through ChatGPT Tool towards ameliorating the education system. *BenchCouncil Transactions on Benchmarks, Standards and Evaluations*, *3*(2), 100115. https://doi.org/10.1016/j.tbench.2023.100115

Jiang, R. (2022). How does artificial intelligence empower EFL teaching and learning nowadays? A review on artificial intelligence in the EFL context. *Frontiers in Psychology*, *13*(Ml). https://doi.org/10.3389/fpsyg.2022.1049401

Karakaya, K., & Bozkurt, A. (2022). Mobile-assisted language learning (MALL) research trends and patterns through bibliometric analysis: Empowering language learners through ubiquitous educational technologies. *System*, *110*, 102925. https://doi.org/10.1016/j.system.2022.102925

Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G.,

Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., … Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, *103*, 102274. https://doi.org/10.1016/j.lindif.2023.102274

Khampusaen, D. (2025). The impact of ChatGPT on academic writing skills and knowledge: An investigation of its Use in argumentative essays. *LEARN Journal: Language Education and Acquisition Research Network*, *18*(1), 963–988. https://doi.org/10.70730/PGCQ9242

Kusuma, I. P. I., Dewi, N. L. P. E. S., & Paramartha, A. a. G. Y. (2024). Informal digital learning of English to support a formal speaking course: EFL preservice teachers' perceptions and implementation ideas. *Turkish Online Journal of Distance Education*, *25*(4), 244–259. https://doi.org/10.17718/tojde.1360065

Law, L. (2024). Application of generative artificial intelligence (GenAI) in language teaching and learning: A scoping literature review. *Computers and Education Open*, *6*(December 2023), 100174. https://doi.org/10.1016/j.caeo.2024.100174

Leal Filho, W., Ribeiro, P. C. C., Mazutti, J., Lange Salvia, A., Bonato Marcolin, C., Lima Silva Borsatto, J. M., Sharifi, A., Sierra, J., Luetz, J., Pretorius, R., & Viera Trevisan, L. (2024). Using artificial intelligence to implement the UN sustainable development goals at higher education institutions. *International Journal of Sustainable Development and World Ecology*, *00*(00), 1–20. https://doi.org/10.1080/13504509.2024.2327584

Lee, D., Kim, H., & Sung, S.-H. (2023). Development research on an AI English learning support system to facilitate learner-generated-context-based learning. *Educational Technology Research and Development*, *71*(2), 629–666. https://doi.org/10.1007/s11423-022-10172-2

Leplaa, H. J., Tönjes, J. A., Bouterse, M., Soppe, K. F. B., & Klugkist, I. (2025). Applying qualitative methods to experimental designs: A tutorial for the behavioral sciences. *PLOS One*, *20*(6), e0324936. https://doi.org/10.1371/journal.pone.0324936

Liu, G. L., Darvin, R., & Ma, C. (2024). Exploring AI-mediated informal digital learning of English (AI-IDLE): A mixed-method investigation of Chinese EFL learners' AI adoption and experiences. *Computer Assisted Language Learning*, *0*(0), 1–29. https://doi.org/10.1080/09588221.2024.2310288

Lobo-Quintero, R. (2025). AI-enhanced think-pair-share: A learning analytics approach to foster linguistic creative thinking and collaborative learning. *Journal of Learning Analytics*, *12*(2), 19–34. https://doi.org/10.18608/jla.2025.8807

Lodge, J. M., De Barba, P., & Broadbent, J. (2024). Learning with Generative Artificial Intelligence Within a Network of Co-Regulation. *Journal of University Teaching and Learning Practice*, *20*(7). https://doi.org/10.53761/1.20.7.02

Monib, W. K., Qazi, A., Apong, R. A., Santos, J. H., & Mahmud, M. M. (2025). The

MIND model a microlearning AI-integrated instructional design for enhanced learning outcomes. *Scientific Reports*, *15*(1), 41020. https://doi.org/10.1038/s41598-025-24910-y

Oates, A., & Johnson, D. (2025). ChatGPT in the classroom: Evaluating its role in fostering critical evaluation skills. *International Journal of Artificial Intelligence in Education*. https://doi.org/10.1007/s40593-024-00452-8

Ouyang, F., & Jiao, P. (2021). Artificial intelligence in education: The three paradigms. *Computers and Education: Artificial Intelligence*, *2*, 100020. https://doi.org/10.1016/j.caeai.2021.100020

Pack, A., & Maloney, J. (2024). Using artificial intelligence in TESOL: Some ethical and pedagogical considerations. *TESOL Quarterly*, *58*(2), 1007–1018. https://doi.org/10.1002/tesq.3320

Pakpahan, F., Sadira, L., Syifah, N., Jodi, S., Panjaitan, E., & Meisuri, W. (2025). The effectiveness of storytelling in improving speaking skills of junior high school students. *KIRANA : Social Science Journal*, *2*(2), 48–55. https://doi.org/10.61579/kirana.v2i2.474

Pavlova, A., Gerazov, B., & Barreiro, A. (2024). Large language models and OpenLogos: An educational case scenario. *Open Research Europe*, *4*, 110. https://doi.org/10.12688/openreseurope.17605.1

Pesovski, I., Santos, R., Henriques, R., & Trajkovik, V. (2024). Generative AI for customizable learning experiences. *Sustainability (Switzerland)*, *16*(7), 1–23. https://doi.org/10.3390/su16073034

Pratiwi, H., Suherman, Hasruddin, & Ridha, M. (2025). Between shortcut and ethics: Navigating the use of artificial intelligence in academic writing among Indonesian doctoral students. *European Journal of Education*, *60*(2). https://doi.org/10.1111/ejed.70083

Rad, H. S., Alipour, R., & Jafarpour, A. (2023). Using artificial intelligence to foster students' writing feedback literacy, engagement, and outcome: A case of Wordtune application. *Interactive Learning Environments*, 1–21. https://doi.org/10.1080/10494820.2023.2208170

Rahmi, R., Amalina, Z., Andriansyah, A., & Rodgers, A. (2024). Does it really help? Exploring the impact of Al-Generated writing assistant on the students' English writing. *Studies in English Language and Education*, *11*(2), 998–1012. https://doi.org/10.24815/siele.v11i2.35875

Raitskaya, L., & Tikhonova, E. (2025). Enhancing critical thinking skills in ChatGPT-human interaction: A scoping review. *Journal of Language and Education*, *11*(2), 5–19. https://doi.org/10.17323/jle.2025.27387

Ramadevi, J., Sushama, C., Balaji, K., Talasila, V., Sindhwani, N., & Mukti. (2023). AI enabled value-oriented collaborative learning: Centre for innovative education.

Journal of High Technology Management Research, *34*(2), 100478. https://doi.org/10.1016/j.hitech.2023.100478

Raptopoulou, A. (2025). ChatGPT in higher education: Supporting academic literacy through ChatGPT-based activities. *European Journal of Education*, *60*(2). https://doi.org/10.1111/ejed.70131

Silvola, A., Kajamaa, A., Merikko, J., & Muukkonen, H. (2025). AI-mediated sensemaking in higher education students' learning processes: Tensions, sensemaking practices, and <scp>AI</scp> -assigned purposes. *British Journal of Educational Technology*, *56*(5), 2001–2018. https://doi.org/10.1111/bjet.13606

Southworth, J., Migliaccio, K., Glover, J., Glover, J. N., Reed, D., McCarty, C., Brendemuhl, J., & Thomas, A. (2023). Developing a model for AI Across the curriculum: Transforming the higher education landscape via innovation in AI literacy. *Computers and Education: Artificial Intelligence*, *4*(January), 100127. https://doi.org/10.1016/j.caeai.2023.100127

Tai, T. Y. (2022). Effects of intelligent personal assistants on EFL learners' oral proficiency outside the classroom. *Computer Assisted Language Learning*, *0*(0), 1–30. https://doi.org/10.1080/09588221.2022.2075013

Williyan, A., Supriyono, Y., & Dewi, N. S. N. (2025). Deliberative teacher agency: A phenomenological study on ICT integration in writing instruction by Indonesian EFL educators. *Pedagogika*, *159*(3), 5–29. https://doi.org/10.15823/p.2025.159.1

Williyan, A., Supriyono, Y., & Dewi, N. S. N. (2026). Responsive teacher agency in AI-enhanced writing instruction : An interpretative phenomenological study of EFL educators. *The JALT CALL Journal*, *22*(1), 1–29. https://doi.org/https://doi.org/10.29140/jaltcall.2026.102634

Zakir, S., Hoque, M. E., Susanto, P., Nisaa, V., Alam, M. K., Khatimah, H., & Mulyani, E. (2025). Digital literacy and academic performance: The mediating roles of digital informal learning, self-efficacy, and students' digital competence. *Frontiers in Education*, *10*. https://doi.org/10.3389/feduc.2025.1590274

Zhao, X. (2023). Leveraging artificial intelligence (AI) technology for English writing: Introducing Wordtune as a digital writing assistant for EFL writers. *RELC Journal*, *54*(3), 890–894. https://doi.org/10.1177/00336882221094089

Zhou, S., Xu, J., & Thomas, N. (2024). L2 listening in a digital era: Developing and validating the mobile-assisted self-regulated listening strategy questionnaire (MSRLS-Q). *System*, *123*, 103310. https://doi.org/10.1016/j.system.2024.103310